ANATOMY

Government of Karnataka
Kodagu Institute of Medical Sciences, Madikeri.
Department of Anatomy

No:KoIMS/Anat/52/2021-22

Date:-17.12.2021

Department	Name of the Faculty Qualification IMR Number	Current Designation and Date of Promotion	Nature of Employment Regular/ Permanent/ Contract/ Outsourcing	Details of service in the last 5 years					Number of lectures Classes taken Per Year
				01	02	03	04	05	
Anatomy	Dr. Vishal Kumar MBBS , MD Anatomy KMC: 64602	Professor and Head 09-01-2015	Permanent	Professor & HOD, KoIMS Madikeri	Professor & HOD, KoIMS Madikeri	Professor & HOD, I/C Principal, KoIMS Madikeri	Professor & HOD, I/C Principal, KoIMS Madikeri	Professor & HOD, I/C Principal KoIMS Madikeri	General Anatomy, Histology, Embryology, Gross Anatomy, Neuro Anatomy AETCOM, ECE,SDL (48)per year
	Dr. Mamatha Y MBBS , MD Anatomy KMC : 69820	Associate Professor 09/01/2015	Permanent	As Associate Professor at KoIMS, Madikeri 09/01/2015 to till date					General Anatomy, Histology, Embryology, Gross Anatomy, Neuro Anatomy AETCOM, ECE,SDL (47)per year
	Dr.Swaroop N MBBS , MD Anatomy KMC: 76378	Assistant Professor	Permanent	As Associate Professor at KoIMS, Madikeri till date					General Anatomy, Histology, Embryology, Gross Anatomy, Neuro Anatomy AETCOM, ECE,SDL (50)per year

	Dr.Shashanka M J MD Anatomy KMC: 76377	Assistant Professor	Permanent	As Associate Professor at KoIMS, Madikeri till date	General Anatomy, Histology, Embryology, Gross Anatomy, Neuro Anatomy AETCOM, ECE,SDL (48)per year
	Mr. Bharath Kumar Msc Anatomy	Tutor	Contract	As Tutor KoIMS, Madikeri 31/07/2017	General Anatomy, Histology, Gross Anatomy, SDL (22)per year
	Mr.Ravichandra Msc Anatomy	Tutor	Contract	As Tutor KoIMS, Madikeri 01/01/2020	General Anatomy, Histology, Gross Anatomy, SDL (23)per year

1. Publications of the faculties.

Sl. No.	Name of the Faculty & Department	Publication in Vancouver referencing style	Pubmed Indexed Yes/No	Scopes
1	Vishal Kumar	Mamatha Y, Trisha K R, **Vishal Kumar** Anthropometry of Internal Acoustic Meatus in Dry Adult Human Skull Using Casting Method. International Journal Anatomy and Research 2018;7(1.1): P 6113-6118.	No	No
2	Vishal Kumar	Shashanka M J, Swaroop N, **Vishal Kumar V.,** Jagadish. A morphometric study of jugular foramen in adult dried human skull of South Karnataka population. Indian J Anat Surg Head Neck & Brain 2018;4(3):82-85.	No	No
3	Vishal Kumar	Pretty R., Vinay KV, **Vishal K,** Beena N. The morphometric study of internal acoustic meatus in dry skulls of south Indian adults. National Journal of Clinical Anatomy Vol. -6(5) 2017, P: 296-303.	No	Yes
4	Vishal Kumar	Johncy Itty Panicker, **Vishal Kumar** & Vinay Kumar Veerannasetty. Antropometric analysis of Infraorbital Foramen In Adult Indian Dry Skull. Nitte University Journal of Health Science, Vol. 6, No. 2, 2016, P : 27-30.		

			No	No
5	Vishal Kumar	Vinay kumar V, martin Lucas A, **Vishal Kumar**, Pradeep Kulal. Attitude of first year Indian medical students towards cadaveric dissection. International Journal of Anatomy and Research, 2015, Vol. 3, Issue 3, 2014, P1225- 1258.	No	No
6	Vishal Kumar	**Kumar V** & Remya V. Unilateral incomplete bifid ureter: a case report. Journal of Morphological Science, 2015, Vol. 32, No. 3, P 203- 205.	No	No
7	Vishal Kumar	**Vishal Kumar**, B.V. Murlimanju. Variability in the origin of lateral and medial circumflex femoral arteries: an anatomical study in South Indians. International Journal of Anatomy and Research, Vol. 2, Issue-4, Dec. 2014 P	No	No
8	Vishal Kumar	**Vishal K,** Vinay K.V, Johncy I P.Morphology and morphometry of infra orbital foramen in South Indian adult dry skulls. National Journal of Clinical Anatomy ,Vol. -3(3) 2014, P: 122-127.	No	Yes
9	Vishal Kumar	Kavitha K, Sushma, Prima D'souza & **Vishal Kumar.** Absence of Superficial Palmar Arch with Persistent Median Artery – A Case Report. Nitte University Journal of Health Science, Vol. 4, No. 3, ISSN 2249-7110, 2014, P :109-111.	No	yes
10	Vishal Kumar	**Vishal Kumar** & Pretty Rathnakar. Unilateral High Division of Brachial Artery: A Case Report and Literature Review. Nitte University Journal of Health Science, Vol. 4(3) ISSN 2249-7110, 2014, P: 115-118.	No	yes
11	Vishal Kumar	**Vishal K,** Vinay K.V, Remya K & Swathi. Retro – Aortic Left Renal Vein with Double Left Renal Artery: A Case Report. Nitte University Journal of Health Science, Vol. 4(1) ISSN 2249-7110, 2014, P: 126-128.	No	yes
12	Vishal Kumar	**Vishal K,** Vinay K.V, Shishir K& Raghavendra A.Y. Anatomical Variants of Profunda Femoris Artery: Among Cadavers from South India. National Journal of Clinical Anatomy Vol. -3(1) 2014, P: 8-11	No	yes
13	Vishal Kumar	Vinay KV, Vinay HS, **Vishal K.** Study of degree of lumbar wedging measured using CR- 35X digitizer. Nepal Journal of Medical Sciences. 2(1): 2013, P: 30-33.	No	No

14	Vishal Kumar	Vinay K.V. & **Vishal K.** Smartphone applications for medical students and professionals, Short Communication. NUJHS Vol. 3, No.1, March 2013, ISSN 2249-7110, P 59- 62	No	yes
15	Vishal Kumar	**Vishal K.**, Kavitha K., Vinay K.V, & Raghavendra A.Y., Unilateral rectus sternalis muscle: Case Report. NUJHS Vol. 3, No.1, March 2013, ISSN 2249-7110, P 66- 68.	No	yes
16	Vishal Kumar	Naveen N.S., **Vishal K.** & Vinay K.V., Meckel-Gruber syndrome: Case Report. NUJHS Vol. 3, No.1, March 2013, ISSN 2249-7110, P 83- 85.	No	yes
17	Vishal Kumar	Vinay KV, Sudheendra AN, **Vishal K**, Beena DN. A Study on Surgically Induced Astigmatism Following Small Incision Cataract Surgery. Indian Journal of Fundamental & Applied Life Science, ISSN: 2231-6345, 2(3): 2012, P: 147-152.	No	No
18	Vishal Kumar	Vinay KV, Sandeep GN, **Vishal K**, Beena DN. Study of the Relationship between CD4 Count and Clinical Features in HIV-Infected Patients in South Indian Population. Indian Journal of Fundamental & Applied Life Science, ISSN: 2231-6345, 2(3): 2012, P: 153-161.	No	No
19	Vishal Kumar	Vinay Kumar **V.**, Beena D.N, & **Vishal Kumar**, Study of Range of motion of Knee Joint in South Indian Male Subjects. Anatomica Karnataka, Vol.6 (3), 2012, P: 81-85	No	No
20	Vishal Kumar	Vinay K.V. Beena D. N. & **Vishal K.** , Morphometric Analysis of the Greater Palatine Foramen in South Indian Adult Skulls. International journal of Basic & applied Medical Sciences ISSN: 2277-2103, Vol. 2(3) 2012, P: 5-8.	No	No
21	Vishal Kumar	Vinay K. V, Beena D.N. & **Vishal K.** Unilateral Elongated Coronoid Process of Mandible. International Journal of Basic Applied Medical Sciences, A case report. ISSN 2277-2103 (Online) Vol. 2(2) May- August, 2012, P: 208-210.	No	No
22	Vishal Kumar	Vinay K. V, Beena D.N. & **Vishal K.** Elongated Styloid Process: A case Report. International Journal of Basic Applied Medical Sciences ISSN 2277-2103 (Online) Vol. 2(2) May- August, 2012, P: 211-213	No	No

23	Vishal Kumar	Remya K., Arunachalam Kumar, **Vishal Kumar**. Unco vertebral joints of luschka: an osteological study. NUJHS Vol. 2, No.4, December 2012, P 57-59.	No	Yes
24	Vishal Kumar	**Vishal K.,** Vinay K.V., Remya K., Arunachalam Kumar & Shishir K. High sacral hiatus with non fusion of lamina of first sacral vertebrae: A case report. NUJHS Vol. 2, No.4, December 2012, P 60- 62.	No	Yes
25	Vishal Kumar	Vinay K.V. & **Vishal K**. A Study of Transverse Diameter of the Lumbar Spinal Canal in Normal South Indians, using CR-35X Digitizer. Indian Journal of Fundamental & Applied Life Sciences ISSN: 2231-6345 (Online) 2012 Vol. 2(2) April-June P: 30-35.	No	No
	Vishal Kumar	Vinay K.V. & **Vishal K**. Unilateral Synostosis of Navicular & Lateral Cuneiform Bones: A case Report of a Rare Anomaly, Indian Journal of Fundamental & Applied Life Sciences ISSN: 2231-6345 (Online) 2012 Vol. 2(2) April-June P: 7-9		
26	Vishal Kumar	Vinay Kumar V, Rohit S, **Vishal Kumar** & Beena., Study of Incidence of Single Umbilical Artery and Associated congenital Malformations. Anatomica Karnataka, Vol.6 (1), P: 67-69, 2012.	No	No
27	Vishal Kumar	Vinay Kumar V, Nithyanand S. **Vishal Kumar**, Cleidocranial Dysplasia: A Case Report of a Rare Anomaly. Nepal Journal of Medical Sciences. Vol. 1, No. 2, July – Dec. 2012.	No	No
28	Vishal Kumar	Vinay K. V, Beena D.N. & **Vishal K**. Lumbar Pedicle Morphometry in South Indians Using CR-35X Digitizer. Indian Journal of Fundamental & Applied Life Sciences ISSN: 2231-6345 (Online) 2012 Vol. 2(2) April-June P: 173-178.	No	No
29	Vishal Kumar	Naveen N S, Murlimanju B V, **Vishal Kumar,** Jayanthi K S, Krishna Rao, Thejodhar Pulakunta, " Morphological analysis of the human internal iliac artery in south Indian population". Online Journal of Health and Allied Sciences 10(1): Jan- Mar 2011.	No	No
30	Vishal Kumar	**Vishal Kumar,** Veerannasetty Vinay Kumar, Bukkambudhi Virupakshamurthy Murlimanju, Natanahalli Sathyanarayana Naveen. "High origin of the deep		No

		femoral artery: A case report and review. J Vasc Bras. 2011; 10(3): 243-45.	No	
31	Vishal Kumar	N S Naveen, B V Murlimanju, **Vishal Kumar,** Thejodhar Pulakunta, Jeeyar H. "Thanatophoric dysplasia: a rare entity" A case report. Oman Medical Journa 2011. vol 26(3):196- 197.	No	No
32	Vishal Kumar	**Vishal Kumar**, Naveen N S, Murlimanju B.V, Prima S D'souza , . "A rare muscular variation in the flexor compartment of the forearm" A case report. International Journal of Anatomical Variations 4:115- 118, 2011.	No	No
33	Vishal Kumar	**Vishal Kumar**, B.V Murlimanju, P. Devika, Narga Nair, Shakuntala R Pai, Thejodhar Pulakunta, N.S. Naveen, . "An anatomical study of the inferior oblique muscle with emphasis on its nerve entry". Chang Gung Medical Journal, 2011, 34:293- 297,	No	No
34	Vishal Kumar	BV Murlimanju, Narga Nair, **Vishal Kumar.** "Complete Lateral Discoid Meniscus in a South Indian Fetus: A case report and review of literature". International Journal of Anatomical Variations 3:110- 111, 2010.	No	N
35	Vishal Kumar	N S Naveen, Murlimanju B V, **Vishal K**, A M Maligi "Craniorachiasis totalis" Journal of neurosciences in rural practice. Letter to editor. 2010:1(1): 54-55.	No	Yes
36	Vishal Kumar	B V Murlimanju, Narga nair, Shankunthala R Pai, Mangala M Pai, Chandni Gupta, **Vishal Kumar,** Tejodhar Pulakunta. "Morphometric Analysis of the Menisci of the Knee Joint in South Indian Human Fetuses". Int. J. Morphol., 28(4): 1167- 1171, 2010.	No	No
37	Vishal Kumar	**Vishal Kumar** et al. "Sacral Hiatus In Relation To Low Back Pain in South Indian Population". Bratislava Medical Journal 2009; 110(7), 436 -441.	No	No
38	Vishal Kumar	Thejodhar P, B Bhagath Kumar Potu, M S Rao, S Madhyastha, V Rakesh G, V Ramana, B Ray, **V Kumar** et al. "Coexistence of circumaortic renal collar, accessory renal artery and anomalous arrangement of hilar structures in the same cadaver: A case report". European Journal of Anatomy 2007; 11(3), 185 -188.	No	No

1	**Mamatha Y**	**Mamatha Y** *1 , Trisha.K.R 2, Vishal Kumar 3. Anthropometry of internal acoustic meatus in dry adult human skull using casting method. Int J Anat Res 2019, Vol 7(1.1):6113	No	No
2	**Mamatha Y**	Mamatha Y 1 , Swaroop N *2 , Jagadish 3 morphological classification and parameters of spine of scapula among south indian population. Int J Anat Res 2019, Vol 7(3.3):6906		
3	**Mamatha Y**	Mamatha. Y1,*, Thilak Nidhi Y. T2.Foramina of alisphenoid- A morphological and morphometric study in an adult dry skull of South Indian population. Indian Journal of Anatomy and Surgery of Head, Neck and Brain. January-March 2019;5(1):17-20	No	No
4	**Mamatha Y**	Mamatha Y,,Swaroop n,,. morphometric study of adult dried human scapula in south indian journal of anatomy/vol.8/no.3/july-SEP 2019;165-169	No	No
	Mamatha Y	Swaroop n, shashanka M J, Mamatha Y. morphometric study of suprascapular notch in adult dried human scapula: a cross sectional study in south Karnataka.indian journal of anatomy/vol.7/no.4/july	No	No

5	**Mamatha Y**	**Mamatha Y** *1 , Trisha.K.R 2, Vishal Kumar 3. Anthropometry of internal acoustic meatus in dry adult human skull using casting method. Int J Anat Res 2019, Vol 7(1.1):6113	No	No
6	**Mamatha Y**	Mamatha.Y1 , Chaitanya Krishna Murthy2 , Prakash.B.S.3. Study on Morphological Surface Variations in Human Liver. International Journal of Health Sciences & Research (www.ijhsr.org) 98 Vol.4; Issue: 11; No 2014.	No	No
7	**Mamatha Y**	Chandrakala SP, Mamatha Y, Thejaswini K O. Variations in the origin of inferior thyroid artery and relation of the artery with recurrent laryngeal nerve..National journal of clinical anatomy.2013; 2(1):11-15.	No	No

Government of Karnataka
Kodagu Institute of Medical Sciences, Madikeri.
Department of Anatomy

01. Medical Educator Training/ Research Methodology and date.

Sl.No	Faculty Name	Medical Educator Training	Research Methodology and Date
01	Dr.Vishal Kumar	Revised Basic Course Workshop in Medical Education Technologies	07/01/2019
02	Dr.Mamatha Y	Revised Basic Course Workshop in Medical Education Technologies	10/10/2017
03	Dr.Swaroop N	Revised Basic Course Workshop in Medical Education Technologies	09/01/2019
04	Dr.Shashanka M J	Revised Basic Course Workshop in Medical Education Technologies	10/10/2017

for Yamuna 14/1/19
ಪ್ರಾಧ್ಯಾಪಕರು ಹಾಗೂ ವಿಭಾಗದ ಮುಖ್ಯಸ್ಥರು
ಅಂಗರಚನಾ ಶಾಸ್ತ್ರ ವಿಭಾಗ
ಕೊಡಗು ವೈದ್ಯಕೀಯ ವಿಜ್ಞಾನಗಳ ಸಂಸ್ಥೆ

ANESTHESIOLOGY

Department of Anesthesiology

Department	Name of the Faculty Qualification IMR number	Current Designation & Date of promotion	Nature of the Employment Regular/Permanent or contract/Outsourced	Details Service in the last 5 Years	Number of Lectures taken/Year Topics Covered
1.	**Dr. Pradeep Hosagoudar (KMC 70712)**	Professor & HOD (12th March 2018)	Regular	Professor – Kodagu Institute of medical Sciences, Madikeri – 2 Years 6 Months (Professor – 3 Years 8 Months) Professor – East Point College of Medical Sciences, Bangalore -11 Months Professor -PES Institute of Medical Sciences, Kuppam – 5 Months, Associate Professor – 03rd May 2013 to 11th March 2018, PES Institute of Medical Sciences, Kuppam – 5 Years	104 per Year
2.	**Dr. Amitha S (KMC No 80092)**	Associate Professor (02-11-2017)	Regular	Associate Professor – 4 Years Kodagu Institute of medical Sciences, Madikeri. Assistant Professor – 4 Years and 4 Months Sri Sidhartha Institute of Medical Sciences, Tumakuru	96 per year
3.	**Dr. Yuvaraj M K (KMC No 91483)**	Associate Professor (27-04-2020)	Regular	Associate Professor – 1 Year 6 Months Kodagu Institute of medical Sciences, Madikeri Assistant Professor -4 years 6 months, Kodagu Institute of medical Sciences, Madikeri	102 per Year
4.	**Dr. Aiyappa D S (KMC 79672)**	Associate Professor (23-12-2020)	Regular	Associate Professor Kodagu Institute of Medical Sciences, Madikeri - 1 Year Assistant Professor , Kodagu Institute of Medical Sciences, Madikeri – 3 Years 9 Months Assistant Professor KVG Medical College, Sullia – 2 Years 1 Months	84 Per Year
5.	**Dr. Gayathri, (KMC No: 68280)**	Assistant Professor (09-03-2019)	Regular	Assistant Professor , Kodagu Institute of Medical	84 Per Year

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				Sciences, Madikeri – 2 Years 9 Months, Senior Resident, Kodagu Institute of Medical Sciences, Madikeri – 2 Years 8 Months	
6.	**Dr. Nisheed Joseph (KMC No: 85207)**	Assistant Professor (09-03-2019)	Regular	Assistant Professor , Kodagu Institute of Medical Sciences, Madikeri – 2 Years 9 Months Senior Resident, Kodagu Institute of Medical Sciences, Madikeri - 2 Years 8 Months	86 Per Year
7.	**Dr. Tara Nandan A (KMC No: 73578)**	Assistant Professor (04-05-2018)	Regular	Assistant Professor , Kodagu Institute of Medical Sciences, Madikeri – 1 Year 8 Months, Assistant Professor KVG Medical College, Sullia – 2 Years, Senior Resident, KVG Medical College, Sullia – 1 Year,	74 Per Year
8.	**Dr. Kavya M (KMC No: 106019)**	Assistant Professor (30-03-2021)	Regular	Assistant Professor , Kodagu Institute of Medical Sciences, Madikeri – 9 Months Senior Resident, Sri Jayadeva Institute of Cardiovascular sciences and research – 2 Years and 3 Months Tutor - Mysore Medical College and Research Institute – 3 Years	68 Per Year
9.	**Dr. Kasturi K C (KMC No: 36902)**	Senior Resident	Regular	Senior Resident - Kodagu Institute of Medical Sciences, Madikeri – 6 Years	72 Per Year

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1. Publications by faculty should be attached as annexure.
2. Publications should be quoted in Vancouver referencing style.
3. Medical Education Training/research methodology and dates
   * To be updated every new session/academic year
   * To be updated on 1st October each year.

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(Dr. PRADEEP HOSAGOUDAR)

Annexure

E – 1

Sl.No	Faculty Name	Publication in Vancouver Referencing style	Pubmed indexed Yes/ No	Scopes
1.	**Dr. Pradeep Hosagoudar**	1.The effects of epidural analgesia in normal labor. Indian Journal of Clinical Anaesthesia. 2018;5(3):407-414	No	
		2.Intravenous Fentanyl 4 µg per kg Administered before Scalp Pin Application is Inferior to Scalp Block in Preventing Hemodynamic Changes. Anesthesia: Essays and Researches. 2019;13:625-30.	Yes	
		3.Oral Agomelatine and Ramelteon for Pre-operative Anxiolysis andSedation: A Prospective, Randomized Comparative Study Indian Journal of Anesthesia and Analgesia. 2019;6(I):2019-2024.	No	
		4.Comparative study of Agomelatine and Ramelteon for Attenuationof Haemodynamic response to Laryngoscopy and EndotrachealIntubation. Academia Anesthesiologica International. 2019/4/ 2/4-7.	No	
		5.PreemptiveAntiemesis using Intravenous Ondansetron to ControlIntrathecal Morphine Induced Nausea and Vomiting. Indian Journal of Anesthesia and Analgesia. 2018/5/2/240-245.	No	
		6.Efficacy of dexmedetomidine premedication on attenuation of intraocular pressure changes after succinylcholine and endotracheal intubation. Indian Journal of Clinical Anaesthesia. 2018/5/1/134-140.	No	
		7.Feasibility of Hematoma Block for Closed Reduction of Fractures ofDistal End of Radius: A Comparison with General Anesthesia. Indian Journal of Anesthesia and Analgesia. 2018/5/2/ 310-316	No	
		8.A Comparative Study Of Dexmedetomidine And Clonidine In Epidural Anaesthesia With Ropivacaine For Lower Abdominal And Lower Limb Surgery. Journal of Evidence Medicine and Healthcare. 2018/5/11/991-6.	No	
		9.Comparison of Various Parameters after Induction of SpinalAnaesthesia for Caesarean Section in Sitting and Lateral Position. Indian Journal of Anaesthesia and Analgesia. 2017/4/1/85-8.	No	
		10.Comparative Evaluation Between Propofol And KetamineMidazolam As Procedural Sedative Agent For Ease Of Induction Of Spinal Anesthesia In Patients Undergoing Abdominal Surgeries, European Journal of Molecular & Clinical Medicine ISSN 2515-8260 Volume 08, Issue 04 , 2021 314	No	
		11.A Study On Clinical Outcome Of Propofol And KetamineMidazolam As Procedural Sedative Agent In Patients Undergoing Abdominal Surgeries, European Journal of Molecular & Clinical Medicine ISSN 2515-8260 Volume 08, Issue 04 , 2021 319	No	
		12. Evaluation of KetamineMidazolam as Procedural Sedative Agent for Ease of Induction of Spinal Anesthesia in Patients Undergoing Abdominal Surgeries", Academia Anesthesiologica International, July-December 2021	No	
		13. Evaluation of Propofol as Procedural Sedative Agent for Ease of Induction of Spinal Anesthesia in Patients Undergoing Abdominal Surgeries, Academia Anesthesiologica International, July-December 2021	No	
2.	**Dr. Amitha S**	1.Comparitive study of Intravenous Ramosetron and Ramosetron with Dexamethasone as prophylactive Anti-PONV in patients coming for ENT surgeries. Indian Journal of Anesthesia and Analgesia. 2017;4(4):1245-51		
		2.Comparison of Dexmeditomedine and Buprenorphine as an adjuvant to Bupivacaine during spinal anesthesia for tibial interlocking nailing surgeries. International Journal of Advances in Medicine. 2017;4(6):1653-6.		

Pradeep

		3.A comparative study between IntrathecalBupivacaine for lower abdominal surgeries. Indian Journal of Anesthesia and Analgesia. 2017;4(1):1249-52		
		4.Comparitive clinical study between Clonidine and Tramadol with Bupivacaine in caudal epidural for post-operative analgesia in Paediatric surgery. Anesthesia Essays and Researches. 2019;13(2):		
3.	**Dr. Yuvaraj M K (KMC No 91483)**	1.The Effect of Three Different Bolus Doses of Propofol Using Total Intravenous Anaesthesia (TIVA) in Patients Undergoing Transvaginal Oocyte Retrieval with Regard to Total Propofol Consumption, Academia Anesthesiologica International ¦ Volume 4 ¦ Issue 1 ¦ January-June 2019, ISSN (0): 2456-7388; ISSN (P): 2617-5479	No	
		2.Three Different Bolus Doses of Propofol Using Total Intravenous Anaesthesia (TIVA) in Patients Undergoing Transvaginal Oocyte Retrieval: on Table Recovery Time and Time to Discharge Using Post Anaesthesia Discharge Scoring System (PADSS) Academia Anesthesiologica International ¦ Volume 4 ¦ Issue 1 ¦ January-June 2019, ISSN (0): 2456-7388; ISSN (P): 2617-5479	No	
		3.Comparative Evaluation Between Propofol And KetamineMidazolam As Procedural Sedative Agent For Ease Of Induction Of Spinal Anesthesia In Patients Undergoing Abdominal Surgeries, European Journal of Molecular & Clinical Medicine ISSN 2515-8260 Volume 08, Issue 04 , 2021 314	No	
		4.A Study On Clinical Outcome Of Propofol And KetamineMidazolam As Procedural Sedative Agent In Patients Undergoing Abdominal Surgeries, European Journal of Molecular & Clinical Medicine ISSN 2515-8260 Volume 08, Issue 04 , 2021 319	No	
		5.Evaluation of KetamineMidazolam as Procedural Sedative Agent for Ease of Induction of Spinal Anesthesia in Patients Undergoing Abdominal Surgeries", Academia Anesthesiologica International, July-December 2021	No	
		6.Evaluation of Propofol as Procedural Sedative Agent for Ease of Induction of Spinal Anesthesia in Patients Undergoing Abdominal Surgeries, Academia Anesthesiologica International, July-December 2021	No	
4.	**Dr. Aiyappa D S**	1.Yuvaraj MK, Aiyappa DS. The Effect of Three Different Bolus Doses of Propofol Using Total Intravenous Anaesthesia (TIVA) in Patients Undergoing Transvaginal Oocyte Retrieval with Regard to Total Propofol Consumption. Acad. Anesthesiol. Int. 2019;4(1):5-9.	No	
		2.Yuvaraj MK, Aiyappa DS. Three Different Bolus Doses of Propofol Using Total Intravenous Anaesthesia (TIVA) in Patients Undergoing Transvaginal Oocyte Retrieval: on Table Recovery Time and Time to Discharge Using Post Anaesthesia Discharge Scoring System (PADSS). Acad. Anesthesiol. Int. 2019;4(1):10-14.	No	
		3.Aiyappa D S, Janardhanan G, Pavitra Pushpa. A Clinical Comparative Study between Caudal Levobupivacaine-Clonidine and Ropivacaine-Clonidine for Postoperative Analgesia in Paediatric Subumbilical Surgeries. Indian J Anesth Analg. 2019;6(1):227-33.	No	
		4.Kripalini SH, Shwetha Aiyappa DS, Kumar Abhijith. A study to assess The Spectrum of ocular manifestations among the patients with zoster ophthalmicus in A tertiary Care Hospital. Turk J Physiother Rehabil.2021;32(3):15214-18.	No	
		5.Yuvaraj MK, Aiyappa DS. Three different bolus doses of propofol using total intravenous anaesthesia (TIVA) in patients undergoing TransvaginalOocyte retrieval: on table recovery time and time to discharge using Postanaesthesia Discharge Scoring System (PADSS). Acad Anesthesiol Int. 2019;4(1):10-4.	No	
		6.Shwetha, Kripalini S H, Aiyappa D S, Ajith Kumar H, Bhoomika Gowda.Allergic rhinitis – clinical correlation with blood picture.Turk J Physiother Rehabil.2021;32(3):15219-23.	No	
5.	**Dr. Gayathri**	Nil	No	
6.	**Dr. Nisheed Joseph**	Nil	No	
7.	**Dr. Tara Nandan A**	Nil	No	
8.	**Dr. Kavya M**	Nil	No	
9.	**Dr. Kasturi K C**	Nil	No	

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(Dr. PRADEEP HOSAGOUDAR)

1. Medical Education Training/research methodology and dates

Faculty Name	MET Date	Research Methodology Date
Dr. Pradeep Hosagoudar	20-03-2018 to 22-03-2018	20-12-2020
Dr. Amitha S	25-06-2021 to 27-06-2019	24-10-2021
Dr. Yuvaraj M K	--	20-12-2020
Dr. Aiyappa D S	26-10-2021 to 28-10-2021	26-09-2021
Dr. Gayathri	--	24-10-2021
Dr. Nisheed Joseph	--	23-10-2021
Dr. Tara Nandan A	11 -06-2021 to 13-06-2021	22-08-2021
Dr. Kavya M	--	24-10-2021
Dr. Kasturi	--	--

Pradeep (Dr. PRADEEP HOSAGOUDAR)

Professor & HOD,
Department of Anesthesiology,
Kodagu Institute of medical Sciences,
Teaching Hospital, Madikeri.

BIOCHEMISTRY

Government of Karnataka
Kodagu Institute of Medical Sciences, Madikeri.
Department of Biochemistry

No:KoIMS/BIOC/25/2021-22

Date:-17.12.2021

Faculty Details for website update 2021

Department	Name of the Faculty Qualification IMR Number	Current Designation and Date of Promotion	Nature of Employment Regular/ Permanent/ Contract/ Outsourcing	Details of service in the last 5 years					Number of lectures Classes taken Per Year Topics Covered
				01	02	03	04	05	
Biochemistry	Dr. Cariappa K B MBBS, MD 47315	Professor 05/01/2015 Dean and Director 01/03/2018	Permanent	KoIMS	KoIMS	KoIMS	KoIMS	KoIMS	Annexure I Enclosed
	Dr. Swapnali MBBS, MD 71852	Associate Professor 09/05/2014 Associate Professor and Head 01/03/2018	Permanent	KoIMS	KoIMS	KoIMS	KoIMS	KoIMS	
	Dr. Divija D A MBBS, MD 75414	Assistant Professor 03/05/2014	Permanent	KoIMS	KoIMS	KoIMS	KoIMS	KoIMS	

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Department	Name of the Faculty Qualification IMR Number	Current Designation and Date of Promotion	Nature of Employment Regular/ Permanent/ Contract/ Outsourcing	Details of service in the last 5 years					Number of lectures Classes taken Per Year Topics Covered
				01	02	03	04	05	
Biochemistry	Dr. Manjunath S MBBS, MD 67233	Assistant Professor 07/05/2014	Permanent	Ko IM S	Ko IM S	Ko IM S	Ko IM S	Ko IM S	Annexure I Enclosed
	Ms. Venora Tessy Gonsalves M.Sc. in Medical Biochemistry	Tutor 07/05/2014	Contract	Ko IM S	Ko IM S	Ko IM S	Ko IM S	Ko IM S	
	Mr. Pundalik Rama Naik M.Sc. in Medical Biochemistry	Tutor 19/01/2015	Contract	Ko IM S	Ko IM S	Ko IM S	Ko IM S	Ko IM S	
	Ms. Prathibha K N M.Sc. in Medical Biochemistry	Tutor 20/01/2015	Contract	Ko IM S	Ko IM S	Ko IM S	Ko IM S	Ko IM S	
	Mrs. Gaya P R M.Sc. in Medical Biochemistry	Tutor 24/08/ 2015	Contract	Ko IM S	Ko IM S	Ko IM S	Ko IM S	Ko IM S	

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Publications of the faculties.

Name Of The Faculty	Publications
DR.CARIAPPA	1. Poornima K, Cariappa, Asha K, Kedilaya H P and Nandini M. Oxidant and Anti – oxidant status in vegetarians and Fish eaters. IJCB. 2003; 18(2): 197-205 2. CariappaKB,Sathish TG,Hamsaveena. Sequels of Smoking on Blood lipid Levels in a Rural Population of South India. RRJMHS. 2014;3(2):23-5 3. SathishaTG, Cariappa KB, Kumar , KanagavalliP. Pavithra V. The Impact of T2DM on Thyroid Profile and outcomes in a female population. RJPBCS2014;5(2):1554-61 4. Cariappa KB, Hamsaveena. Moderate alcohol Intake And High Density Lipoprotein Cholesterol ..IJPBS 2014: 4(1):92-4 5. Cariappa KB, venkatesh G. Study Of hsCrp levels in Early Metabolic Syndrome Patients and in Subjects without it. IJPBS 2014;4(1):99-103 6. Cariappa K B, Ventakesh G. Study of TSH levels in subjects with and without Metabolic Syndrome. IJAR. 2014; 4(3): 7-9.
DR.SWAPNALI	1. Swapnali, Kisan R, D.S. Jayaprakash Murthy; Al Ameen J. Effect of Menopause on Lipid Profile and Apolipoproteins. Med Sci (2011): 4 (3): 221-28. 2. Kisan R, Swapnali, Anitha OR, Chandrakala, Koujalagi R. Correlation Between the Intraocular Pressure and the Blood Pressure in Different Age Groups. Journal of Clinical and Diagnostic Research (2012): suppl 2: vol 6 (4); 581-5. 3. Kisan R, Swapnali, Anitha OR, Chandrakala.Tread mill and bicycle ergometer exercise: cardiovascular comparison. Global Journal of Medical Research (2012): vol 12 (5); 23-5. 4. Chandrakala SP, Swapnali, Mavishettar. Variations in the origin and branching patterns of

	superior thyroid artery. Anatomica Karnataka (2011); vol 5 (3); 20-4. 5. Kasat S, M. Subashchandrappa, C.R.Mallikarjuna, Swapnali Malondialdehyde, Total Antioxidant Capacity and Vitamin E Levels in Preterm and Term Infants. An International Research Journal of Pharmacy and Plant science. (2013); vol 1 (2); 1-7. 6. P. Leela, C. R. Mallikarjuna, M. Prafulla, Swapnali. Effect of Pranayama and Yoga on Apolipoproteins, Lipid Profile and Atherogenic Index in healthy patients. An International Research Journal of Pharmacy and Plant science. (2013); vol 1 (2); 1-8. 7. Swapnali. Kasat S, Kisan R. A Comparative Study of Oxidative Stress and Antioxidants Levels In Preterm and Term Infants and their Mothers. International Journal of Pharmacy and Biological Sciences. (2013); vol 3(2); 210-13. 8. Swapnali. Kisan R, Niteesh Bharadwaj. A Study of ABO Blood Group and Secretor Status In Ischaemic Heart Disease Patients in and around Davangere. IJPBS. (2014); Jan-Mar; 75-8. 9. Swapnali, P Devarbhavi P, S.ALEKYA Is eGFR a better marker than serum creatinine alone to assess kidney function? Int J Pharma Bio Sci. (2014); Jan-Mar; 89-91. 10. Swapnali, Kisan R, Shashi Shekar M, Devarbhavi P. Co-relation study of dietary habits and early renal damage in hypertensive patients.. Int J Pharma Bio Sci. (2014)
DR.DIVIJA.D.A	1. Divija.D.A .Rajeshwari A., Nursath A. Evaluation of serum Sialic acid and microalbuminuria in Diabetic Nephropathy..IJRTSAT;2013 ; vol 8 (3); 219-23. 2. Divija.D.A .,Dr.Rajeshwari A.Dr. Nursath A. Correlation of Serum Sialic Acid with Glycemic Staus in Diabetic Nephropathy D INT J of Bio assays. 2014 ; 3(2): 1789-93. 3. Divija.D.A, Rajeshwari A, Nursath A,Somashekhar. Correlation of Microalbuminuria with Glycemic Status in Diabetic. Medpulse International Journal of Biochemistry. March

	2019;9(3); 84 – 88. 4. Rajeshwari A, Divija.D.A, Somashekhar Study of serum Sialic acid, microalbuminuria, oxidative stress and antioxidant status in Diabetic Nephropathy. International Journal of Bio-technology and Biochemistry.ISSN 0973- 2691 Volume 15, No.1 (2091) P.P.17-25
DR.MANJUNATH. S.	1. KadiS, Desai PB,chethanak K,ManjunathS Cerobrospinal fluid enzyme markers in meningitis. Biomedicine 2009;29(4;336-9 2. DesaiPB,ManjunathS,KadiS,ChethanaK,VanishreeJ Oxidative Stress and Enzymatic Anti-oxidant status in Rheumatoid Arthritis-A Case Control Study. Biomedicine 2012;32(4;521-5 3. DesaiPB,Shailendra VK,KadiS,ManjunathS,Archana C, Satish KD. Serum Trace Elements In Lepromatous Leprosy In South Indian Population A case Control Study. Biomedicine 2012; 32(4);521-5
MR. PUNDALIK NAIK	1. Pushkal SR, Devananda D G, Pundalik N, Prathibha, Doddamani P, Suma MN.. Evaluating the feasibility of nested PCR as a screening tool to detect HPV infection in saliva of oral squamous cell caecinoma.
MS. PRATHIBHA	1. Pushkal SR, Devananda D G, Pundalik N, Prathibha, Doddamani P, Suma MN. Evaluating the feasibility of nested PCR as a screening tool to detect HPV infection in saliva of oral squamous cell caecinoma.
MRS. GAYA P R	1. Sudha k , Gaya P R, Charu Yadav. Serum protein alterations in Malignant Neoplasia. Int J Pharm Bio Sci 2015 Oct; 6(4): 453 – 6. 2. Gaya P R, Vinitha D'Souza Charu Yadav. Unraveling the link between Benign prostatic Hyperplasia and Butyrylcholinesterase. Int J Pharm Sci Rev., res. May – June 2016 38(1): 62– 64.

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Medical Educator Training/ Research Methodology and date.

Sl. No.	Name	Date	
01	Dr. Cariappa K B	8th to 10th May 2019 2019	CISP Revised basic Course in Medical Education and ATCOM
02	Dr. Swapnali	June 2012 10 To 13 Oct 2017 2 to 4th May 2019 2020	Basic course in Medical Education Revised basic Course in Medical Education and ATCOM CISP ACME
03	Dr. Divija D A	25.06.2019 to 27.06.2019	Medical Educator Training
04	Dr. Manjunath S	2019	Medical Educator Training

Sl. No.	Name of the faculty	Topics Covered
01	Dr. Cariappa K B	• Introduction and Scope of Biochemistry • Institution Administration.
02	Dr. Swapnali	• Cell and sub cellular structures. • Chemistry and Metabolism of Lipids. • Enzymes and Clinical Enzymology. • Minerals. • Acid Base Balance. • Organ Function test. • Involved in qualitative and Quantitative Practicals, OSPE, SDL and SGD.
03	Dr. Divija D A	• Chemistry and Metabolism of Carbohydrates. • Chemistry of Nucleic Acids. • Water Soluble Vitamins. • Intermediary Metabolism. • Biochemistry of Cancer. • Endocrine function. • Involved in qualitative and Quantitative Practicals, OSPE, SDL and SGD.
04	Dr. Manjunath S	• Chemistry and Metabolism Amino Acids. • Fat Soluble Vitamins. • Biological Oxidation. • Molecular Genetics. • Heme metabolism and Tissue Biochemistry. • Nutrition and energy metabolisms. • Involved in qualitative and Quantitative Practicals, OSPE, SDL and SGD.

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Sl. No.	Name of the faculty	Topics Covered
05	Ms. Venora Tessy	• Detoxification mechanisms and Xenobiotics. • Demonstration of Colorimeter. • Demonstration of Spectrophotometer. • Demonstration of Commonly Used Reagents. • Involved in qualitative and Quantitative Practicals, OSPE, SDL and SGD.
06	Mr.Pundalik	• Quality control. • Demonstration of Electrophoresis. • Demonstration of ABG Analyser. • Demonstration of Commonly Used glass wares. • Involved in qualitative and Quantitative Practicals, OSPE, SDL and SGD.
07	MS. Prathibha k N	• Radioisotopes in Medicine. • Demonstration of Chromatography. • Demonstration of pH Meter. • Demonstration of Electrolyte analyser. • Involved in qualitative and Quantitative Practicals, OSPE, SDL and SGD.
08	Mrs. Gaya P R	• Bio-medical Waste : Types, potential risks and their safe management. • Demonstration of Laboratory Safety Practices. • Demonstration of Commonly Used laboratory equipments. • Demonstration of CSF Analysis. • Involved in qualitative and Quantitative Practicals, OSPE, SDL and SGD.

1-7/12/21
Professor & HOD
Department of Biochemistry
Kodagu Institute of Medical Sciences
Madikeri - 571201

COMMUNITY MEDICINE

29. Department wise list of Faculty Members

Department	Name of the faculty Qualification IMR Number	Current Designation & Date of promotion	Nature of employment Regular/ permanent or contract/outsourced	Details of Service in the Last 5 years 1 2 3 4 5	Number of lectures taken/year. Topics covered
Community Medicine	Dr.Ramachandra Kamath	Professor & HOD	**Regular**	2016 to Till date KOIMS Madikeri	Theory 32
	Dr.Sharvanan E	Associate Professor	**Regular**	2016 to Till date KOIMS Madikeri	Theory 31
	Dr. Mahesh S H	Associate Professor	**Regular**	2017 to Till date KOIMS Madikeri	Theory 7
	Dr.Narasimha B C	Assistant Professor	**Regular**	2016 to Till date KOIMS Madikeri	Theory 46
	Dr Kruthika K	Assistant Professor	**Regular**	(2017 aug to 2019 june Contract) 2019 july Till date KOIMS Madikeri	Theory 64
	Dr.Rajashree	Assistant Professor	**Regular**	2019 aug 1 to Till date KOIMS Madikeri	Theory 58
	JAYASHREE K S	Statistician	Contract	6 months 17 days	10 class taken/Aug-2021 Totally-30 hours

1. Publications by faculty should be attached as annexure.

2. Publications should be quoted in Vancouver referencing style.

3. Medical Educator Training/ research methodology and dates

30. A. Dr Ramachandra Kamath

Revised basic medical education technology - workshop	25/06/2019 to 27/06.2019
Curriculum implementation and support programme	10/07/2019 to 12/07/2019

B. Dr.Sharvanan E

Revised basic medical education technology - workshop	22/09/2015 to 23/09/.2015 &04/12/2015
Curriculum implementation and support programme	10/07/2019 to 12/07/2019

*To be updated every new session/academic year

**To be updated on 1st October each year

ANNEXUR
E-1

Sr. No	Faculty Name	Publication in Vancouver referencingstyle.	Pubmed Indexed Yes/ No	Scopes
1	Dr.Ramachandra Kamath	1.NaliniSathiakumar, Meghan Tipre, RajithaWickremasinghe, Vinod Bhat, Muhammad Masood Kadir, David Coggon, ArunasalemPathemeswaran, **Ramachandra Kamath**, G. Arunkumar, Zafar Fatmi, Tamika L. Smith, Sanjay M. Pattanshetty& Elizabeth Delzell (2019) Building global partnerships through shared curricula for an MPH programme in India and Sri Lanka, Global Public Health, 14:9, 1360-1371. 2.Hoolageri MS, **Kamath R**, Ravikumar K, Jagadish G, Kamath S. Evaluation of mass drug administration programme for elimination of lymphatic filariasis in Bidar district, Karnataka. Int J Community Med Public Health 2018;5:1020-3. 3.Pai D, Kamath AT, PandurangaKP,**Kamath R**, Chakravarthy KP, Nayak R, et al. Survey of knowledge of school children towards the prevalence, severity, management of maxillofacial injuries, and rescue skills in the event of a dog bite. J Indian SocPedodPrev Dent 2018;36:334-8. 4.Pooja Tripathi, **Ramachandra Kamath**, and Rajnarayan Tiwari.Occupational Health and Role of Gender: A Study in Informal Sector Fisheries of Udupi, India.Indian J Occup Environ Med. 2017; 21(2): 45–50. 5.Sharvanan E. **Ramachandra Kamath** et. al. Cross Sectional Study of Prevalnce of Depression and Its Associated Factors among Medical Students in a Teaching Hospital in Karnataka.Indian Journal of Preventive Medicine 2017:5 (2;		

		108-112. 6.SushmaAdappa, Rajnarayan R. Tiwari, **Ramachandra Kamath**, Vasudeva Guddattu. Health effects and environmental issues in residents around coal-fired thermal power plant, Padubidri: A cross-sectional study J Environ OccupSci . 2017 Vol 6 Issue 1: 8- 11. 7.PrachiPundir, Teddy Andrews, Binu V. S., **Ramachandra Kamath**. Association of problematic mobile phone use with psychological distress and self-esteem among college students in South India: a cross-sectional study Int J Community Med Public Health. 2016 Oct;3(10):2841-2849. **8.Ramachandra Kamath**, Edmond Fernandes, Prakash Narayanan. Medical relief during the Nepal earthquake: Observations and lessons to learn South East Asia Journal of Public Health 2015;5(2):77-78 9.Anar Singh Dhakar ,**Ramachandra Kamath** , Sanjay Pattanshetty, Shreemathi S Mayya. Prevalence of childhood asthma among 3 – 6 years old children, Udupi Taluk, Karnataka , India. www.gjmedph.org Vol. 4, No. 6 2015 10.Malamardi SN, **Kamath R**, Tiwari R,Nair BV, Chandrasekaran V, Phadnis S. Occupational stress and health-related quality of life among public sector bank employees: A cross-sectional study in Mysore, Karnataka, India. Indian J Occup Environ Med 2015;19:134-7. 11.Banerjee M, **Kamath R**, Tiwari RR, Nair NP. Dermatological and respiratory problems in migrant construction workers of Udupi, Karnataka. Indian J Occup Environ Med 2015;19:125-8. 12.Monica Rana, **Ramachandra Kamath**, Lena Ashok, BharateshShetty ,VasudevGuddattuVaralakshmiChandrasekaran. Knowledge and attitude regarding STIs including HIV and RTIs among college adolescent Girls in urban Udupi Taluk. www.gjmedph.org Vol. 4, No. 1 2015 13.ShaileshWagle, **Ramachandra Kamath**, RajnarayanTiwari ,Shreemathimayya. Ocular Morbidity		

		among Students in Relation to Classroom Illumination Levels. Indian Pediatrics, volume 52: September 15, 2015 **14.Ramamchandra Kamath**, SharadSawai, SaurabhKumar .Accessibility, Availability and Potability of drinking water in rural households of Udupi Taluk, Karnataka, India-2012. International Journal of Advanced Research (2015), Volume 3, Issue 1, 417-422. 15.Mahapatra S, **Kamath R**, Shetty BK, Binu VS. Risk of oral cancer associated with gutka and other tobacco products: A hospital-based case-control study. J Can Res Ther 2015;11:199-203. 16.Kuvalekar K, **Kamath R**, Ashok L, Shetty B, Mayya S, Chandrasekaran V. Quality of life among persons with physical disability in udupi taluk: A cross sectional study. J Fam Med Primary Care 2015;4:69-73. 17.Yadav N, **Kamath R**, Ashok L, Shetty B, Hegde BM, Dhar M, et al. The link between HIV/AIDS and violence among young adults: A study in Udupi, Karnataka. Int J Med Public Health 2014;4:486-90. 18.Peter E, **Kamath R**, Andrews T, Hegde BM. Psychosocial Determinants of Health-Related Quality of Life of People Living with HIV/AIDS on Antiretroviral Therapy at Udupi District, Southern India. Int J Prev Med. 2014 Feb;5(2):203-9 19.Shobha K.L, Jessica D'souza, Varun C.N,Vinod Kumar, **Ramachandra Kamath**, Ramachandra L Study of bacteria causing skin infections in school going children in Udupi district; cross-sectional study . International Journal of Pharmacology and Toxicology, 2 (2) (2014) 50-52 **20.Kamath R**, Sanah N, Machado LM, Sekaran VC. Determinants of enrolment and experiences of RashtriyaSwasthyaBimaYojana (RSBY) beneficiaries in Udupi district, India. Int J Med Public Health 2014;4:82-7. **21.Kamath R** , Robin S ,Chandrasekaran V. Common mental disorders: A challenge among people living with human immunodeficiency virus infection/acquired immunodeficiency syndrome in Udupi, India. Ann Med		

		Health Sci Res. 2014;4(2):242. 22.K.L S, D'Souza J, C.N V, Kumar V, **Kamath R**, L R. Study of bacteria causing skin infections in school going children in Udupi district; cross-sectional study. International Journal of Pharmacology and Toxicology. 2014;2(2) **23. Kamath R**, Majeed J, Chandrasekaran V, PattanshettyS .Prevalence of anemia among tribal women of reproductive age in Udupi Taluk, Karnataka. Journal of Family Medicine and Primary Care. 2013;2(4):345-8 24.Ciraj AM, Reem Rachel Abraham, Vinod Pallath, K. Ramnarayan, Asha Kamath, **Ramachandra Kamath**. Exploring attributes of effective teachers – student perspectives from an Indian medical school. South-East Asian Journal of Medical Education.Vol. 7 no. 1, 2013 **25.Kamath R**, Ghosh D, Lena A, ChandrasekaranV .A study on knowledge and practices regarding menstrual hygiene among rural and urban adolescent girls in Udupi Taluk, Manipal, India. GJMEDPH 2013; Vol. 2, issue 4 **26.Kamath R**, Mahajan KS, Ashok L, Sanal T S. A study on risk factors of breast cancer among patients attending the tertiary care hospital, in Udupi district.Indian J Community Med 2013;38:95-99 27.Pattanshetty S, Chandrasekaran V, Gupta R, **Kamath R**. Assessment of environmental factors associated with dengue transmission in Udupi Taluk, Karnataka. Journal of the Scientific Society. 2013;40(3):159. **28.Kamath R**, Sharma V ,Pattanshetty S , Hegde MB ,Chandrasekaran V. HIV-TB coinfection: Clinico-epidemiological determinants at an antiretroviral therapy center in Southern India. Lung India. 2013;30(4):302-6 **29.Ramachandra Kamath,** Manish Kumar, Sanjay Pattanshetty, Asha Kamath: Nutritional status assessment of school children in Mangalore city using the multicenter growth reference study WHO 2007 Z-scores. J NutrPharmacolNeurol Dis 2012;2:233-6. 30.Bhat H V, **Kamath R**, Arunkumar G, Delzell E, Tipre M,		

		Upadhyay D.K; Sathiakumar N: MPH Program at Manipal University, India – Experiences, Challenges and Lessons Learned – Am. J Ind Med: Vol 56, Issue 1, 20-28, Jan 2012 31.N. Girish ,**Kamath Ramachandra** , MaiyaArun ,Kamath Asha :Prevalence of Musculoskeletal disorders among cashew factory workers. Archives of Environmental and Occupational Health 2012; 67(1):37-42. 32.Lee J, Lim S, Lee K, Guo X, **Kamath R**, Yamato H, Abas AL, Nandasena S, Nafees AA, Sathiakumar N. Secondhand smoke exposures in indoor public places in seven Asian countries. Int J Hyg Environ Health. 2010 Sep;213(5):348-51 **33.Kamath R,** Bhat V, Rao R, Das A, Ks G, Kamath A. Prevalence of Goiter in Rural Area of Belgaum District, Karnataka. Indian J Community Med 2009; 34:48-51 34.Yashodhara BM, Umakanth S, Pappachan JM, Bhat SK, **Kamath R**, Choo BH. Omega-3 fatty acids: a comprehensive review of their role in health and disease. Postgrad. Med. J. 2009;85;84-90 **35.Kamath R**, Bhat V, Rao RS, Acharya D, Kapil U, Kotian MS, Nayak DS. Prevalence of goiter among school children in Belgaum District. Indian J Pediatr. 2009 Aug;76(8):825-8. 36.Daniel AB, Nagaraj K, **Kamath R**. Prevalence and determinants of tobacco use in highly literate rural community in south India Natl Med J India. 2008 Jul-Aug;21(4):163-5 37.Rao RS, **Kamath R**, Das A, Nair NS, Keshavamurthy. Prevalence of goiter among school children in coastal Karnataka. Indian J Pediatr. 2002 Jun;69(6):477-9.		
	Dr.Sharvanan E	1.Kumar BA, Kumar AS, Sharvanan E. Rhabdomyolysis in scrub typhus: an unusual presentation. Int J Prev Med. 2013 Dec;4(12):1472-5. 2.Udayar SE, Thatuku ST, Jevergiyal DP, Meundi AM. Prevalence and predictors of prehypertension and hypertension in adult population of rural Southern India-An epidemiological study. J Family Med Prim Care. 2021 Jul;10(7):2558-2565.		

		3 A Community based study on Infant and young feeding practices in a rural area of Karnataka. **Sharvanan Udayar E.** Angadi M. M, Rekha Udgiri, Santosh Patil D. Journal of Evolution of Medical and Dental Sciences/Volume1/ Issue3/July-Sept 2012 Page 231. 4Knowledge about HIV/AIDS among first year medical students. Rekha Udgiri, M.C. Yadavannavar, M.M. Angadi and **Sharvanan E.** Al Ameen Journal of Medical Sciences 2011Vol:4, Issue: 3,Pg No.280-282. **5**. Epidemiological study of malnutrition among under children in a section of rural area. **Dr. Sharvanan Udayar E.** Angadi M. M, Dr. Rekha Udgiri, Indian Journal Of Dietics & Nutrition Vol 50 June 2013 Page 252-256. **6** A Rare Case of Rhabdomyolysis in Scrub Typhus Fever: A Case Report. International Journal of Preventive Medicine. Dr.Praveen Kumar B.ADr.Praveen Kumar A.S, **Dr.Sharvanan.E** (International Journal of Preventive Medicine Volume 4, No.12, November 2013). 7. Health seeking Behaviour of Elderly people in Rural Areas of Bijapur District. Dr. Santosh Patil D Dr. Angadi M. M, Dr. Ramesh Mayappanavar, **Dr.Sharavanan.E** International Journal of Health Sciences And Research. 2014 Jan; 4(1):43-47. 8. Comparison of topical application of ketamine aspirin and lignocaine on effects of intubation. M.N Satish Kumar , Vidya C Madgaonkar , T.N.Srikantamurthy , **Sharavanan E**. Int J Res Health Sci. 2014 Oct 31;2(4):1050-6. 9. A comparative study of intrathecal isobaric (0.75%) Ropivacaine with Isobaric (0.5%) Bupivacaine for elective lower abdominal/limb surgeries – A clinical study. C Surekha , MK Radha , M.N Satish Kumar , **Sharavanan E** Int J Res Health Sci . 2014 Oct 31;2(4):1174. 10. A Study of Economic Dependency and Its Relation to Depression among Elderly People in Rural Area of Chittoor District Andhra Pradesh. **Sharvanan E Udayar**, Devika P J,		

		Rajesh Kumar Konduru, Santosh D Patil Int J Health Sci and Res. 2014 Dec ;Vlo4;Issue1:1050-6. 11. Morbidity Pattern And Health Care Seeking Behaviour Of Rural Geriatric Population: A Cross Sectional Study.Santosh D. Patil1, **Saravanan E**, Mohd. Shannawaz. Int J Health Sci and Res. 2014 Dec; Vlo4; Issue1:56-61. 12. A Cross Sectional Study on Assessment of Mini Nutritional Status and Depression Status among Elderly in the Villages of V. Kota Mandal, Chittoor District, A.P. **Sharvanan E**, Sai Shravan, Anand Kumar B S, Naveen G. Int J Health Sci and Res. 2015 Jan ;Vlo5;Issue1:26-31. 13. A Study Of Depression Level Among Elderly People In The Rural Area Of Bijapur, India. Santosh D. Patil, **Sharvanan E. Udayar**, Mohd. Shannawaz. Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 30, April 13; Page: 5154-5160. 14. A comparative study of anteromedial and anterolateral plate osteosynthesis of middle third of humeral shaft fractures. Anand Kumar BS, Soraganvi P, **Udayar SE** Int J Health Sci Res. 2015; 5(7):70-75. 15. Pattern of Tobacco And Alcohol Use Among Elderly Population In a Rural Area Of Andhra Pradesh India.**Sharvanan E Udayar**,Praveen B.A, Arun.D,Sai sravan.National Journal of Community Medicine. 2015; 6(3):302-306. http://www.njcmindia.org/home/article/3/6/2015/Jul-Sept. 15. **Udayar SE**, Sampath S, Sai Sravan AD. Epidemiological Study of cardiovascular risk factors among public transport drivers in rural area of Chittoor District of Andhra Pradesh. Int J Community Med Public Health 2015; 2(4): 415-420. doi: 10.18203/2394-6040.ijcmph20150778. 16. **Udayar SE**, Prasad V. Epidemiological Study of Socio demographic factors in relation to depression among the elderly people in a rural area of Chittoor District of Andhra		

Pradesh. Int J Community Med Public Health. *2016 Jan;3(1):853-857.* doi: 10.18203/2394-6040.ijcmph20151554.

17. **Sharvanan E**, Rajesh Kumar K ,Praveen Kumar BA Sivachandiran V,SrinivasT 'Study of Cardiovascular Risk Factors Among Transport Drivers In Rural Area Of Andhra Pradesh. National Journal of Community Medicine 2015 Oct - Dec 6(4): 566-570. http://www.njcmindia.org/home/article/4/6/2015/Oct-Dec_2015/21. '

18.**Sharvanan E,**Deepthi K,Vara Prasad.Study nutritional status and its relation to morbid conditions among adolescent girls residing in social welfare hostels in rural area of Andhra Pradesh. Int J Community Med Public Health. *2016 March3(3):636-640.* doi: 10.18203/2394-6040.ijcmph20160624.

19. **Dr. Sharvanan Eshwaran Udayar**, 2. Dr. Anil N , 3. Dr. Praveen Bhattarhalli Ashok, 4. Dr. Devi Vara Prasad. Epidemiological Study Of Health Profile Of Adolescent Schoolgirls Residing In Social Welfare Hostel In Rural Area Of Kuppam. Indian Journal of Preventive Medicine / Volume 4 Number 1 / January - June 2016.27-30. https://dx.doi.org/10.21088/ijpm.2321.5917.4116.5.

20. Udayar SE, Patil SD, Vadivel K. Study of Socioeconomic Factors in Relation to Depression among Elderly People Living in Rural Area of Andhra Pradesh. Ntl J Community Med 2016; 7(5):382-385. http://www.njcmindia.org/home/article/5/7/2016/May/7.

21. Depression and Anxiety among the Elderly from Institutional and Non-Institutional Settings in the field practice area of a tertiary care institute, Andhra Pradesh: A Comparative Study International Journal of Medical Science and Public Health | 2016 | Vol 5 | Issue 11 http://dx.doi.org/10.5455/ijmsph.2016.03052016478.

22. Kumar PBA, Udyar SE, Arun D, Sai S. "Quality Of Life

		of Elderly People in Institutional and Non-Institutional Setting: A Cross-Sectional Comparative Study.National Journal of Community 2016;7(7):546-550. http://www.njcmindia.org/home/article/7/7/2016/July. 23. Sharvanan E Udayar, Krithika.K, Devi V Prasad. Menstrual hygiene practices among adolescent girls residing in tribal and social welfare hostel in Andhra Pradesh: a community based study. National Journal of Community Medicine ;7(8)Aug 2016.681-685. http://www.njcmindia.org/home/index/7. 24. Kruthika K.1, Sharavanan Eshwaran Udayar2, M. D. Mallapur. An epidemiological study of postnatal depression among women availing maternal health services in rural areas of Belagavi, Karnataka, India . International Journal of Community Medicine and Public Health.2017 Mar;4(3):759-763. http://dx.doi.org/10.18203/2394-6040.ijcmph20170754.		
	Dr.Mahesh S H	1. **S.H. Mahesh**,Lt Col A.S. Kushwaha, Col AtulKotwal, S Pandemic influenza: Experience in a flu OPD of a tertiary care hospital.Medical journal armed forces india 70 (2014) 39-42. 2. JoylynKurian,**S. H. Mahesh**,Akhil P. Aravind Jacqulin KurianA study to determine the nutritional status of high school children in rural field practice area of medical college. Int J ContempPediatr. 2014 Nov;1(3):148-151 3. Ashiq Rashid Mir, **S.H. Mahesh**, M.S. Rajanna, Krishna Iyengar, CheluveGowda. Drinking water		

		facility in urban field practice area of a medical college: a community based cross sectional study. Int J Community Med Public health.2016 Aug; 3(8): 2287-2290 4. International Journal of Community Medicine and Public Health Hoolageri MS et al. Int J Community Med Public Health. 2018 Mar;5(3):1020-1023 http://www.ijcmph.com		
	Dr. Narasihma B C	1.Narasimha BC, Ravish KS, Ranganath TS, Navya S. A study on knee joint osteoarthritis among the women aged above 40 years, residing in the urban field practice area at tertiary care centre, Bangalore, Karnataka, India. Int J Community Med Public Health. 2016 Jun;3(6):1554-8. 2.Narasimha BC, Anand P, Ravish KS, Navya SS, Ranganath TS. Role of self help groups in women empowerment and health. International Journal of Community Medicine and Public Health. 2017;3(8):2026-8. 3.Narasimha BC, Ravish KS, Ranganath TS, Navya S. An assessment of effect of national rural health mission on newborn care. International Journal of Community Medicine and Public Health. 2016;3:2377-2380. 4.Narasimha B. C,Ravish KS, Ranganath TS, Sharvanan E. Determinants of initiation of breast feeding among lactating women in rural area of Bangalore. The Journal of Community Health Management.2017;4:1-4. 5.Narasimha B.C, Ravish K.S, Ranganath T.S, Navyasri S, Sharvanan E. Estimation of Utilization of Maternal Health Care Services in Rural Bangalore. Indian Journal of Preventive Medicine. 2017 Dec;5(2):97-102. 6.Kruthika K, Narasimha B.C, Jagadish Gangani. Effect of Gender Preference of Offspring on Contraceptive Use among Married Women in Urban Areas of Belagavi – A Cross Sectional Study.National Journal of Research in Community Medicine. 2019;8(1):84-87. 7.Vidya KR, Lohit K, Narasimha BC, Swamy RM. Community Perception on Malaria in Urban Area of Tumkur. Natl J Community Med 2021;12(7):180-183.		
	Dr.Kruthika K	**1.** Sharvanan E Udayar, Kruthika.K, Devi V Prasad.		

		Menstrual hygiene practices among adolescent girls residing in tribal and social welfare hostel in Andhra Pradesh: a community based study. National Journal of Community Medicine ;7(8)Aug 2016.681-685. http://www.njcmindia.org/home/index/7. 2. Knowledge Attitude & Practical regarding rood safety among adobo scents in Madikeri Karnataka. Dr.Kruthika K, Dr.Ramachandra Kamath Mr. Jagadish 3. **Kruthika K,** Jadhav NN,Mallapur MD. Prevalence of refractive errors among 9-16 years school going children in rural areas of Belagavi,Karnataka.National Journal of Research in Community Medicine.2016;5(4):252-257. 4. **Kruthika K,**Baliga SS,Jadhav NN, Intimate partner violence and risk factors associated with it amongst married women in Belagavi- A Cross sectional Study.National Journal Of Community Medicine.2017;8(1):22-25. 5. **Kruthika K,** Metgud CS. Knowledge score regarding contraceptive methods among married women in urban areas of Belagavi.International Journal of Community Medicine and Public Health.2017;4(4):1303-06 6. **Kruthika K,**Baliga SS, Kansal D, Mallapur md.,Socio demographic and obstetric risk factors associated with depression among pregnant women in a rural area of Belagavi.International journal of Health sciences and Research.2015;5(8):45-50. 7. **Kruthika K,**Baliga SS,Jadhav NN., Prevalence of intimate partner violence and assessment of risk among women suffering from intimate partner		

		violence.National Journal of Research in Community Medicine.2017;5(4) 14-17 8. **Kruthika K,** Udayar SE, Mallapur.MD. An epidemiological study of postnatal depression among women availing maternal health services in rural areas of Belagavi. International Journal of Community Medicine and Public Health.2017;4(3):759—63 9. **Kruthika K,**Narasimha BC, Gangani J., Effect of gender preference of offspring on contraceptive use among married women in urban areas of Belagavi- A cross sectional study..National Journal Of Community Medicine.2019;8(1):84-87.		
	Dr.Rajashree k	1 Kotabal R, Belur MN, Nandini c, Nagendra K. A study on Prevalence of myopia among High school children in an Urban area of shivamogga: a cross sectional study. Int J community Med Public Health 2017;4:2373-6 2 Rajashree K, Prathan HL, Revathy R. Study on the factors associated with low birth weight among newborns delivered in a tertiary-care hospital, Shimog, Karnataka. Int J Med sci Public Health 2015;4. 3 Rajashree Kotabal, Prathad Dasar. A Study on prevalence of hypertension among school children in Shivamogga city a cross sechonal Study. Nat J		

		res community Med 2017;6(4); 230-232 4 Rajashree Kotabal, Pralhad dasar, Rekha sonavane. Study on prevalence and Determinants of Malnuhrition among Anganwadi children of Nagavi primary health centre Area, Gadag Nat J res Community Med 2018; 7(1):32-35 5 Kotabal R, Chilgod N, Belur MN, Nagendra K. A Study on Prevalent and factors Associated with obesity among Adolescents in Shivamogga city. A cross Sectional Study Nat J community Med 2018; 9(1): 29-32 6 Rajashree kotabal, Pralhad Dasar. Study on proportion of Menstrual Disorder among professional college students in gadag city: a cross sectional study. Nat J res Community Med 2018;7 (2): 32 -35.		

17/12/21

Professor & HOD
Department of Community Medicine
Kodagu Institute of Medical Sciences
Madikeri - 571201

DENTISTRY

Department of Dentistry

Depar tment	Name of the Faculty Qualification IMR number	Current Designation & Date of promotion	Nature of the Employment Regular/Permanent or contract/Outsourced	Details Service in the last 5 Years	Number of Lectures taken/Year Topics Covered
1.	Dr. Kedarnath N S, Qualifi: MDS ; Oral and Maxillofacial Surgery MDS, FIBOMS, FIBCSOMS, PGDMLE, MFDS RCPS (GLASG) KSDC : 13384-A	Professor Department of Dentistry Kodagu institute of medical sciences madikeri From 07 November 2020 till date	Regular/Permanent	Professor, Rajarajeswari dental college and hospital Bangalore from 07 October 2016 to 06 November 2020, Reader Rajarajeswari dental college and hospital Bangalore from 08 October 2011 to 07 October 2016 Senior lecturer NSVK SV DENTAL COLLEGE AND HOSPITAL BANGALORE June 27 2007 to 07 October 2011,	15 per Year List of Topics, Dental caries Sequale of Dental caries Red and white lesions Cysts and tumors Malocclusion Oral lesions in Diabetes mellitus Forensic dentistry Management of fractures and trauma, Oral manifestations of systemic disorders, Age estimation
2.	Dr Deepa V, MDS ; Oral Medicine and radiology, KSDC : 24718-A.	Associate professor.	Permanent.	Senior Lecturer , Dept of oral medicine diagnosis and radiology in St Gregorios Dental College 01/12/2013 to 26/04/2014, Assistant Professor in Kodagu institute of medical Sciences , dept of dentistry 03/05/2014 to 04-03-2019, Associate professor ,dept of dentistry Kodagu institute of medical Sciences 04-03-2019 till date	15 per Year List of Topics, Dental caries Sequale of Dental caries Red and white lesions Cysts and tumors Malocclusion Oral lesions in Diabetes mellitus Forensic dentistry Management of fractures and trauma, Oral manifestations of systemic disorders, Age estimation
3.	Dr. Dhyan Kushalappa P B, MDS ; Orthodontics KSDC -28012-A,	Assistant Professor	Permanent.	Junior Resident 27-10-2016 to 23-04-2020 KOIMS, Madikeri, Assistant Professor 24-10-2020 to till date	15 per Year List of Topics, Dental caries Sequale of Dental caries Red and white lesions Cysts and tumors Malocclusion Oral lesions in Diabetes mellitus

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					Forensic dentistry Management of fractures and trauma, Oral manifestations of systemic disorders, Age estimation
4.	Dr. Sagar Gopalakrishna, Qualifi: MDS ; Oral and Maxillofacial Surgery KSDC : 32791-A.		Curr des: Junior Resident. Nature of empl: Contract.	Services: Senior Lecturer . OMFS dept . Farooqia dental college and hospital 10.08.2017 - 26.10.2018 Assistant Professor dept of dentistry BGS Global institute of medical sciences 05.12.2018 - 31.12.2019 Junior Resident dept of dentistry KOIMS 28.04.2020 - 28.03.2021. & 06.04.2021 to Till date	15 per Year List of Topics, Dental caries Sequale of Dental caries Red and white lesions Cysts and tumors Malocclusion Oral lesions in Diabetes mellitus Forensic dentistry Management of fractures and trauma, Oral manifestations of systemic disorders, Age estimation
5.	Dr. Manpreet Kaur, MDS ; Oral Medicine and radiology, KSDC : 32264-A			JOINED AS DENTAL HEALTH OFFICER 18/12/2015-07/06/2016, CHC BOOKANAKERE: DENTAL HEALTH OFFICER DISTRICT HOSPITAL MADIKERI: 16/08/2017 till date	15 per Year List of Topics, Dental caries Sequale of Dental caries Red and white lesions Cysts and tumors Malocclusion Oral lesions in Diabetes mellitus Forensic dentistry Management of fractures and trauma, Oral manifestations of systemic disorders, Age estimation

Professor & HOD,
Department of Dentistry,
Kodagu Institute of medical Sciences,
Teaching Hospital, Madikeri.

DERMATOLOGY

Department of Dermatology, KoIMS, Kodagu

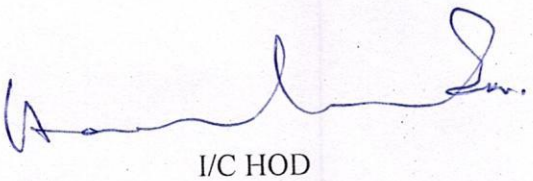
Department	Name of the Faculty Qualification IMR number	Current Designation and Date of Promotion	Nature of Employment Regular/ Permanent or Contract/ Outsourced	Details of services in last 5 years					Number of Lectures taken/year Topics covered
				1 2017	2 2018	3 2019	4 2020	5 2021	
DERMATOLOGY	Dr.Harshavardhana K N MBBS, MD	Associate Professor 27-04-2020	Regular and Permanent	OPD, IPD services, UG theory ,Clinical teaching, and research activity	OPD, IPD services, UG theory ,Clinical teaching, and research activity	OPD, IPD services, UG theory ,Clinical teaching, and research activity	OPD, IPD services, UG theory ,Clinical teaching, and research activity	OPD, IPD services, UG theory ,Clinical teaching, and research activity	20 theory Lectures/year. 4th ,6th,8th term Clinical teaching 15 days each. topics Vesiculo-bullous diseases papulo squamous connective tissue disease topics as per RGUHS
	Dr. Khathija Dilshad	Senior Resident 12-11-2020	Regular and Permanent					OPD, IPD services, UG theory and Clinical teaching	03 theory Lectures/year 4th ,6th,8th term Clinical teaching 15 days each Vesiculo buleous Veticaua and angcoedema

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ANNEXUR
E- 1

Sl. No	Faculty Name	Publication in Vancouver referencing style	Pubmed Indexed Yes/ No	Scopes
1	Dr. Harshavardhana K N	Harshavardhana KNRamya K N. A Clinico-Epidemiological study of Dermatophytosis. Dermatol Int 2018; 3(2):79-84	No	No
2		Harshavardhana KN, Ramya KN. Dermatophytosis: Correlation between the site of Involvement and the causative agent. Dermatol Int. 2018; 3(2):73-8	No	No



I/C HOD
Department of Dermatology
KoIMS, Teaching Hospital,
Madikeri.

ENT

Department of ENT

Department	Name of the Faculty Qualification IMR number	Current Designation & Date of promotion	Nature of the Employment Regular/Permanent or contract/Outsourced	Details Service in the last 5 Years	Number of Lectures taken/Year Topics Covered
1.	Dr. Shwetha, MBBS,MS ENT, KMC No 78578	Associate Professor & 09-03-2019	Regular/ Permanent	Assistant Professor - 3 Associate Professor – 2, Kodagu Institute of Medical Science, Madikeri.	56 per year
2.	Dr. Sathyaki D.C, MBBS,MS ENT, KMC No: 79986	Assistant Professor	Regular/ Permanent	Sri Siddartha Medical College, Tumakuru 13.06.2012 -21.08.2018, Assistant Professor - 18-07-2019 to till date Kodagu Institute of Medical Science, Madikeri.	18 per year
3.	Dr. Srikanth H.J, MBBS, DLO, MS ENT KMC No: 69847	Senior Resident	Regular/ Permanent	Senior Resident Kodagu Institute of Medical Science, Madikeri – 5 Years	Nil
4.	Dr. Nalina P.A, MBBS, DLO, MS ENT, KMC No 71610	Senior Resident	Regular/ Permanent	Senior Resident Kodagu Institute of Medical Science, Madikeri – 5 Years	6 per year
5.	Dr. Vinay S R, MBBS,MS ENT, (KMC No 77237)	Senior Resident	Regular/ Permanent	Senior Specialist District Hospital - 2 Years Senior Resident Kodagu Institute of Medical Science, Madikeri from 01.12.2018 to Till date – 3 Years	Nil
6.	Dr. Akshatha Shetty M, MBBS, MS, KMC No 110980	Senior Resident	Contract	Junior Resident Karnataka Institute of Medical Sciences, Hubli – 3 Years, Senior Resident Kodagu Institute of Medical Science, Madikeri – 2 Months	2 per year

ಕೊಡಗು ವೈದ್ಯಕೀಯ ವಿಜ್ಞಾನಗಳ ಸಂಸ್ಥೆ, ಮಡಿಕೇರಿ

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I/C HOD,
Department of ENT,
Kodagu Institute of medical Sciences,
Teaching Hospital, Madikeri.

Annexure

E – 1

Sl.No	Faculty Name	Publication in Vancouver Referencing style	Pubmed indexed Yes/ No	Scopus
1.	Dr. Shwetha	Shwetha (2018). "Chronic Otitis media with Cholesteatoma – clinical presentation & surgical management". International Journal of Otorhinolaryngology & Head & neck surgery. 4(5)	No	No
		Shwetha (2018). "Surgical outcomes in COM with cholesteatoma". International Journal of Otorhinolaryngology & Head & neck surgery. 4(6)	No	No
		Shwetha et al (2021). "Allergic Rhinitis – clinical correlation & blood picture". Turkish Journal of Physiotherapy & Rehabilitation. 32(3): 15214-15218	No	Yes
		Shwetha et al (2021). "A clinic-epidemiological study of hearing loss in adult patients presenting to a tertiary healthcare center in India". MedPulse International Journal of ENT. 19(3): 18-20	No	No
		Shwetha et al (2021). Efficacy of triamcinolone in the prevention of recurrence of keloids in the pinna. MedPulse International Journal of ENT. 20 (1) :1-3	No	No
		SH Kripalini, Shwetha et al (2021). "A study to assess the spectrum of ocular manifestations among the patients with zoster ophthalmicus in a tertiary care center". Turkish Journal of Physiotherapy & Rehabilitation. 32(3): 15219-15223	No	Yes
2.	D C Sathyaki	D C Sathyaki et al. a Comparative study of endoscopic septoplasty versus conventional septoplasty. Indian Journal of Otolaryngology and head and neck surgery. 2014 june;66(2):155-61	Yes	No
		D C Sathyaki et al. Lipomas of head and neck International Journal of otolaryngology and head and neck surgery March-April (2018) :1-3	No	No
		D C Sathyaki et al.Unusual sites of dermoid cysts, nternational Journal of otolaryngology and head and neck surgery. 2018 march: 4 (2):5-7	No	No
		Shwetha, D C Sathyaki et al (2021). "A clinic-epidemiological study of hearing loss in adult patients presenting to a tertiary healthcare center in India". MedPulse International Journal of ENT. 19(3): 18-20	No	No
		Shwetha D C Sathyaki et al (2021). Efficacy of triamcinolone in the prevention of recurrence of keloids in the pinna. MedPulse International Journal of ENT. 20 (1) :1-3	No	No
3.	Dr. Nalina	Shwetha D C Sathyaki, Nalina P A et al (2021). Efficacy of triamcinolone in the prevention of recurrence of keloids in the pinna. MedPulse International Journal of ENT. 20 (1) :1-3	No	No
4.	Dr. Srikanth H.J	Yaladahalli G. Lokesh1 *, Dudda Ravi2 , Hodeyala J. Srikanth3, Cytopathological and histopathological evaluation of neck mass in a tertiary care hospital, International Journal of Otorhinolaryngology and Head and Neck Surgery | September 2021 | Vol 7 | Issue 9 Page 1432	No	No
		Ravi Dudda, Srikanth Hodeyala Jayanna*, Hanumantha Prasad M., Nagavara Kalegowda Balaji, Endoscopic resection of inverted papilloma of nasal cavity: a case report, International Journal of Otorhinolaryngology and Head and Neck Surgery | May-June 2018 | Vol 4 | Issue 3 Page 846	No	No
5.	Dr. Akshatha Shetty M,	Shashidhar Kallappa, Akshatha Shetty Mijar. Outcomes of Pectoralis Major Myocutaneous Flap in the Reconstruction of Head and Neck. International Journal of Clinical Oncology and Cancer Research. Vol. 5, No. 2, 2020, pp. 39-42. doi: 10.11648/j.ijcocr.20200502.15	No	No
		Bongale KR, Bhat VK, Shetty AM. The effect of fascia and free skin graft on the healing of mastoid cavity after canal wall down mastoidectomy. J Laryngol Otol 2021; 1–6. https://doi.org/10.1017/S0022215121002802		

1. Medical Education Training/research methodology and dates

Faculty Name	MET Date	Research Methodology Date
Dr. Shwetha	07-01-2019 to 09-01-2019	26-09-2021
D C Sathyaki	26-07-2013 to 28-07-2013	21-03-2021
Dr. Srikanth H J	-	26-09-2021
Dr. Nalina	-	26-09-2021

* To be updated every new session/academic year
* To be updated on 1st October each year.

I/C HOD,
Department of ENT,
Kodagu Institute of medical Sciences,
Teaching Hospital, Madikeri.

FORENSIC MEDICINE

29. Department wise list of Faculty Members

Department	Name of the faculty Qualification IMR Number	Current Designation & Date of promotion	Nature of employment Regular/ permanent or contract/outsourced	Details of Service in the Last 5 years 1 2 3 4 5	Number of lectures taken/year. Topics covered
Forensic Medicine	Dr.Umesh Babu R	Professor & HOD	**Regular**	2016 to Till date KOIMS Madikeri	Lectures 44 And Practical Demo-30
	Dr.RaviKumar	Associate Professor	**Regular**	2016 to Till date KOIMS Madikeri	Lectures 32 And Practical Demo-30
	Dr.Yogesh G	Assistant Professor	**Regular**	2016 to Till date KOIMS Madikeri	Lectures 26 And Practical Demo-30

1. Publications by faculty should be attached as annexure.
2. Publications should be quoted in Vancouver referencing style.
3. Medical Educator Training/ research methodology and dates

1. Publications by faculty should be attached as annexure.

2. Publications should be quoted in Vancouver referencing style.

3. Medical Educator Training/ research methodology and dates

a. Dr Umesh babu R.

Medical education workshop for medical teaching in education and technology	9/11/2009 to 12/11/2009	SDUAHER
Revised basic medical education technology - workshop	27/02/2018 to 01/03/2018	St Johns medical college and research institute
Revised basic medical education technology- sensitization programme	02/03/2018	St Johns medical college and research institute
Curriculum implementation and support programme	20/02/2019 to 22/02/2019	St Johns medical college and research institute
Basic course in education methodology by RGUHS	22/04/2019 to 23/04/2019	KoIMS
Basic course in biomedical reaearch	20/12/2020	NPTEL

b. Dr Ravikumar R.

Revised basic medical education technology - workshop	25/06/2019 to 27/06.2019

ANNEXUR
E-1

Sr. No	Faculty Name	Publication in Vancouver referencing style.	Pubmed Indexed Yes/No	Scopes
1	Dr.Umesh Babu R	1. Umesh Babu R, Gurudatta S Pawar, Annie Verghese, A Study on personal Identification by Lip print patterns in south Indian Population, Indian Journal Of Forensic Medicine And Toxicology Jan-June 2011 2. Umesh babu R, Krishna Kumar B R, Harendra Kumar, Gayathri B N, Organo Phosphorus poisoning presenting as Pulmonary Thromboembolism, Medicolegal update, Jan-Jun, 2012 , 12(1), 40-41 3. Sunil Kumar S biradar, Umesh babu R, Gajanan H. Nayak, Smitha M, Age estimation by Eruption and Apical foramina closure of Second premolar Teeth, Medicolegal update , Jan-Jun, 201212(1) 4. Umesh Babu R, Roshni Sadashiv, Kiran J, Reconstruction of Femur length from its Fragments, Indian Journal of Forensic Medicine and Toxicology, December 2013, 7(2) 168-171 5. Dayananda R, Umesh Babu R, Psychological autopsy , Indian Journal of Forensic Medicine and Toxicology, Jan-June 2014, 8(1 6. Dayananda R, Umesh babu R, Kiran J, Estimation of stature from dimensions of foot, International journal of medical Toxicology and Forensic Medicine, 2015, 2015 7. Umesh Babu R., Kiran J. Accidental decapitation, International journal of medical Toxicology and Forensic Medicine, 2015, 5(1)2015, 8. Umesh Babu R, Gayathri B.N., Dayananda R, Histomorphological study of Gallbladder at Autopsy, Indian Journal of Forensic Medicine and Toxicology, Dec 2016, 10(2) 9. Umesh Babu R Murali Mohan M.C.., Estimation of time since death from histology of liver, Indian Journal of Forensic Medicine and Toxicology, Dec 2016, 10(2) 10. Umesh Babu R, Prathima S.., Murali Mohan M.C.., Can red cell distribution width (RDW) predict the mortality in organo phosphorus and carbamate poisoning, Journal of Indian Society of Toxicologists, Dec2014, 10(2),	NO	YES

		11. Umesh Babu R, Gayathri B.N, Papillary muscle rupture as a delayed sequelae of trauma, International journal of medical Toxicology and Forensic Medicine, 2015, 5(1) 12. Umesh Babu R, Gayathri B.N., Harendra kumar M.L, Spectrum of liver pathology at autopsy, International journal of Research and Review, Mar 2015, 2(3) 13. Umesh Babu R., Prashanth kumar BG, Is serum sialic acid a marker of Alcohol abuse, Journal of Indian Society of Toxicologists, Dec 2010, 6(2). 14. Umesh Babu R., Ameena Ahmed, Imaad I., Can lip print patterns determine sex of an individual, Medicolegal update, Dec 2016, 15. Umesh Babu R., Mahesh V. Determination os sex from fragments of femur, Forensic medicine and toxicology, Dec 2016. 16. Dayananda R., Umesh Babu R., A comparative evaluation of CT scan findings and autopsy findings in fatal head vinjuries, International journal of medical Toxicology and Legal Medicine, June 2016, 19(1,2), 22-26		
	Dr.RaviKumar	**. Ravikumar R. PATTERNS OF HEAD INJURIES IN ROAD TRAFFIC ACCIDENTS INVOLVING TWO WHEELERS: AN AUTOPSY STUDY – J Indian Acad Forensic Med. October-December 2013, Vol.35, No.4 P.349-52.** **2. Ravikumar R, Kalaiselvi L.T. RADIOLOGIST A PROMISING MEMBER IN FORENSIC TEAM -- Journal of Forensic Medicine, Science and Law. Jul-Dec 2013, Vol.22, No.2.** **3. Ravikumar R. POSTMORTEM ARTEFACTS BY ANIMALS – COMPLEXITIES IN AUTOPSY – International Journal of Medical Toxicology and Legal Medicine July –Dec 2013, Vol 16, No.1&2 P.65-8.** **4. Ravikumar R. A PROFILE OF TWO WHEELER ROAD TRAFFIC ACCIDENTS AND HEAD INJURIES IN BANGALORE – Journal of Medico-legal-update. January-June 2014, Vol.14, No.1 P.139-43.** **5. Ravikumar R, Chetankumar. DEATH BY LIGHTENING STRIKE – Indian Journal of Forensic Medicine and Pathology. January–March 2014, Vol.7, No.1 P.19-22.** **6. Ravikumar R. AN AUTOPSY STUDY OF PATTERNS OF**	NO	YES

		SKULL FRACTURES IN ROAD TRAFFIC ACCIDENTS INVOLVING TWO WHEELERS – JKAIMLS Jan-Jun 2014, Vol.23, No.1 P.9-14. 7. Ravikumar R, Kalaiselvi L.T. PYRETHROID POISONING – AN UNCOMMON DEATH - Journal of Forensic Medicine, Science and Law Jan-Jun 2014, Vol.23, No.1. 8. Ravikumar R, Punitha R. DELAYED DEATHS IN HANGING: AN AUTOPSY REVIEW – Indian Journal of Forensic Medicine and Pathology. April – June 2014, Vol.7, No.2 P11-14. 9. Ravikumar R. ABUSE OF SECTIONS 498(A) AND 304(B) A CASE REPORT – Indian Journal of Forensic Medicine and Toxicology. July – December 2014, Vol.8, No.2 P.234-6. 10. Ravikumar R, Chandrashekaraiah C. PATTERNS OF FATAL POISONING DEATHS: A RETROSPECTIVE STUDY – J Punjab Acad Forensic Med Toxicol 2014; 14(2) P.91-5. 11. Ravikumar R, Kalaiselvi L.T. IS DEATH COMMON IN PYRETHROID POISONING? - Journal of the Indian Society of Toxicology: 2014, 10(1) P.28-30. 12. Kumar Pradeep M.V, Rayamane Anand P, Kumar Ravi. R, Patra Ambikaprasad. LIGHTENING DEATH – A CASE REVIEW Journal of Forensic Medicine and Toxicology: 2015, Vol 32(1) P.37-40. 13. Yogesh G, Ravikumar R. PROFILE OF ORGANOPHPSPHOROUS POISONING AT TERTIARY HOSPITAL, BELLARY (HYDERABAD – KARNATAKA REGION) - Indian Journal of Forensic Medicine & Toxicology 2015, 9(2) P.154-9. 14. Ravikumar R, Kalaiselvi L.T. A FATAL CASE OF CERVICAL SPINE INJURY – Indian Journal of Forensic Medicine and Pathology Oct - Dec 2015, Vol.8, No.4, P11-14. 15. Ravikumar R, Punitha R. DELIBERATE SELF HARM BY PARAQUAT POISONING – ANILIJFMAT. July – December 2016, Vol.17, No.2. 16. Ravikumar R, Shylaja N. AN AUTOPSY STUDY OF FATAL OCCUPATIONAL INJURIES IN CONSTRUCTION WORKERS - International Journal of Medical Toxicology		

		and Legal Medicine July –Dec 2017, Vol 20, No.3&4 P.35-9. 17. Ravikumar R, Yogesh G. TRENDS OF ACUTE POISONING CASES IN A TERTIARY CARE HOSPITAL: A RETROSPECTIVE STUDY - International Journal of Medical Toxicology and Legal Medicine Jan – June 2018, Vol 21, No.1&2 P.84-7. 18. Shylaja N, Ravikumar R. AN AUTOPSY STUDY OF PATTERN OF INJURIES AT WORKPLACE – JKAMLS – Jul – Dec 2018, Vol 27 No.2 P.30-5. 19. Ravikumar R, Yogesh G. THE CRIMINAL CAUSES OF INFANTICIDE BY STRANGULATION: AN AUTOPSY REVIEW - JKAMLS – Jul – Dec 2018, Vol 27 No.2 P.30-5. 20. Ravikumar R, Shylaja N. A PROFILE OF WORKPLACE ACCIDENTS AND INJURIES AT BENGALURU – Journal of Indian Academy of Forensic Medicine Oct – Dec 2018 Vol.40, No.4 P.369-74. 21. Ravikumar R, Darshan C. CHEILOSCOPY: THE STUDY OF LIP PRINTS IN SEX DETERMINATION - International Journal of Medical Toxicology and Legal Medicine Jan – June 2019, Vol 22, No.1&2 P.88-91. 22. Ravikumar R, Yogesh G. Suicidal Death By Xylazine and Ketamine Mixed Intoxication – JOURNAL OF FORENSIC MEDICINE SCIENCE AND LAW 2019; 28 (2) P.49-51. 23. Ravikumar R, Yogesh G. Medical Misdiagnosis: A Toxicological Perspective – J Punjab Acad Forensic Med Toxicol 2019; 19(2) P.1-3. 24. Ravikumar R, Shylaja N. ACCIDENTAL DEATH BY CARBON MONOXIDE DUE TO POOR VENTILATION: A CONCERN - JKAMLS Jan – Jun 2020, Vol 29 No.1 P.40-3. 25. Ravikumar R, Darshan C. The Study of Lip Print Patterns among the South India Population - JOURNAL OF FORENSIC MEDICINE SCIENCE AND LAW 2020; 29 (1) P.20-22.		
	Dr.Yogesh G	1. Yogesh G, Ravikumar R. PROFILE OF ORGANOPHPSPHOROUS POISONING AT TERTIARY HOSPITAL, BELLARY (HYDERABAD – KARNATAKA REGION) - Indian Journal of Forensic Medicine & Toxicology 2015, 9(2) P.154-9.	NO	YES

		2. Ravikumar R, Yogesh G. TRENDS OF ACUTE POISONING CASES IN A TERTIARY CARE HOSPITAL: A RETROSPECTIVE STUDY - International Journal of Medical Toxicology and Legal Medicine Jan – June 2018, Vol 21, No.1&2 P.84- 3. Ravikumar R, Yogesh G. THE CRIMINAL CAUSES OF INFANTICIDE BY STRANGULATION: AN AUTOPSY REVIEW - JKAMLS – Jul – Dec 2018, Vol 27 No.2 P.30-5. 4. Ravikumar R, Yogesh G. Suicidal Death By Xylazine and Ketamine Mixed Intoxication – JOURNAL OF FORENSIC MEDICINE SCIENCE AND LAW 2019; 28 (2) P.49-51. 5. Ravikumar R, Yogesh G. Medical Misdiagnosis: A Toxicological Perspective – J Punjab Acad Forensic Med Toxicol 2019; 19(2) P.1-3.		

Professor and HOD

Department Of Forensic Medicine

KOIMS, Madikeri

GENERAL MEDICINE

Department of General Medicine, KoIMS, Kodagu

Department	Name of the Faculty Qualification IMR number	Current Designation and Date of Promotion	Nature of Employment Regular/Permanent or Contract/Outsourced	Details of services in last 5 years					Number of Lectures taken/year Topics covered
				1 2017	2 2018	3 2019	4 2020	5 2021	
GENERAL MEDICINE	Dr. Lokesh A J MBBS, MD	Professor & HOD 05-09-2015	Regular and Permanent	OPD, IPD services, UG theory and Clinical teaching, Departmental and Administrative work	OPD, IPD services, UG theory and Clinical teaching, Departmental and Administrative work	OPD, IPD services, UG theory and Clinical teaching, Departmental and Administrative work	OPD, IPD services, UG theory and Clinical teaching, Departmental and Administrative work. Covid-19 Related work Additional duty as Medical Superintendent	OPD, IPD services, UG theory and Clinical teaching, Departmental and Administrative work. Covid-19 Related work	10 theory Lectures/year Regular Clinical teaching CVS, CNS GIT, Renal system topics as per RGUHS
	Dr. Abdul Azeez A M	Associate Professor 24-12-2015	Regular and Permanent	OPD, IPD services, Clinical teaching,	OPD, IPD services, Clinical teaching,	OPD, IPD services, Clinical teaching,	OPD, IPD services, UG theory and Clinical teaching,	OPD, IPD services, UG theory and Clinical teaching,	INS
	Dr. Praveen	Senior Specialist 15-09-2021	Regular and Permanent	OPD	OPD	OPD	OPD	OPD, IPD services, UG theory and Clinical teaching,	GIT
	Dr. Athish	Senior Resident 19-05-2021	Contract	-	-	-	-	OPD, IPD services, UG theory and Clinical teaching,	CNS

ಮಂಜರು ವೈದ್ಯಕೀಯ ವಿಜ್ಞಾನಗಳ ಸಂಸ್ಥೆ, ಮಡಿಕೇರಿ

	Dr. Prajwal	Junior Resident 20-01-2019	Contract	-	-	OPD	OPD	OPD	
	Dr. Monika	Junior Resident 17-04-2019	Contract	-	-	OPD	OPD	OPD	
	Dr. Aishwary	Junior Resident 02-02-2020	Contract	-	-	-	OPD	OPD	
	Dr. Srikripa	Junior Resident 01-07-2021	Contract	-	-	-	-	OPD	

ANNEXUR

E- 1

Sl. No	Faculty Name	Publication in Vancouver referencing style	Pubmed Indexed Yes/ No	Scopes
1.	Dr. Lokesh A J	Pseudo cholinesterase-deagnostic and prognostic value in organophosphorus poisoning LokeshA. J. Deepak U .G2nd, Venkatesh K. B' Yuvaraj M. K	No	No
2.		A study on awareness of 108 ambulance services at district hospital in Hassan, Karnataka.south india: a tertiary care hospital attached to Hassan institute of medical sciences(hims). Lokesh Aj, Thejeshwari HL, Harshawardhan, Siddharam SM	No	No
3.		A Study on the Acute Kidney Injury in Snake Bite Victims in A Tertiary Care Centre	No	No
4.		Unusual Case of Acute Renal Failure Following Multiple Wasp Stings Niranjan M Rachaiah, Lokesh A Jayappagowda, Harsha B Siddabyrappa, Venkatesh K Bharath	No	No
5.		A Study on the Clinico-Epidemiological Profile and the Outcome of Snake Bite Victims in a Tertiary Care Centre in Southern India	No	No

Professor & HOD
Department of General Medicine
KoIMS, Teaching Hospital,
Madikeri.

GENERAL SURGERY

Department of General Surgery

Department	Name of the Faculty Qualification IMR number	Current Designation & Date of promotion	Nature of the Employment Regular/Permanent or contract/Outsourced	Details Service in the last 5 Years	Number of Lectures taken/Year Topics Covered
General Surgery	Dr. Praveen Kumar K (KMC No 43069)	Professor 15-12-2014	Regular	Working as Professor & HOD, Koims	100 per year, General Surgery
	Dr. Abhinandan B V	Associate Professor (17-02-2016)	Regular	Working as Professor & HOD, Koims	100 per year, General Surgery
	Dr. Pramod T (KMC No 66145)	Associate Professor	Regular	Working as Associate Professor, Koims	100 per year, General Surgery
	Dr. Sathish.V S (KMC No 70550)	Associate Professor	Regular	Working as Assistant Professor – 3 Years, Koims, Working as Associate Professor – 2 Years, Koims	100 per year, General Surgery
	Dr. Prakash Kumar	Associate Professor (23-12-2020)	Regular	Working as Assistant Professor – 5 Years 26 Days Koims Working as Associate Professor - Koims	100 per year, General Surgery
	Dr. Ajith Kumar (KMC No 91775)	Assistant Professor	Regular	Working as Assistant Professor - Koims	80 per year, General Surgery
	Dr. Sachin H G (KMC No 9470)	Assistant Professor	Regular	Senior Resident Subbaiah Institute of Medical Sciences – 1 Year 3 Months, Kasturibha Medical College Senior Resident- 1 Month, Assistant professor – 8 Months, Assistant Professor Koims – 1 Year 7 Months	80 per year, General Surgery
	Dr. Konappa V (KMC No 88910)	Assistant Professor	Regular	Assistant Professor -8 Months	80 per year, General Surgery
	Dr. Greeshma S (KMC No KRL 2013 0001308 KTK)	Assistant Professor	Regular	Assistant Professor -8 Months	80 per year, General Surgery
	Dr. Karunakar G K (KMC No 99003)	Assistant Professor	Regular	Senior Resident Adhichunchanagiri Institute of Medical Sciences – 1 year 7 Months, Assistant Professor Koims –8 Months	80 per year, General Surgery
	Dr. Chandrashekar S KMC No 106163	Senior Resident	Regular	Senior Resident - 8 Months	80 per year, General Surgery
	Dr. Naveen N S (KMC No 35, 597)	Senior Resident	Regular	Senior Resident – 5 Years	
	Dr. Nanjundaiah N (KMC No 50009)	Senior Resident	Regular	Kushalnagara Samudaya Aroghya Kendra – 1 Year (Senior Specialist) Senior Resident – 4 Years	

ಕೊಡಗು ವೈದ್ಯಕೀಯ ವಿಜ್ಞಾನಗಳ ಸಂಸ್ಥೆ, ಮಡಿಕೇರಿ
ದಿನಾಂಕ 20/12/2024

Annexure

E – 1

Sl.No	Faculty Name	Publication in Vancouver Referencing style				Pubmed indexed Yes/ No	Scopes
1.	Dr. Praveen Kumar K	The incidence of thyroids malignancy in Nodular goiter a retrospective analysis in a medical college hospital	Journal of Evolution of med and Dent/ Sci	eISSN – 2278-4802, pISSN-2278-4748/Vol. 4/Issue 79/Oct. 01.2015, Page 13750-13753	Index Copernicus	No	
		Comparative study of major liver resection using the harmonic scalpel and the crush – clamp method: A prospective study in a medical college hospital	International journal of biomedical research	IJBR (2014) 05 (03)	Index Copernicus	No	
		The incidence of thyroid carcinoma in multinodular goiter : Retrospective analysis in a medical college Hospital	International journal of biomedical research	IJBR (2014) 05 (02)	Index Copernicus	No	
		Hormone receptor status and her – 2/NEU expression in breast carcinoma and its correlation with clinic – pathological features: A study at medical college Hospital	Journal of Evalution of med and dent sci	/eISSN – 2278 – 4802, pISSN – 2278 -4748/Vol.3 / issue 17/Apr 28, 2014, Page 4591-4594	Index Copernicus	No	
		A study of liver resections using various liver transaction techniques : A prospective study in a medical college hospital	Journal of Evalution of med and dent sci	eISSN – 2278 – 4802, pISSN – 2278 -4748/Vol.3 / issue 24/June 16, 2014, Page 6679-6682	Index Copernicus	No	
		Spectrum of secondary peritionitis due to hollow viscus perforation in a tertiary care hospital	Journal of Evalution of med and dent sci	eISSN – 2278 – 4802, pISSN – 2278 -4748/Vol.3 / issue 27/July 07 2014, Page 7547-7552	Index Copernicus	No	
		The value of C-	Med Pulse	Print ISSN:	Index	No	

		Reactive protein in diagnosis of acute appendicitis - A prospective study (Original Research Article)	International Journal of Surgery	2550-7591, Online ISSN: 2636-4751, Volume 11, Issue 3, September 2019 pp 148-152,	Copernicus		
		Do the total white blood cells and neutrophil counts in correlation with ultrasound aid in the diagnosis of acute appendicitis?: A prospective study (Original Research Article)	Med Pulse International Journal of Surgery,	Print ISSN: 2550-7591, Online ISSN: 2636-4751, Volume 13, Issue 2, February 2020 pp 34-39	Index Copernicus	No	
2.	Dr. Abhinandan B V	A comparative study of conventional omental patch repair versus laproscopic closure of duodenal ulcer (Original Research Article)	Med Pulse International Journal of Surgery,	Print ISSN: 2550-7591, Online ISSN: 2636-4751, Volume 8, Issue 1, October 2018 pp 01-04	Index Copernicus	No	
		Evaluation of modified Alvarado score in the diagnosis of acute appendicitis (Research Articles)	International Journal of Research in Medical Sciences	| January 2016 | Vol 4 | Issue 1 Page 84 -88	Index Copernicus		
		A Prospective Study of Christian Scoring System and its Co- Relation with Ultrasound in diagnosing Acute Appendicitis (Original Articles)	Indian Journal of Basic and Applied Medical Research;	December 2015: Vol.-5, Issue- 1, P. 472-477	Index Copernicus		
		A comparative study of conventional omental patch repair versus laproscopic closure of duodenal ulcer (Original Research Article)	MedPulse International Journal of Surgery,	Print ISSN: 2550-7591, Online ISSN: 2636-4751, Volume 8, Issue 1, October 2018 Page: 01-04	Index Copernicus		
		Analysis of Mannheim peritonitis index scoring in predicting outcome in patients with peritonitis secondary to hollow viscous	International Surgery Journal	| July-September 2016 | Vol 3 | Issue 3 Page 1116-1120	Index Copernicus		

		perforation (Research Article)					
		Evaluation Of Ohmann Score And Correlation With Ultrasound For Diagnosing Acute Appendicitis (Original Paper)	Journal of Surgical Sciences	Vol.3, No.2, April-June 2016 Page :84 -88	Index Copernicus		
		The value of C-Reactive protein in diagnosis of acute appendicitis - A prospective study (Original Research Article)	Med Pulse International Journal of Surgery,	Print ISSN: 2550-7591, Online ISSN: 2636-4751, Volume 11, Issue 3, September 2019 pp 148-152	Index Copernicus		
		Do the total white blood cells and neutrophil counts in correlation with ultrasound aid in the diagnosis of acute appendicitis?: A prospective study (Original Research Article)	Med Pulse International Journal of Surgery	Print ISSN: 2550-7591, Online ISSN: 2636-4751, Volume 13, Issue 2, February 2020 pp 34-39	Index Copernicus		
3.	Dr. Pramod T	Clinical Study of Carcinoma Thyroid and its Management (Original Article)	International Journal of Scientific Study	January 2016 Vol 3 | Issue 10 Page 36-42	Index Copernicus	No	
		Role of Conservative Management of Traumatic Chest Injuries: A Retrospective Study & Review of Literature (Original Article)	International Journal of Scientific Study	November 2015 | Vol 3 | Issue 8 Page 147- 150	Index Copernicus	No	
		Evaluation of Fournier's gangrene severity index in the management of Fournier's gangrene: a retrospective study (Original Article)	International Surgery Journal	January-March 2016 | Vol 3 | Issue 1 Page 169-172	Index Copernicus Index Medicus	No	
		Surgical outcome in patients with complicated appendicitis treated at a medical college hospital (Original Article)	International Surgery Journal	July 2019 | Vol 6 | Issue 7 Page 2379-2385	Index Copernicus Index Medicus	No	

		Reverse sural artery fasciocutaneous flap cover for soft tissue defects in distal one third of leg, ankle and foot in a tertiary care center (Original Article)	International Surgery Journal	| July 2019 | Vol 6 | Issue 7 Page 2433-2438	Index Copernicus Index Medicus	No	
4.	Dr. Sathish V S	A comparative study of conventional omental patch repair versus laproscopic closure of duodenal ulcer (Original Research Article)	Med Pulse International Journal of Surgery,	Print ISSN: 2550-7591, Online ISSN: 2636-4751, Volume 8, Issue 1, October 2018 pp 01-04	Index Copernicus		
5.	Dr. Prakash Kumar M N	Enterocutaneous Fistulae: Etiology, Treatment, and Outcome – A Study from South India (Original Article)	The Saudi Journal of Gastroenterology	Volume 17, Number 6 Dhul Hijjah 1432H November 2011 Page 391-395	DOAJ, Pubmed central scopus		
		Extended Reverse Sural Artery Flap's Safety, Success and Efficacy - A Prospective Study	Journal of Clinical and Diagnostic Research.	2014 May, Vol-8(5): NC08-NC11 Page 08-11	DOAJ, Pubmed central Index Copernicus		
		Lipoma Of Hand And Finger: A 6 Patient Case Series	Journal of Evolution of Medical and Dental Sciences	Volume 3/Issue 02/January 13, 2014 Page: 295 - 302	Index Copernicus		
		Successful penile reconstruction following prior arteriovenous loop thrombosis due to undiagnosed protein-S deficiency and exogenous testosterone	Indian Journal of Plastic Surgery	May-August 2016 Vol 49 Issue -2 Page: 268-270	Index Copernicus, DOAJ scopus		
		Surgical outcome in patients with complicated appendicitis treated at a medical college hospital (Original Article)	International Surgery Journal	July 2019 | Vol 6 | Issue 7 Page 2379-2385	Index Copernicus Index Medicus		

		Reverse sural artery fasciocutaneous flap cover for soft tissue defects in distal one third of leg, ankle and foot in a tertiary care center (Original Article)	International Surgery Journal	July 2019 | Vol 6 | Issue 7 Page 2433-2438	Index Copernicus Index Medicus		
		Free Vastus Lateralis Muscle Flap For Closure Of Recurrent Oronasal Fistula: A Case Report	Journal of Evolution of Med and Dent	Sci/ eISSN-2278-4802, pISSN- 2278-4748/ Vol. 4/ Issue 52/ June 29, 2015 Page 9108 - 9111	Index Copernicus		
6.	Dr. Ajith Kumar H	The value of C-Reactive protein in diagnosis of acute appendicitis - A prospective study (Original Research Article)	Med Pulse International Journal of Surgery	Print ISSN: 2550-7591, Online ISSN: 2636-4751, Volume 11, Issue 3, September 2019 pp 148-152,	Index		
	Dr. Ajith Kumar H	Do the total white blood cells and neutrophil counts in correlation with ultrasound aid in the diagnosis of acute appendicitis?: A prospective study (Original Research Article)	Med Pulse International Journal of Surgery,	Print ISSN: 2550-7591, Online ISSN: 2636-4751, Volume 13, Issue 2, February 2020 pp 34-39	Index Copernicus		
	Dr. Ajith Kumar H	Allergic Rhinitis – Clinical Correlation With Blood Picture	Turkish Journal of Physiotherapy and Rehabilitation	32(3) ISSN 2651-4451 | e-ISSN 2651-446X Page: 15214- 15218	Scopus		
7.	Dr. Sachin H G	Efficacy Of Inguinal Hernia Repair By Prolene Hernia System	European Journal of Molecular & Clinical Medicine,	2021, Volume 8, Issue 4	Embase		
		A Study On Clinical Profile Of Patients With Haemorrhoids	European Journal of Molecular & Clinical Medicine, 2021, Volume 8, Issue 4,	2021, Volume 8, Issue 4	Embase		

		Clinical Profile Of Patients With Inguinal Hernia Admitted At Tertiary Care Hospital	European Journal of Molecular & Clinical Medicine, 2021, Volume 8, Issue 4,	2021, Volume 8, Issue 4	Embase		
		Ultrasound Guided Interscalene Brachial Plexus Block In Arthroscopic Shoulder Surgeries: Clinical Profile	European Journal of Molecular & Clinical Medicine, 2021, Volume 8, Issue 4,	2021, Volume 8, Issue 4	Embase		
		Comparative Evaluation Between Propofol And Ketamine-Midazolam As Procedural Sedative Agent For Ease Of Induction Of Spinal Anesthesia In Patients Undergoing Abdominal Surgeries	European Journal of Molecular & Clinical Medicine, 2021, Volume 8, Issue 4,	2021, Volume 8, Issue 4	Embase		
		A Study On Clinical Outcome Of Propofol And Ketamine-Midazolam As Procedural Sedative Agent In Patients Undergoing Abdominal Surgeries	European Journal of Molecular & Clinical Medicine, 2021, Volume 8, Issue 4,	2021, Volume 8, Issue 4	Embase		
		A study to evaluate the factors influencing seroma formation after breast cancer surgery at tertiary care centre	International Surgery Journal	Vol 6, No 1 (2019): January 2019	Index Copernicus Index	No	

Professor & HOD,
Department of General Surgery,
Kodagu Institute of Medical Sciences,
Teaching Hospital, Madikeri

MICROBIOLOGY

Government of Karnataka
Kodagu Institute of Medical Sciences, Madikeri.
Department of Microbiology

No:KoIMS/Micro/135/2021-22

Date:-18.12.2021

Department	Name of the Faculty Qualification IMR Number	Current Designation and Date of Promotion	Nature of Employment Regular/ Permanent/ Contract/ Outsourcing	Details of service in the last 5 years					Number of lectures Classes taken Per Year
				01	02	03	04	05	
Microbiology	Dr Nazeema Tabaseera MD Microbiology Microbiology KMC: 67314	Professor and Head 09/03/2019	Permanent			Assistant Professor AIMS, B.G Nagara 02/09/2009 to 22/01/2015	Associate Professor at KoIMS, Madikeri 23/01/2015 to 08/03/2019	Professor & HOD at KoIMS, Madikeri 09/03/2019 to till date	18
	Dr.Shyamala R , MD Microbiology KMC : 76222	Associate Professor 09.03.2019	Permanent			Assistant Professor 01/06/2013 To 27/10/2016	Assistant Professor at KoIMS, Madikeri 28/10/2016 to 08/03/2019	Associate Professor at KoIMS, Madikeri 09/03/2019 to till date	28
	Dr.Sreedevi H MD Microbiology KMC: 70015	Assistant Professor	Permanent			Assistant Professor MMC, Khammam 8/12/2014 to10/06/2015	Assistant Professor GIMSR, Visakhapatnam 15/09/2015 To 5/6/2017	Assistant Professor at KoIMS, Madikeri 13/06/2017 to till date	25

	3	Catheter Associated Blood Stream Infection (CLABSI) –Bacteriological Profile and Antibiotic Susceptibility Pattern in NNICU of a Tertiary Care Hospital in Andhra Pradesh, India	International Journal of Current Microbiology and Applied Sciences (2018)7(7): 3935-3941HSR)	2017
	4	Bacteriological Profile and Antimicrobial Susceptibility Pattern of Blood Culture Isolates among Septicemia Suspected Children in a Rural Tertiary Care Hospital	International Journal of Current Microbiology and Applied Sciences	
Dr Shyamala R		Dr Karishma Sanjeev, Dr Shyamala R, Dr Gufran A. Knowlegde, attitude. Practices and professional risk assessment regarding HIV/AIDS among health care workers in a tertiary care centre, Kannur. Int J Microbiology. July 2018: 1290-1294. Dr Shyamala r, DR Naveen G. A Cross Sectional Study on Health Care Waste Management among Health Care Personnel in a Tertiary Care Center, Kannur, Kerala, India Int.J.Curr.Microbiol.App.Sci (2016) 5(9): 340-345	YES No	Microbiology, Medicine, Health care, Surgery and allied. Pathology, ☐ Biomedical sciences ☐ Cellular Microbiology ☐ Environmental Microbiology ☐ Medical Microbiology ☐ Industrial Microbiology ☐ Microbial Genetics ☐ Microbial Ecology ☐ Marine Microbiology ☐ Vermitechnology ☐ Biological Sciences ☐ Biochemistry

		Identification And In Vitro Azole Resistance Of Candida Species Isolated From Oropharyngeal Candidiasis In Human Immunodeficiency Virus Infected Patients. Int.J.Curr.Microbiol.App.Sci;2014: 3(10)816-822	No	Biomedical sciences ☐ Cellular Microbiology ☐ Environmental Microbiology ☐ Medical Microbiology ☐ Industrial Microbiology ☐ Microbial Genetics ☐ Microbial Ecology ☐ Marine Microbiology ☐ Vermitechnology ☐ Biological Sciences ☐ Biochemistry ☐ Biotechnology ☐ Pharmacology Science
		Dr Shyamala R, Dr Parandekar, Dr Aparna T. Evaluation Of Hicrome Agar – Candida, A New Differential Medium For Isolation Of Candida Species From Oral Trush In Hiv Seropositive Patients. nt J Cur Res Rev, Dec 2012 / Vol 04 (23)	No	Health care and Life sciences.
Dr Sreedevi H	1	Point Prevalence of Hepatitis B Virus Infection among Adolescents in Visakhapatnam,	India.J Med Microbiol	2015
	2	Bacteriological Profile and antimicrobial susceptibility pattern of Blood Culture of . Isolates among Septicemia suspected children in arural tertiary care hospital.	Infec Dis, 2015, 3 (3-4): 48-51	2017
	3	Catheter associated urinary tract . infection(CAUTI)— Incidence and microbiological profile in a tertiary care hospital in Andhra Pradesh.	Int J Curr Microbiol Allied Sci 2017	

Dr Vedavati B I	1	Study of bacteriological profile of neonatal septicemia and associated risk factors	International J Med Microbiology and Tropical diseases; 2018;4(3);132-137	2018
	2	Role of Sepsis Screen Tests in Predicting Neonatal Septicemia B.I. Vedavati* and B. Amrutha Kumari	int.J.Curr.Microbiol.App.Sci (2018) 7(2): 2522-2527	2018
	3	Bacterial flora on hands of nursing staff as a source of health care associated infections at a tertiary care centre	Indian J Microbiol Res .2019;6(1);30-34	2019
	4	Detection of different beta lactamases and their coexistence in gram negative bacteria isolated from clinical samples at a tertiary care hospital	Indian J Microbiol Res .2019;6(1);61-65	2019
	5	Study of the virulence factors and antimicrobial susceptibility profile of staphylococcus aureus isolated from cinical samples at tertiary care centre	Trop J Path Micro 2019;5(3);120-125	2019
	6	Prevalence of the aerobic infections among cases of skin grafting in a tertiary	Indian J	2014

	3	Catheter Associated Blood Stream Infection (CLABSI) –Bacteriological Profile and Antibiotic Susceptibility Pattern in NNICU of a Tertiary Care Hospital in Andhra Pradesh, India	International Journal of Current Microbiology and Applied Sciences (2018)7(7): 3935-3941HSR)	2017
	4	Bacteriological Profile and Antimicrobial Susceptibility Pattern of Blood Culture Isolates among Septicemia Suspected Children in a Rural Tertiary Care Hospital	International Journal of Current Microbiology and Applied Sciences	
Dr Shyamala R		Dr Karishma Sanjeev, Dr Shyamala R, Dr Gufran A. Knowlegde, attitude. Practices and professional risk assessment regarding HIV/AIDS among health care workers in a tertiary care centre, Kannur. Int J Microbiology. July 2018: 1290-1294. Dr Shyamala r, DR Naveen G. A Cross Sectional Study on Health Care Waste Management among Health Care Personnel in a Tertiary Care Center, Kannur, Kerala, India Int.J.Curr.Microbiol.App.Sci (2016) 5(9): 340-345	YES No	Microbiology, Medicine, Health care, Surgery and allied. Pathology, ☐ Biomedical sciences ☐ Cellular Microbiology ☐ Environmental Microbiology ☐ Medical Microbiology ☐ Industrial Microbiology ☐ Microbial Genetics ☐ Microbial Ecology ☐ Marine Microbiology ☐ Vermitechnology ☐ Biological Sciences ☐ Biochemistry

				☐ Biotechnology ☐ Pharmacology Science
		Dr Shyamala R, Dr Imaad Ismail, Dr Gufran Ahmed. Null Seroprevalence Of HBsAg Carrier State Among Kurichiya Tribal Community Around Kannur, Kerala, India. Int. J. Res. Ayurved Pharm. Jul -Aug 2016: 7(4). DOI: 10.7897/2277-4343.074142	No	Pre Clinical Research, Good Lab Practices, Pharmacology, Clinical Research, Pharmacovigiliance, Basic and fundamental research, Preventive and Promotive health care.
		Dr Beena, Dr Faizal C, Dr Shyamala R. Comparison Of Antimicrobial Activity Of Chlorhexidine, Coconut Oil, Probiotics, And Ketoconazole On Candida Albicans Isolated In Children With Early Childhood Caries: An In Vitro Study. Scientifica. Volume 2016. /Dx.Doi.Org/10.1155/2016/7061587	Yes	-Medicine -Health Sciences
		Dr Shyamala R, Dr Parandekar, Prevalence Of Non-Albicans Candida And Its Drug Susceptibility Pattern Isolated From A Tertiary Care Hospital, Karnataka. Annals Of Pathology And Laboratory Medicine, Vol. 02, No. 01 Jan-Mar 2015	NO	Medical Microbiology (Bacteriology, Virology, Mycology, Parasitology) Histopathology, Cytopathology, Hematology, Clinical Pathology, Forensic Pathology, Blood Banking, Clinical Bio-Chemistry,)

		health care centre	Microbiol Res 2019;6(2):101-5.	
	7	In Vitro Activity of Mupirocin on Staphylococcal Nasal Carriers Among Health Care Providers of Post Operative Surgical Ward in a Tertiary Care Hospital	". *International Journal of Allied Medical Sciences and Clinical Research* 2 (4): 282-86	2015
	8	Seroprevalence of HBV among HIV Patients and Blood Donors	Dr. Vedavati B I et al JMSCR Volume 3 Issue 1 January 2015	

Prof & HOD
Department of Microbiology,
Kodagu Institute of Medical Sciences
Madikeri - 571201

OBSTETRICS & GYNECOLOGY

KODAGU INSTITUTE OF MEDICAL SCIENCES,
TEACHING HOSPITAL MADIKERI

DEPARTMENT OF OBG

1. Details of Research Projects conducted in KoIMS, Madikeri.

Sl. No	Name of The Faculty	Department /Designation	Projects		Ethical Committee approved Yea / No (Certificates to be attached)
			On Going	Completed	
1	DR.SOWMYA D. DR.MANJUNATHA S. DR.THEJASWI B.T	OBG/ Assistant Professor OBG/ Professor &HOD OBG/Junior Resident	Comparative study on use of Sildenafil Citrate versus low dose Aspirin in Antenatal women with Fetal growth restriction/ Oligohydraminos.		Yes
2	DR.MAMATHA S. DR.MANJUNATHA S. DR.SUSHMA N	OBG/Assistant Professor OBG/ Professor &HOD OBG/Junior Resident	Maternal and fetal outcome in antenatal Magnesium Sulphate for fetal neuroprotection prior to preterm labour.		Yes
3	DR.HARSHA T.N. DR.MANJUNATHA S. DR. SHASHIKALA H.R	OBG/ Assistant Professor OBG/ Professor &HOD OBG/Junior Resident	Comparative study of Efficacy and safety of intravenous ferric carboxy maltose and iron sucrose in treatment of iron deficiency anemia in antenatal and postpartum period.		Yes
4	DR.RAJESHWARI B K. DR.MANJUNATHA S. DR.PRAVEEN KUMAR L.N	OBG/ Assistant Professor OBG/ Professor &HOD OBG/Junior Resident	Comparative study for screening of gestational diabetes mellitus by dipsi and iadpsg criteria.		Yes
5	DR.SOMASHEKAR.H.K . DR.MANJUNATHA. S. DR. THEJASWI B.T	OBG/ Assistant Professor OBG/ Professor &HOD OBG/Junior Resident	Cervical Cancer Screening in Pregnancy by Pap smear.		Yes

Professor & HOD
Department OBG
Kodagu Institute of Medical Sciences,
Teaching Hospital Madikeri.

Professor & HOD
DEPARTMENT OF OBG
Kodagu Institute of Medical Sciences
Teaching Hospital, Madikeri

ಕೊಡಗು ವೈದ್ಯಕೀಯ ವಿಜ್ಞಾನಗಳ ಸಂಸ್ಥೆ,
ಬೋಧಕ ಆಸ್ಪತ್ರೆ ಮಡಿಕೇರಿ
ಹೆರಿಗೆ ಮತ್ತು ಸ್ತ್ರೀ ರೋಗ ವಿಭಾಗ

ಸಂಖ್ಯೆ: ಕೊ.ವೈ.ಸಂ.ಮ/01/2021 ದಿನಾಂಕ: 16/12/2021

S N	Faculty Name	Publications in Vancouver referencing style	Pubmed Indexed YES/NO	Scopes
1	Dr.Manjunatha.S MBBS.MS. OBG	1. Cite this article as: Manjunatha S, Harsha T N, Damayanthi H R. A study of Maternal near miss at a district teaching hospital: a retrospective observational study. Int J Reprod Contacept Obstet Gynecol 2018;14216. 2. Serum Uric Acid Level in Primigravidae with Pre-Elcampsia; A case Control Study from Karnataka. Veena HC, Manjunatha S. 3. Manjunatha S, Amruta S B. High maternal Haemoglobin and its relation to pregnancy induced hypertension. Int J Repord Contracept Obstet Gynecol 2015;4;1746-8. 4. Cite This article as: Manjunatha S , Anita K , The Relationship between maternal blood group and preeclampsia. Int J Repord Contracept Obstet Gynecol 2015;4;1749-52.	Index Copernicus	
2	Dr. Somashekar H K MBBS.MD. OBG	1. Histopathological study of umbilical cord and placental memebranes in clinically suspected cases of chorioamnionitis. 2. Screening for Gestational Diabetes mellitus (GDM).	Index Copernicus	

3	Dr. Sowmya D MBBS.MS. OBG	1. Sowmya D et al A study in a tertiary centre for clinical assessment of pelvic inflammatory disease risk among women attending outpatient department. Int J Reprod Contracept Obstet Gynecol.2017 Sep;6(9):3823-3827 2. Sowmya D et al Clinical study of polycystic ovarian syndrome (PCOS) in tertiary care centre. Int J Reprod Contracept Obstet Gynecol. 2017;6:3247-51 3. Anusha Singh et al. Localization of Gonadotropin releasing hormone (GnRH) ,GnRH receptor and Kisspeptin in the ovary of control and Polycystic Ovarian Syndrome(PCOS) women. Indian journal of basic and applied medical research; June 2017;6(3):78-88 4. Prakash kumar M N et al .Lipoma of hand and finger: A 6 patient case series.Journal of evolution of Medical and dental sciences.jan 2014. 295-302	Index Copernicus Both are copernicus	
4	Dr. Mamatha S MBBS.DGO. OBG	A Comparative study between pipelle endometrial sampling and dilatation curettage in abnormal uterine bleeding. Dr. Mamatha S and Dr. Lakshmikantha G International Journal of Clinical Obstetrics and Gynaecology 2020;4(1):171-176	Index Copernicus	
5	Dr. Harsha T N MBBS.MS. OBG	3. Cite this article as: Manjunatha S, Harsha T N, Damayanthi H R. A study of Maternal near miss at a district teaching hospital: a retrospective observational study. Int J Reprod Contacept Obstet Gynecol 2018;14216. 4. Cite this article as: Revankur VM, Harsha T N. Tablet misoprostol as a	Index Copernicus	

		cervical priming agent prior to surgical abortion. In J reported Contracepet Obstet Gynecol 2017;6;3004-8. 5. Screening for Gestational Diabetes mellitus (GDM). 6. Sapna H P, Harsha T N. Heterotopic Pregnancy Following spontaneous conception; a rare case report. J Med Sci Health 2016;2(1);34-36.		

Professor & HOD,
Department of OBG,
Kodagu Institute of Medical Sciences,
Teaching Hospital Madikeri.

Professor & HOD
DEPARTMENT OF OBG
Kodagu Institute of Medical Sciences
Teaching Hospital, Madikeri

ಕೊಡಗು ವೈದ್ಯಕೀಯ ವಿಜ್ಞಾನಗಳ ಸಂಸ್ಥೆ,
ಬೋಧಕ ಆಸ್ಪತ್ರೆ ಮಡಿಕೇರಿ
ಹೆರಿಗೆ ಮತ್ತು ಸ್ತ್ರೀ ರೋಗ ವಿಭಾಗ

ಸಂಖ್ಯೆ: ಕೊ.ವೈ.ಸಂ.ಮ/01/2021

ದಿನಾಂಕ: 16/12/2021

ವಿಷಯ: ಸಂಸ್ಥೆಯ ಅಂತಾರ್ಜಾಲದಲ್ಲಿ ಮಾಹಿತಿ ಪ್ರಕಟಿಸಲು ಅಗತ್ಯ ಅಂಕಿ ಅಂಶ ಹಾಗೂ ಮಾಹಿತಿಯನ್ನು ಒದಗಿಸುವ ಬಗ್ಗೆ.

ಉಲ್ಲೇಖ: ಕೊ.ವೈ.ವಿ.ಸಂ/ಎನ್.ಎಮ್.ಸಿ/127/2020–21 ದಿನಾಂಕ:16/12/2021

Department	Name of the faculty Qualification MR Number	Current Designation & Date of Promotion	Nature of Employment Regular/Permanent or Contract/ Outsourced	Details of service in the last 5 years	Number of Lectures taken/year. Topics Covered
				1 2 3 4 5	
Obstetrics & Gynecology	Dr.Manjunatha.S MBBS.MS. OBG	Professor & HOD 09/03/2019	Permanent	Associate Professor 23/03/2015	2017 = Clinical posting As per RGUHS Guidelines 2018= 03 (Theory) 2019=05 (Theory) 2020=12 (Theory) Demo Seminar =06

Obstetrics & Gynecology	Dr. Rajashekar P	Associate Professor	Permanent		
Obstetrics & Gynecology	Dr. Somashekar H K MBBS.MD. OBG	Associate Professor 10/04/2019	Permanent	Assistant Professor 09/04/2015	2017 = Clinical posting As per RGUHS Guidelines 2018= 04 (Theory) 2019=08 (Theory) 2020=10 (Theory) Seminar =05
Obstetrics & Gynecology	Dr. Sowmya D MBBS.MS. OBG	Assistant Professor 09/03/2019	Permanent	Senior Resident KoIMS, 28/11/2015	2017 = Clinical posting As per RGUHS Guidelines 2018= 03 (Theory) 2019=07(Theory) 2020=14 (Theory) Seminar =07
Obstetrics & Gynecology	Dr. Mamatha S MBBS.DGO. DNB.OBG	Assistant Professor	Permanent	Senior Resident, MMCRI, 01/12/2018 TO 12/12/2019	2020=12 (Theory) Seminar =07
Obstetrics & Gynecology	Dr. Harsha T N MBBS.MS. OBG	Assistant Professor 01/12/2018	Permanent	Senior Resident KoIMS, 27/12/2014	2017 = Clinical posting As per RGUHS Guidelines 2018= 03 (Theory) 2019=08(Theory) 2020=15(Theory) Seminar =06
Obstetrics & Gynecology	Dr. Rajeshwari B K MBBS.MS. OBG	Assistant Professor	Permanent	Senior Resident KoIMS,	2017 = Clinical posting As per RGUHS Guidelines

		09/03/2019		04/01/2016	2018= 05 (Theory) 2019=04(Theory) 2020=06(Theory) Seminar =07
Obstetrics & Gynecology	Dr. Jeevitha U MBBS.DGO	Senior Resident	Permanent	JR 02/11/2020 to 18/01/2021 SR 19/01/2021 to 17/06/2021	
Obstetrics & Gynecology	Dr. Pavan B C MBBS.MS.OBG	Senior Resident	Contract	Joining Date 19/01/2021	
Obstetrics & Gynecology	Dr. Kavya Bhat	Senior Resident	Contract	Joining Date 03/12/2021	

Professor & HOD,
Department of OBG,
Kodagu Institute of Medical Sciences,
Teaching Hospital Madikeri.

Professor & HOD
DEPARTMENT OF OBG
Kodagu Institute of Medical Sciences
Teaching Hospital, Madikeri

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Dr. Sowmya

Original Research Article

A study in a teritary centre for clinical assessment of pelvic inflammatory disease risk among women attending outpatient department

Sowmya D.[1], Sowjanya D.[2]*

[1]Department of Obstetrics and Gynecology, SMS Medical College, Jaipur, Rajasthan, India
[2]Department of Community Medicine, Vydehi Institute of Medical Sciences and Research Centre, Bangalore, Karnataka, India

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***Correspondence:**
Dr. Sowjanya D.,
E-mail: sowjanyad6@gmail.com

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ABSTRACT

Background: Pelvic inflammatory disease (PID) is associated with major medical and economic consequences for women of reproductive age. Identification of the risk factors associated with PID is crucial to efforts for prevention of these consequences. This study is done to evaluate the risk factors for PID in women attending OPD at Gangori hospital.

Methods: This Study is an observational study, Conducted in Department of Obstetrics and Gynecology, Gangori hospital, SMS Medical College, Jaipur, From January 2015 to June 2015. Risk factors of PID were assessed in 70 women with PID (study group) and then it was compared with 70 controls attending the Women's Clinic at the same institution. Significance of difference in proportion in various variables of PID in both the group was inferred by odd's ratio and Chi-square test. Logistic regression analysis was used to adjust for confounding variables.

Results: A total of 70 women with PID and an equal number of controls were included. Cases were significantly younger than controls ($p<0.001$). The women were mainly of lower socioeconomic status. Risk factors identified by bivariate analysis were less than secondary level education, Odds ratio [OR] 5.29; (95% confidence interval: 1.680 to 16.675) P value 0.005. Parity >0, Odds ratio 2.521 (95% CI: 1.140 to 5.577) P value 0.033. Spontaneous abortion >0, Odds ratio 3.11 (95% CI: 1.311 to 7.362) P value 0.015. Lack of a birth control method, Odds ratio 7.18 (95% confidence interval: 3.091 to 16.662) p value<0.001. younger than 18 years at age of first sex, Odds ratio 2.84 (95% CI: 1.404 to 5.753) P value 0.006. Sex during the previous menses Odds ratio 5.39 (95% CI: 2.317 to 12.529) P value <0.001. Vaginal discharge/bleeding, Odds ratio 5.84 (confidence interval 2.717 to 12.578) P value <0.001. With multivariate analysis to control for confounders the risks still identified were sex during the previous menses, parity >0, lack of contraception, vaginal discharge and age at first sex.

Conclusions: Identification of the risk factors associated with PID is most important effort for prevention of the disease and its sequelae. Educating the women, encouraging the use of condoms and other methods of contraception for PID prevention, sexually transmitted disease prevention and also birth control. Another finding is that, it is better to avoid coitus during the menses.

Keywords: Contraception, PID, Risk factor, Sexually transmitted disease

INTRODUCTION

Infections of the upper genital tract include infections involving the endometrium, myometrium, fallopian tubes, ovaries, uterine serosa, broad ligaments and pelvic peritoneum. Pelvic inflammatory disease (PID) is an important health problem with serious repercussion on women's health and well-being. Other than the chronicity of lower abdominal pain marring the women's well-being, infertility and its associated stigma compounds the need to study this issue in developing country like India. Pelvic inflammatory disease (PID) is varied clinical presentation of polymicrobial infection, it is the disease with multiple, interrelated risks, education is one of the most important nursing intervention. PID has emerged as a silent killer that disturbs women's life, the disease if left untreated could result in serious complications (Pandey S et al).[1] It is also associated with major medical and economic consequences of sexually transmitted disease in women of reproductive age. PID is an important disease not only because of its acute morbidity but because of its sequeale among women of reproductive age (Jossens et al).[2] It is one of the most serious infections faced by todays women.

Etiology

PID is caused by organisms ascending from the endocervix and vagina and therefore a polymicrobial infection. A practical approach to diagnosis of PID by Oluwatosin et al are lower genital inflammation and pelvic organ tenderness in women with genital tract symptoms and risk of STI's.[3] In the absence of laparoscopy, the triad of lower abdominal pain, cervical motion tenderness, and bilateral adnexal tenderness has been advocated as the minimal criterion for clinical diagnosis of PID, Eschenbach et al.[4] Diagnosing PID on purely clinical grounds is often difficult and the margin for error is wide. In this context, knowledge of risk factors like young age, low socioeconomic status, multiple sex partners and markers for PID could substantially aid diagnosis. Additional criteria for diagnosis PID oral temperature >38.3 c, mucopurulent cervical and vaginal discharge, raised c- reactive protein or ESR, Laboratory documentation of positive cervical infection. The true prevalance of PID is unknown, accurate diagnostic procedures for the disease complex, interpretation of symptoms and signs can vary by clinicians, clinical settings and by the period, Greenberg et al 1992.[5]

Complications of PID

Immediate: pelvic peritonitis or even generalized peritonitis, septicemia. Late: dyspareunia, chronic pelvic inflammation, formation of adhesions or hydrosalpinx or pyosalpinx and tubovarian abscess, tubal damage leading to infertility, increased risk of ectopic pregnancy. Protective factors are barrier methods of contraceptive, monogamy, others are pregnancy, menopause, HPV vaccines.

Centers for disease control and prevention (CDC) recommends treatment of PID initiated in sexually active young women, especially those risk for STI's with pelvic or lower abdominal pain, if no other causes other than PID can be identified i.e cervicitis or leukorrhoea and any pelvic organ tenderness on bimanual examination, (Oluwatosin et al).[3] Outpatient treatment of PID ceftriaxone 250mg IM single dose, doxycycline 100 mg per oral twice daily for 14 days with or without metronidazole 500mg per oral twice daily for 14 days or cefoxitin 2g IM single dose and probenecid 1g plus doxycycline 100mg twice for 14 days with or without metronidazole 500mg twice daily for 14 days. All patients treated in the outpatients are evaluated after 48 hours and if no response is to be hospitalized. In patient antibiotic therapy, cefotetan 2g iv every 12 hours plus doxycycline 100mg orally or iv every 12 hours, or cefoxitin 2g IV every 6 hours plus doxycycline 100mg IV or orally every 12hours or another Regimen clindamycin 900mg iv every 8 hours, gentamycin loading dose 2mg/day followed by a maintenance dose of 1.5mg/day every 8 hours. Alternative regimen Ampicillin sulbactum 3gm iv for every 6 hours plus doxycycline 100mg iv or orally every 12 hours. Having the knowledge of risk factors of PID, Appropriate diagnosis and simple approach may prevent long term sequeale.

This study was conducted to assess sexual, social, and demographic risk factors for the acquisition of PID, diagnosed presumptively in women attending a health service and on the basis of these findings to formulate health promotion recommendations to reduce the incidence and consequences of PID. Identification of the risk factors associated with PID is crucial to efforts for prevention of these consequences.

METHODS

This Study is a Hospital based, observational study, Conducted in Department of Obstetrics and Gynecology, Gangori hospital, SMS Medical College Jaipur, From January 2015 to June 2015 total of 6 months. After consenting sexually active women those meeting the diagnostic criteria of PID, seventy women with PID (cases) were taken as study group and for each case, control was selected from women attending hospital for other complaints, at the same institution (controls). They were interviewed for 30 minutes. Patient having Abdominal pain due to kidney/liver/gall bladder disease and those Patient who has undergone recent abdominal surgery, pregnancy/lactating women, were excluded from the study.

Statistical analysis

Study analysis was done using odd's ratio, Chi-square test and Logistic regression analysis.

RESULTS

A Total of 140 women (70 in each group) were observed. Mean age of the patients at the time of observation 26.99±4.03 years. (Case 26.64±4.1 and control 27.33±3.9, P value >0.05 NS) (Table 1).

Table 1: Mean age wise distribution.

Age	N	Mean	Std. deviation	P value
Case	70	26.64	4.104	>0.05 NS*
Control	70	27.33	3.963	
Total	140	26.79	4.618	

NS*= not significant

In present study, cases are more from urban population 64.3% and with lower socioeconomic status which is 71.4% and patients with education level less than 10th standard which accounts to 94.2% (Table 2).

Table 2: Demographic profile of study population.

Variables	Cases (N=70)		Control (N=70)	
	No	%	No	%
Hindu	53	75.7	58	82.9
Urban	45	64.3	36	51.4
Lower socioeconomic status	50	71.4	46	65.7
Education less than 10th class	66	94.28	53	75.71

In present study, maximum number of cases are from the younger age group that is 20 to 24 years as shown in Figure 1.

Subjects who studied less than 10 standard, Odds ratio was (OR) 5.29; (95% confidence interval: 1.680 to 16.675) with P value 0.005, found to be highly significant, that is women with less education are with more risk for PID compare to education above 10 standards. Parity >0, Odds ratio was 2.521 (95% CI: 1.140 to 5.577) with P value 0.033 which is statistically significant, suggests greater the parity, greater risk for PID. Spontaneous abortion >0, Odds ratio was 3.11 (95% CI: 1.311 to 7.362) with P value 0.015 is statistically significant, more number of abortion increases PID risk proportionally.

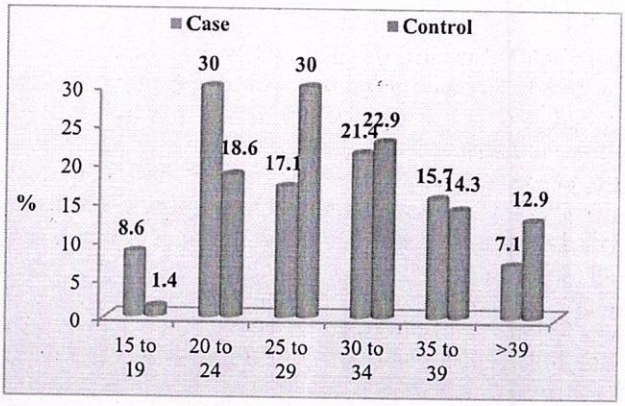


Figure 1: Age wise distribution of cases.

Table 3: Analysis of risk factors.

Variables	Case (N=70)	Control (N=70)	OR	95% confidence interval	P value	Significance
Education						
Less than secondary	66	53	5.29	1.680 to 16.675	0.005	HS*
More than secondary	4	17				
Parity						
>0	58	46	2.52	1.140 to 5.577	0.033	S*
0	12	24				
Spontaneous abortion						
1	61	48	3.11	1.311 to 7.362	0.015	S*
0	9	22				
Contraception use						
Lack of contraception use	36	9	7.18	3.091 to 16.662	<0.001	HS*
Contraception use	34	61				
Sex during menses						
Yes	31	9	5.3	2.317 to 12.529	<0.001	HS*
No	39	61				
Age at first coitus						
Yes	36	19	2.84	1.404 to 5.753	0.006	S*
No	34	51				
Vaginal discharge/bleeding						
Yes	40	13	5.84	2.717 to 12.578	<0.001	S*
No	30	57				

HS* = Highly Significant; S*= Significant

Lack of a birth control method variant, Odds ratio was 7.18 (95% confidence interval: 3.091 to 16.662) with p value <0.001, found to be highly significant. It suggests women who does not use contraception are in risk with PID compare to women who uses contraception. Younger than 18 years at the age of first coitus act, Odds ratio 2.84 (95% CI: 1.404 to 5.753) with P value 0.006, significant. It shows Coitus at younger age is also a risk factor for PID.

Sex during the previous menses, Odds ratio 5.39 (95% CI: 2.317 to 12.529) with P value <0.001, significant. That is coitus during menses is a risk for developing PID. Vaginal discharge/bleeding, Odds ratio 5.84 (confidence interval 2.717 to 12.578) P value <0.001, significant. That is women who have vaginal discharge/bleeding are in risk with PID (Table 3).

DISCUSSION

In present study, Clinical assessment of risk for pelvic inflammatory disease among women attending outpatient are analysed, 140 women (70 in each group) were observed, mean age of cases are 26.64 year and controls are 27.33 year (Table 1). whereas study in Leichliter et al mean age of case was 31.4 year and control was 27.2 year.[6] Study by Simms I et al opined diagnosis of PID were made at 1.7% of attendances amongst women aged 16 to 46 years and also increased risk was with younger age groups and Lower socioeconomic status, which is similar to our study, 30% of cases are from 20 to 24years.[7] A study by Marks C et al showed cases are significantly younger than controls.[8]

In present study cases of Pelvic inflammatory disease are more from urban population 45 (64.3%), lower socio economic status 50 (71.4%), education less than 10th class are 66 (94.28%) Table 2, which is similar to study by Jossens et al on average patients had fewer years of education than controls and says education is important nursing intervention.[2] Also a study done by Heather G Miller et al titled correlates of sexually transmitted bacterial infections among US women in 1995.[9] Education, age, intra uterine device use, history of bacterial STD's had a significant impact on risk of PID and also said 17% sexual active women with STD's had education less than secondary.

Risk factor for PID markers in our study are education less than ten standard, parity >0, spontaneous abortion >0, lack of birth control method, less than 18 year at the age of first coitus, coitus during previous menses and women with vaginal discharge/bleeding, which is similar to study of Jossens et al, named risk factors of pelvic inflammatory disease case control study.[2] In present study sex during menses is most important risk factor for PID with odds ratio of 5.39 (95% CI: 2.317 to 12.529) P value <0.001. which is similar to study by Eschenbach et al, patients with PID were more likely than controls who avoided coitus during menses and also in present study it is found that lack of contraceptive method carries a risk of PID (odds ratio 7.18 confidence interval of 1.3 TO 7.3) p value 0.015 which is similar to study by Marks C et al not using contraception (OR 1.8) 95% confidence interval 1.20 to 2.76 was associated with increased risk of PID.[4,8] Jossens et al study opines, use of barrier methods may not only reduces the risk of PID but also transmission of HIV.[2]

Less than 18 years at the age of first coitus, Odds ratio 2.84 (95% CI: 1.404 to 5.753) P value 0.006. coitus at younger age is also a significant risk factor for PID in our study, which is corresponding to study by Greenberg J et al, age at first coitus marker for risky sexual behavior in women.[5]

In another study by Miller HG et al indicates the risk factors associated with a history of PID are similar to those associated with bacterial infection, women who had first intercourse before 15 were twice as likely to have PID as were those who had first intercourse after age 18.[9] Logistic regression results showing women likelihood of having had a bacterial STD's or having received PID treatment. Overall 6% of sexually active women reported a history of a bacterial STD's and 8% reported a history of PID.

In present study spontaneous abortion >0, Odds ratio 3.11 (95% CI: 1.311 to 7.362) P value 0.015 is significant, abortion increases PID risk and abortions are predisposing factor for PID. Which is similar to study by Patel SV et al, where the odd ratio for PID with natural abortions as a risk factor was 3.52.[10] Another study by Dalaker et al it was noticed that overall rate of PID after the abortion was 4.1%.[11] Study by Gogate et al says, among women presenting to clinics in mumbai, India for pelvic pain and it was found that 26% with confirmed PID reported to have undergone abortion as compared to 2% of women without PID.[12]

In present study after applying multivariate analysis to control for confounders the risks still identified were sex during the previous menses (odds ratio 12.715) p value 0.000, parity >0 (odds ratio 7.55) p value 0.001, lack of contraception (odds ratio.166) p value 0.000 and vaginal discharge (odds ratio11.082) p value 0.00, but age at first sex and abortion were consider as non-significant risk factor. Compared to study Jossen et al variables remained significant risk factors for PID are parity >0 (odds ratio 4.44), sex during the previous menses (odds ratio 5.22), lack of contraception (odds ratio7.66) were risk for PID.[2]

This study is limited to one medical school finding with smaller population. Large number of studies with different population are required.

CONCLUSION

Identification of the risk factors associated with Pelvic inflammatory disease is most important effort for

prevention of the disease and its sequelae. Educating the women, encouraging the use of condoms and other methods of contraception for PID prevention, sexually transmitted disease prevention and also birth control. Another finding is that, it is better to avoid coitus during the menses.

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Original Research Article

Clinical study of polycystic ovarian syndrome (PCOS) in tertiary care centre

Sowmya D.[1]*, Anitha S.[2]

[1]Department of Obstetrics and Gynecology, SMS Medical College Jaipur, Rajasthan, India
[2]Department of Obstetrics and Gynecology, A. J. Institute of Medical Sciences, Mangalore, Karnataka, India

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***Correspondence:**
Dr. Sowmya D.,
E-mail: sowmyad87@gmail.com

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ABSTRACT

Background: A true definition of polycystic ovarian syndrome involves a blending of the morphological and histological ovarian changes with endocrine abnormalities associated with these changes. Objective of present study was to detect the differences among women with PCOS and without PCOS.
Methods: Twenty-five subjects with PCOS were included in the study on first cum first basis and twenty-five non PCOS subjects just next to each PCOS cases were included as control group.
Results: Mean age of PCOS and Non PCOS subjects were 42.68 and 43.88 years respectively. Sixteen percentage of PCOS were from higher socio-economic status, which was statistically significant. PCOS subjects had 96% hirsuitism, 48% acne, 4% heavy voice and breast atropy which was also statistically significant.
Conclusions: Women with PCOS have a hormonal imbalance and metabolism problems that may affect their health and fertility, we found PCOS subjects are more in urban population with strong family history. Lifestyle modification and dietary modification helps for the long-term health prognosis. women who are at risk of PCOS to be educated and managed for the continuing health risk and planned potential therapeutic strategies. Further research has to look into possibility of genes linked into PCOS.

Keywords: Hormonal imbalance, PCOS, Non PCOS

INTRODUCTION

A true definition of polycystic ovarian syndrome involves a blending of the morphological and histological ovarian changes with endocrine abnormalities associated with these changes. The original description given by Stein and Leventhal included obesity, amenorrhoea, infertility and hirsutism in association with bilateral enlarged cystic ovaries showing a typical histological appearance of thickened capsule, multiple cysts and dense hypertrophied interstitial tissue.[1,2]

Clinical presentation of PCOS

There is wide variation in the clinical presentation of polycystic ovarian syndrome and according to Marantides, only 10% to 20% of women with polycystic ovarian syndrome may report symptoms.[3]

Women with PCOS seek health care for 3 major reasons:

- Menstrual irregularities
- Anovulatory Infertility
- Androgen excess

Menstrual irregularity usually dates back to puberty and may take the form of oligomenorrhea, amenorrhoea, or frequent periods. However, menstrual cycles may be normal. Studies show that oligomenorrhea is present in 29% to 47% of women with PCOS, amenorrhea in 19%

to 51%of cases, and frequent periods in 3% of cases. Normal cycles are present in 15% to 30% of cases.[4]

The ovarian hyperandrogenism is the most common abnormality in polycystic ovarian syndrome. It is dependent on gonadotropin secretion, more so with classic polycystic ovarian syndrome. This trait may possibly be related to cytochrome p 450 C17 alpha dysregulation.[1,5] Incidence of infertility in PCOS is 75%. It is mainly due to anovulation.

The androgen excess of PCOS is usually manifested by varying degrees of hirsutism and rarely acne. Such symptoms are usually associated with serum total testosterone concentration more than 60 mg/dl and androstenedione concentration more than 200 mg/dl. More advanced signs of androgen excess such as clitoromegaly and loss of female body contour can be associated with hyperthecosis.[6-8] Hirsutism refers to the development of excessive terminal hair on the face or body in women and is a sensitive marker for increased androgen action. A male type of hair distribution is usually seen.[4,6,9]

Obesity in women with PCOS is usually truncal, and they tend to have a high waist/hip ratio. It is associated with more severe forms of the disease including extreme anovulation, oligomenorrhea, and increased hirsutism, but non-obese women with PCOS may also present with these features.[4,6,9] There is also insulin resistance in PCOS. Several mechanisms have been proposed for the state of insulin resistance. Peripheral target tissue resistance, decreased hepatic clearance or increased triglycerides and decreased HDL cholesterol levels.[6,10]

Peripheral insulin resistance associated with hyperandrogenism can be due to mutation of the insulin receptor gene. "Luprechaunism" is a rare syndrome in young girls with mutation in the receptor gene. It is associated with severe insulin resistance, polycystic ovaries, and hyperandrogenism and acanthosis nigricans. The ratio of fasting glucose to fasting insulin less than 3.0 defines hyperinsulinemia.[6,10]

Thyroid disorders are associated with menstrual dysfunction and also can have serious adverse impact on pregnancy outcomes and child development. The overall high prevalence of thyroid dysfunction in women warrants specific testing to exclude the diagnosis (serum thyroid-stimulating hormone, TSH) in all anovulatory women, including those with hyperandrogenism, but not for diagnosis of PCOS.[8]

Hyperprolactinemia is highly associated with menstrual dysfunction and is one of the most common causes of secondary amenorrhea.

The many causes of hyperprolactinemia are considered at length elsewhere. Hyperprolactinemia is associated with increased adrenal androgen production in vivo and in vitro but its prevalence among women who present with hyperandrogenism is quite low and generally <3%.

The high prevalence of hyperprolactinemia among women with menstrual dysfunction justifies specific testing to exclude the diagnosis in all anovulatory women but not for diagnosis of PCOS.[8]

METHODS

This hospital based study was conducted at the Department of Obstetrics and Gynecology, Gangori Hospital attached to S.M.S. Medical College, Jaipur, from April 2013 to March 2014. Twenty-five women with PCOS attending Gynecology OPD, Gangori Hospital, Jaipur on first come first basis were selected as cases.

After each case, the consequent woman was selected as control for normal group. In this manner twenty-five controls were selected. Before including in the study, diagnosis was confirmed by history, clinical examination and ultrasonography in all the subjects.

Quantitative data were summarised in form of Mean±SD. The difference in both the study and control groups was analysed using the unpaired 'T' test. The level of significance for all statistical analysis was kept at 95%.

RESULTS

Data tabulated in Table 1, shows that there was no significant difference observed in age between PCOS subjects and Control subjects.

Table 1: Distribution of the study subjects according to age.

Age (in years)	PCOS subjects		Control subjects		P-value
	No. of Subjects (n=25)	%	No. of Subjects (n=25)	%	
15-20	12	48	7	28	0.266
20-30	12	48	15	60	
>30	1	4	3	12	
Total	25	100	25	100	

Table 2: Distribution of the study subjects according to their area of residence.

Area of residence	PCOS subjects		Control subjects		P-value
	No. of Subjects (n = 25)	%	No. of Subjects (n = 25)	%	
Rural	7	28	15	60	0.046
Urban	18	72	10	40	
Total	25	100	25	100	

Table 2, shows that 32% of PCOS subjects and 60% of Control subjects were from rural population. 68% of PCOS subjects and 40% of control subjects were from urban population. There was a statistically significant difference observed in relation to area of residence of subjects.

Table 3: Distribution of the study subjects according to their socio-economic status.

Socio-economic status	PCOS subjects		Control subjects		P-value
	No. of Subjects (n = 25)	%	No. of Subjects (n = 25)	%	
Lower	9	38	19	76	0.008
Middle	12	48	6	24	
Upper	4	16	0	0	
Total	25	100	25	100	

Data compiled in Table 3, shows the socio-economic status of subjects according to Modified Kuppuswamy Classification. Socio-economic status of PCOS subjects was statistically significantly higher than control subjects.

Table 4: Distribution of the study subjects according to hyperandrogenic complaints related to PCOS.

Hyperandrogenic complaints	PCOS subjects		Control subjects		P-value
	No. of subjects (n=25)	%	No. of subjects (n=25)	%	
Hirsutism	24	96	0	0	<0.001
Acne	12	48	2	8	<0.001
Heavy voice	1	4	0	0	0
Breast atrophy	1	4	0	0	0

Data tabulated in Table 4 shows that hyperandrogenic complaints were significantly more in PCOS subjects as compared to control subjects i.e. hirsutism 96%, acne 42%, heavy voice 4% and breast atrophy 4%.

Table 5: Distribution of the study subjects according to parity.

Parity	PCOS subjects		Control subjects		P-Value
	No. of Subjects (n = 25)	%	No. of Subjects (n = 25)	%	
P_0	2	8	0	0	0.008
P_1	2	8	0	0	
P_2	12	48	10	40	
P_3	9	36	6	24	
$\geq P_4$	0	0	9	36	
Total	**25**	**100**	**25**	**100**	

Data complied Table 5, suggested that parity of PCOS subjects was significantly lower than control subjects.

Table 6: Distribution of the study subjects according to family history.

Family history of 1st degree relatives	PCOS subjects		Control subjects	
	No. of Subjects (n = 25)	%	No. of Subjects (n = 25)	%
Metabolic syndrome	1	4	0	0
Ovarian malignancy	1	4	0	0
PCOS	8	32	0	0
No	15	60	25	100
Total	25	100	25	100

None of the 1st degree relatives of control group had significant family history of PCOS and related disorders. While statistically significant family history of PCOS and related disorders was found in PCOS subjects as shown in Table 6.

Table 7: Distribution of the study subjects according to mean BMI.

Groups	No. of subjects	BMI (kg/m^2)	P-value
		Mean±SD	
PCOS subjects	25	32.28±3.285	<0.001
Control subjects	25	24.16±3.412	
Total	50	28.22±5.273	

In PCOS subjects mean BMI was 32.28 kg/m^2, while in Control subjects it was much lower i.e. 24.16 kg/m^2.

So, there was a significant difference between mean BMI among PCOS and control subjects as shown in Table 7.

Table 8: Distribution of the study subjects according to mean waist: hip ratio.

Groups	No. of subjects	Waist/Hip ratio	P-value
		Mean±SD	
PCOS subjects	25	0.80±0.073	<0.001
Control subjects	25	0.70±0.081	
Total	50	0.75±0.091	

Data tabulated in Table 8, depicts the mean waist: hip ratio of the study population.

Mean waist: hip ratio of PCOS subjects was 0.80 and control subjects was 0.70. Mean waist: hip ratio was significantly higher in PCOS subjects which was statistically significant.

Data tabulated in Table 9, depicts that serum biochemical markers were significantly higher among the PCOS subjects as compared to control subjects, which was statistically significant.

Table 9: Distribution of the study subjects according to mean waist: hip ratio.

Variables	Groups	No. of Subjects	Mean±SD	P-value
Fasting blood sugar levels (mg/dl)	PCOS subjects	25	118.72±22.09	<0.001
	Control subjects	25	91.00±13.30	
S. insulin Levels (μIU/ml)	PCOS subjects	25	30.68±7.936	<0.001
	Control subjects	25	13.76±5.174	
S. testosterone levels (mg/dl)	PCOS subjects	25	118.32±94.011	<0.001
	Control subjects	25	24.72±9.053	
S. triglycerides levels (mg%)	PCOS subjects	25	276.72±92.761	<0.001
	Control subjects	25	116.64±19.388	
S.HDL levels (mg%)	PCOS subjects	25	33.84±11.575	<0.001
	Control subjects	25	62.24±10.990	

DISCUSSION

Twenty-five women with PCOS were included as cases in study on first come first basis and women with normal ovaries just next to each PCOS case were included as control group.

Diagnosis of cases was confirmed by history, clinical examination, relevant bio chemical tests and ultrasonography in all the subjects (Rotterdam criteria). Women with malignancy anywhere in the body, diseases which manifest PCOS secondarily i.e. androgen secreting tumours, congenital adrenal hyperplasia and Cushing syndrome were excluded from the study.

Diagnosis of PCOS

According to the 2003 Rotterdam Consensus Conference, the revised diagnostic criteria includes any two of the following:

- Oligomenorrhoea / anovulation
- Clinical and or biochemical signs of hyperandrogenism
- Polycystic ovaries on USG
- Exclusion of other etiologies such as congenital adrenal hyperplasia, androgen-secreting tumours and Cushing syndrome.[8,11]

Laboratory findings

Laboratory testing in the evaluation of a woman suspected to have PCOS includes serum assessment of

- Androgens,
- Gonadotropins,
- Glucose metabolism.

Other ominous pathologies such as ovarian androgen producing tumours and extragonadal sources of hyperandrogenemia should be sealed out.

Imaging assessment

Pelvic USG (USG Criteria - Presence of 12 or more follicles in either ovary measuring 2 to 9 mm in diameter and / or increased ovarian volume (>10 ml). A single ovary meeting these criteria is sufficient to affix the PCOS diagnosis, three-dimensional ultrasound, MRI and colour Doppler mapping.[11,12]

In our study, it was observed that the patients in the control group belonged mostly to rural area while that in the PCOS group came from urban area. It is not possible to provide an explanation for this, because the urban population is expected to be more informed with better medical facilities.

In this study, most of the members in the control group belonged to lower and middle socio-economic stratum group, while most in the PCOS group belonged to middle and upper class. This was expected as most subjects in control group were from rural area. Since subjects of PCOS group, in general belonged to upper socio-economic class, it may be deduced from this observation that high incidence of this syndrome could be related to their life style.

PCOS group had oligomenorrhoea (100%), and other hyper androgenic problems like hirsutism (96%), acne (48%), heavy voice (4%), and breast atrophy (4%), which was not reported in control group. Similar observations were also reported by Adams J et al.[13] They reported oligomenorrhoea (100%), hirsutism (65%). Infertility (85%) as the main complaints of PCOS patients.

CONCLUSION

Women from urban population, higher socio-economic status were more in PCOS group compared to controls and this difference was statistically significant. Clinical and biochemical features of hyperandrogenism were marked in PCOS subjects as compared to control subjects. Women with PCOS have a hormonal imbalance and metabolism problems that may affect their health and

fertility, we found PCOS subjects are more in urban population with strong family history. Lifestyle modification and dietary modification helps for the longterm health prognosis. women who are at risk of PCOS to be educated and managed for the continuing health risk and planned potential therapeutic strategies. Futher research has to look into possibility of genes linked into PCOS.

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Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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ORIGINAL ARTICLE

LIPOMA OF HAND AND FINGER: A 6 PATIENT CASE SERIES.

Prakash Kumar M.N[1],Sowmya D[2], Gautham M[3], Mir Mahir Ali[4]

HOW TO CITE THIS ARTICLE:
Prakash Kumar M.N, Sowmya D, Gautham M, Mir Mahir Ali. "Lipoma of Hand and Finger: A 6 Patient Case Series". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 02, January 13; Page: 295-302, DOI:10.14260/jemds/2014/1824

ABSTRACT: INTRODUCTION: Lipoma, the ubiquitous benign tumor, is not very common in the hand and that to involving the palmar space or finger is very rare. This series of case presentation lays emphasis on consideration of lipoma in the differential diagnosis of swellings/ soft tissue tumors of the hand and the use of imaging studies in their diagnosis. We report a series of six cases of lipoma in different parts and planes of hand, involving palm and fingers. An uncommon site, size, shape, plane and age of occurrence of this common tumor warrants it's reporting and an effort had been made to highlight the management. **CONCLUSION:** Hand lipoma is rare entity for a surgeon in the differential diagnosis of soft tissue tumors with radiology being an invaluable tool. Though rare but frequently seen in this part of country, Precise surgical techniques with a sound anatomic knowledge helps in complete excision without damaging the vital structures and abates recurrences.
KEYWORDS: Lipoma, subcutaneous, mid-palmar space.

INTRODUCTION: Lipomas are ubiquitous benign, mesenchymal neoplasms occurring in areas of abundant adipose tissue [1]. They are not frequently seen in the hand and those involving the fingers are very rare, with reported incidence of 1% [2].When it is noted in palm frequently found in thenar and hypothenar region, as described by Al Qattan et al.2005[3].Stein et al in 1959 reported first patient with a lipoma of the finger [4] and since then, 14 cases were identified in the literature that concerned lipoma case reports of the fingers [5]. Of those, totally 3 were on the index finger, 2 cases occurring distal to the right proximal interphalangeal joint and 1 case in the left index finger [6], all of them post-traumatic in nature.

CASE PRESENTATION: We present six cases of lipoma: solitary, non-traumatic, three in palm and three in fingers two of which in index finger and one in ring finger, collected in our practice over a period of 2 years from July 2011 to august 2013, comprising of 2 male and 4 females, with average age group of about 43 years.

CASE REPORTS:

Case 1: A 51-year-old woman presented with progressive fullness in thenar region of the left hand since a year. She was right hand dominant without any history of trauma in the past. There was no history of smoking in the past and there were no other swellings elsewhere in the body. She complained of dull aching pain in this area, which aggravated when she tried to hold objects and this reduced the ability to grip. Examination revealed a solitary, smooth, soft, non-tender mass in the mid-palmar region (Fig.1)

MRI revealed a 2.3 x 2.2 x 2.9 cm lipoma situated in mid palmar space superficial to flexor tendons of 2nd, 3rd and 4th finger, extending distally up to distal third of metacarpal bones and

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proximally up to distal margin of flexor retinaculum, without calcification and ossification points or bony infiltration (Fig.2).

Subsequently, the mass was removed surgically through palmar access, it was found in the mid-palmar space deep to the aponeuroses (Fig.3). After surgical excision, the lipoma measured 5.25 x 5. 50 x 3.20cms in the largest dimensions. No infiltration into surrounding structures was seen. Post-operative period was uneventful (Fig-4), pathological examination of specimen confirmed lipoma without evidence of malignancy.

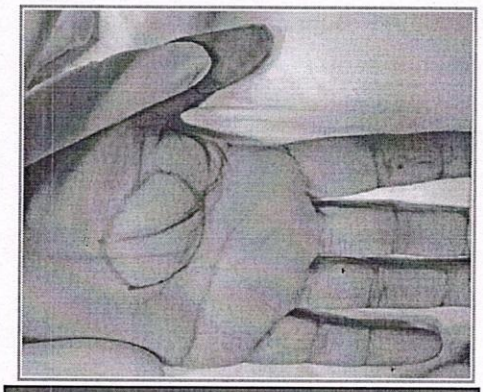


Fig. 1-Case 1: Mid-palmar space soft tissue swelling

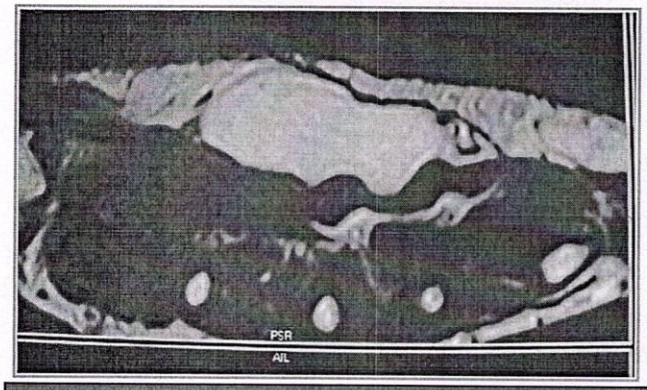


Fig. 2-Case 1: MRI showing lipoma above the flexor tendons (shown by indentation)

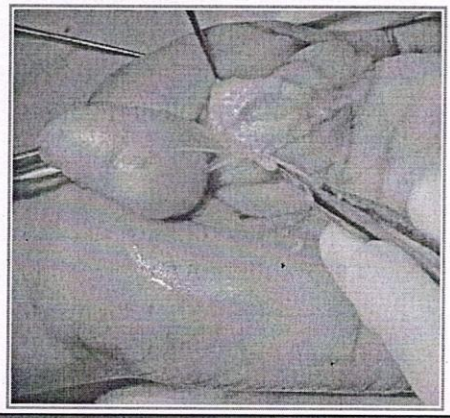


Fig. 3-Case 1: Intra-operative findings of a large mid-palmar space lipoma

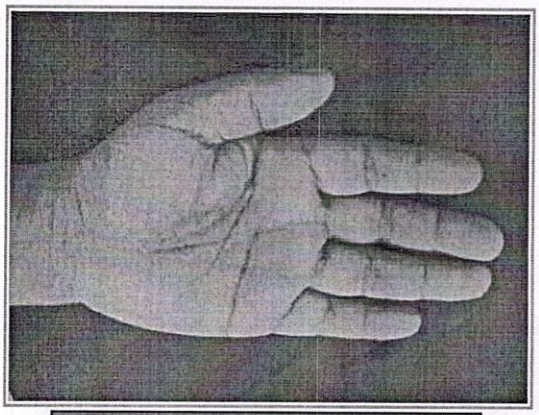


Fig. 4-Case 1: Post operative scar well settled

Case 2: A 42 years old female presented with mass in the right palm, over a period of 2 years, Mass had been a small lump which had significantly increased in size over the past 1 year. There was no history of smoking in the past and there were no other swellings elsewhere in the body, patient had no functional deficit, it did not interfere with her grasping ability, MRI revealed lipoma situated in mid palmar space.

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Fig.8 - Case 3: Swelling over the 3rd and 4th MCP joint extending into web space

Case 4: A 50 year old male presented with h/o difficulty in complete flexion of distal inter phalangeal joint of index finger. A solitary ill-defined swelling was noted on the medial aspect of index finger (Fig-9).

On examination a swelling 1.5x1.5cms present over the medial aspect of index finger over the distal interphalangeal joint extending more towards volar aspect, soft in consistency smooth surface, nontender. No sensory disturbance distal to lesion. FNAC was consistent with lipoma.

Under digital block, hemostatic tourniquet was applied over the base of finger, mid lateral incision was made, subcutaneous yellowish lobulated mass was completely excised measuring 1.8x1.5, neurovascular bundle was meticulously dissected out from lesion (Fig-10), wound was closed primarily, pathological examination was consistent with lipoma.

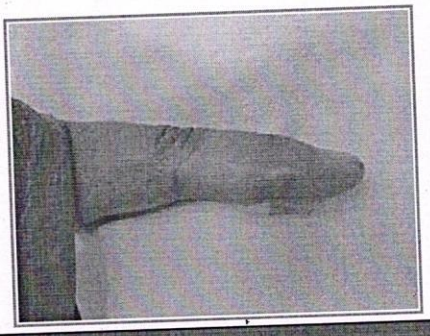


Fig. 9-Case 4: Illdefined swelling over the medial aspect of DIP joint of index finger



Fig.10-Case 4: Showing complete excision through mid lateral incision

Case 5: A 38 middle aged male presented with a swelling over index finger pulp over the past 1 and half years, gradually increasing in size, No history of trauma or any swelling elsewhere in the body, On examination 1x1cms soft to firm in consistency, non-tender swelling over the pulp, (Fig-11), Under anesthesia and tourniquet control excisional biopsy was done by making mid lateral incision under loupe magnification, complete excision was done, HPE was consistent with fibrolipoma.

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On examination there was a 3.0x2.5cms mass, it was soft, nontender on palpation, sensation over palm and finger were normal. (Fig-5)

Excisional biopsy was planned, under axillary block, tourniquet was applied and palmar incision was made. A lobulated yellow mass was exposed, it was situated deep to palmar fascia, complete excision was done (Fig-6, 7), due to unyielding nature of palmar fascia after excision the actual size of lipoma was 3.5x3.2, post-operative period was uneventful, histopathological examination of specimen was that of lipoma.

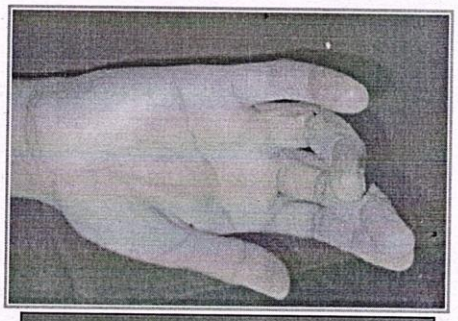


Fig. 5-Case 2: Pre operative photo showing swelling

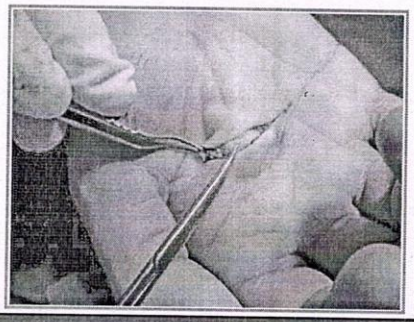


Fig. 6-Case 2: Showing crease incision

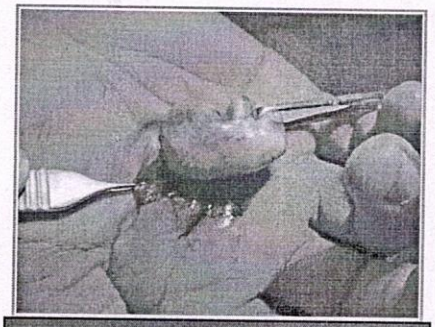


Fig. 7 - Case 2: Showing complete excision of lipoma

Case 3: A 40 year old male presented with h/o swelling in the left palm, over the third and fourth metacarpo-phalangeal joints, he had discomfort when using his hand for normal daily activities, no sensory disturbance distal to lesion. No history of traumaor any other lesions elsewhere in the body.

On examination a mass measuring 3.5x3.5cms, soft, nontender, smooth surface (Fig-8). Under regional anesthesia (Brachial block), incision was made, under loupe magnification meticulous dissection was done, neurovascular bundle was dissected out from the mass, lobulated yellowish mass was completely excised, post excision measurement of lipoma was, 4.2x3.8. Histopathological examination of mass was consistent with lipoma, post-operative period was uneventful.

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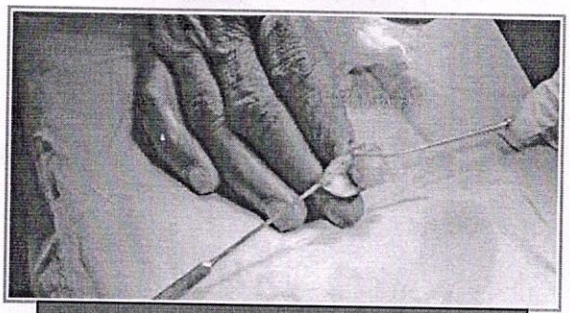


Fig. 11 - Case 5: Showing excision of Right index finger Lipoma

Case 6: Thirty five years old female patient presented with a swelling in the right ring finger of five years duration.

She first noticed the swelling on the palmar aspect near the base of the ring finger about 1 x 0.5cms in size which progressively increased to present size. She had no complaints of pain, sudden increase in size, secondary changes in the swelling, paresthesias, vascular complaints, limitations of joint movement.

Clinical examination revealed a butterfly shaped swelling occupying the volar and dorsal aspects of proximal phalanx of ring finger of the right hand. Vertically extending from 1 cm distal to the distal transverse palmar crease till the PIP crease measuring about 5.3 x 6cms.

This soft, mobile swelling was well above the plane of the tendon sheath without any features of neurovascular compression or limitation of movements. A working diagnosis of subcutaneous lipoma was made.

Soft tissue ultrasound showed the swelling to be above the tendon sheath. Patient was planned for surgery under transaxillary block with tourniquet control. A volar zig zag incision was made. The swelling was excised in toto. Operative exploration revealed a sub-cutaneous thyroid shaped lipoma, curving on either side of the volar surface of the finger, explaining it's near circumferential extension.

Both the neurovascular bundles were identified and preserved. Histological examination showed a yellowish, lobulated swelling of 6.5x8.0x4.6cms in the largest dimension, made of mature adipocytes. (Fig-12).

One year follow up revealed no recurrence and full range of movements of all joints.

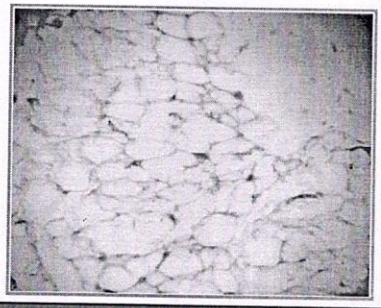


Fig. 12 - Case 6: Histopathological examination slide showing mature adipocytes.

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DISCUSSION: Lipomas appear mostly in the fifth and sixth decade and probably are the most common solid cellular hand tumors. They are seldom seen in the hand and are extremely rare in the digits [1]. Lipomas are benign soft tissue tumors accounting for approximately 16% of soft tissue mesenchymal tumors [5].As mentioned previously lipomas in the digits have a reported incidence of only 1% [2].

Lipoma in the hand was classified by Manson as superficial and deep palmar lipoma; the deeper ones are less common than the superficial ones. Since the thick palmar fascia is strong, a lipoma may not be recognized although nerve compression symptoms may be gross [7].

Clinically, superficial lipoma commonly appears as asymptomatic, slow growing, soft fluctuant, and bulging, lobulated and mobile mass. Because of their enlarging size, they may lead to limitation of mobility and impairment of grasping. Lateral deviation of the fingers also may be present when the tumor arises around the metacarpophalangeal joints. Most often presenting as a solitary mass, hand lipomas are often asymptomatic and only come to clinical attention when they are of cosmetic concern or become large enough to create mechanical impairment. In Leffert's series of 141 lipomas of the upper extremity, 109 tumors were asymptomatic and excised solely for aesthetic reasons. Of the 32 symptomatic lesions, 26 caused pain or tenderness, and 6 produced paresthesias or sensory deficit secondary to nerve compression. Similar symptomatic presentations have been documented extensively in the literature. Lipomas that restricted range of motion and deformed the wrist or digits, decreased grip strength, or caused muscle paralysis, polyarthritis, trigger finger, dysesthesias, muscle atrophy, and nail plate dystrophy and thinninghave been reported[8].

Etiology of lipoma remains unclear, variety of factors have been linked to the creation of lipomas, which includes trauma, obesity, hypercholesterolaemia[9].

Clinical evaluation of superficial lipomas is accurate for diagnosis in up to 85% of cases [10], contrary to deep lipomas for which clinical evaluation indicates only a nonspecific mass.

When subcutaneous, diagnosis can be made by a characteristic "doughy" feel on palpation. Application of an ice pack to the tumor to chill and harden the fat has also been used to aid in diagnosis [8].

Radiological evaluation is diagnostic in up to 71% of cases of lipoma [10]. Ultrasound examination demonstrates a homogeneous and circumscribed hyper echoic areas [11, 12].Computed tomography and especially magnetic resonance imaging are helpful in the assessment of such lesions. The MR images of such lesions reveals tissue that is isointense relative to subcutaneous fat, regardless of pulse sequences. When contrast is applied, the mass does not enhance except for its capsule. In 37-49% of cases CT or MR images reveal intrinsic thin septa (< 2 mm), a sign that is considered almost pathognomonic for the diagnosis of lipoma [13].

At the moment, MRI is the most reliable imaging method to diagnose lipomas. T1-weighted images show high signal intensity in a well-defined encapsulated even soft-tissue mass.

The main imaging criteria used to differentiate those lesions from their malignant counterparts, liposarcomas, is the absence of septa in most of the cases, the presence of mineralization areas best depicted with CT and the absence of interdigitations with skeletal muscle, a feature described only in intramuscular lipomas [10].

If a space-occupying lesion is detected, MRI is useful to document exact site, size and its relation to neurovascular structure and it is radiological investigation of choice in this situation to

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delineate the relationship between the tumor and adjacent structures allowing the surgeon to plan the operation [14].

Lipomas arising from the deep palmar space tend to present in the periphery of the hand because of the unyielding nature of the overlying palmar aponeuroses. Diagnosis in the hand and digits can be difficult, because of their rarity and deeper location. The differential diagnosis as mentioned includes other soft tissue tumors such as ganglion cysts, giant-cell tumors, myxomas, angiolipomas and intraneural lipofibromas [6].

Most common indication for removal of lipoma is the disturbance in hand functionality and cosmetic appearance[15].

Careful dissection under magnification is necessary during the surgical procedure in order to avoid recurrence by removing the tumor in toto. Complete surgical marginal excision is the treat of choice of deep lipomas (shelling out without opening the capsule)[16].

Lipomas in the mid-palmar space are unusual and are deceptive in terms of size due to unyielding palmar fascia as was the situation in our first two cases. However there was no compression over the adjacent vital structures. Third case of lipoma was also found in palm but not much affected or constrained by palmar aponueroses.

The finger lipomas were unique in the following ways- two of them involving index finger and other one involving the, ring finger which is, massive size and its unique thyroid gland like shape.

Despite its various size and shape, none of our patients had any sensory impairment.

Superficial lipomas can be easily diagnosed clinically aided with soft-tissue ultrasound while MRI is the investigation of choice for deeper lipomas, both as a diagnostic tool and as a surgical aid.

All patients were discharged without complications. There were no signs of recurrence during follow-up varying from minimum 3months to maximum 12 months.

CONCLUSION: Although common elsewhere, lipomas of the hand are rare entities with excellent prognosis after successful excision and a very limited risk of transformation to malignancy. Preoperatively, imaging is important to delineate the extent of the lesion and to assist in operative planning. We recommend MRI for its ability to discern tissue planes.

Deep palmar lipomas are rare, deceptively large and extensive. MRI scan is the investigation of choice to delineate the extent of the tumor and its relation with important structures.

The awareness of lipomas is imperative in the differential diagnosis from other soft tissue tumors of the hand or digit. A precise surgical technique with a sound anatomic knowledge helps in complete excision without damaging the vital structures and abates recurrences.

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AUTHORS:

1. Prakash Kumar M.N.
2. Sowmya D.
3. Gautham M.
4. Mir Mahir Ali

PARTICULARS OF CONTRIBUTORS:

1. Plastic Surgeon, Department of Plastic Surgery, ESI- Post Graduate Institute of Medical Sciences and Research, Rajajinagar, Bangalore.
2. Resident, Department of Plastic Surgery, ESI-Post Graduate Institute of Medical Sciences and Research, Rajajinagar, Bangalore.
3. Plastic Surgeon, Department of Plastic Surgery, ESI- Post Graduate Institute of Medical Sciences and Research, Rajajinagar, Bangalore.
4. Senior Resident, Department of Plastic Surgery, ESI- Post Graduate Institute of Medical Sciences and Research, Rajajinagar, Bangalore.

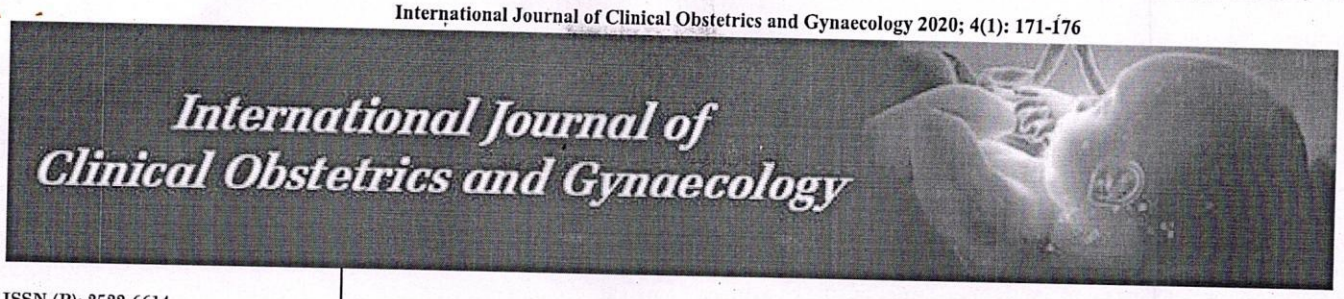
NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Prakash Kumar M.N.,
No.-11, Chennakeshava Nilaya,
1st Floor, 2nd Cross, Srirampuram,
Bangalore – 560021.
Email –pritamprakash97@yahoo.co.in

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Dr. Mamatha

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Dr. Mamatha S
Senior Resident,
Department of Obstetrics and Gynecology, Mysore Medical College and Research Institute, Mysuru, Karnataka, India

Dr. Lakshmikantha G
Associate Professor,
Department of Obstetrics and Gynecology, Mysore Medical College and Research Institute, Mysuru, Karnataka, India

Corresponding Author:
Dr. Lakshmikantha G
Associate Professor,
Department of Obstetrics and Gynecology, Mysore Medical College and Research Institute, Mysuru, Karnataka, India

A comparative study between pipelle endometrial sampling and dilatation curettage in abnormal uterine bleeding

Dr. Mamatha S and Dr. Lakshmikantha G

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Abstract
Objective: To compare the diagnostic accuracy of endometrial aspiration biopsy (EAB) using Pipelle device with dilatation and curettage(D&C) histopathology.
Methods: A comparative study of 81 patients with abnormal uterine bleeding carried out in the Department of Obstetrics and Gynecology between November 2018 and October 2019. Endometrial sampling with Pipelle was performed in 81 patients followed by formal D&C under anesthesia after ruling out other causes of AUB. Samples were labeled as A and B and sent to a histopathologist who was blinded as to the method of sampling. The histopathology reports of both samples were compared.
Results: Total number of patients enrolled in this study was 81 patients with abnormal uterine bleeding. In present study it was observed that increased endometrial thickness was not always associated with adequate tissue diagnosis. Endometrial thickness of less than 5mm was found in 14.8%, 5-8mm was found in 34.6%, 9-10mm noted in 28.4%, 12-16mm noted in 13.6% & more than 16mm was seen in 8.6% of study subjects. Mean ± SD: 9.87±8.01 mm. If upper limit of normal ET 16mm is taken as cutoff, adequacy rate in Pipelle and D&C were 92.1% and 90.5% respectively and if ET >16mm, adequacy rate in Pipelle and D&C were 72.2% and 77.8% respectively. In present study, it was observed that increased ET was not always associated with adequate sample. Among 14 patients of PMB 11 patients had abnormal ET (61.1%). In 81 cases of Pipelle 11.1% Pipelle sample was scanty and in 1 subject no sample was obtained. Major portion of Pipelle sample (87.7%) was adequate. Of the 81 subjects of D&C, scanty tissue was reported in 8.6% and sample was adequate in 87.7%. No sample was obtained in 3.7%. The Sensitivity of Pipelle in obtaining a adequate tissue comparing it with D&C by applying Fisher exact test is calculated to be 95.71%, Specificity =71.43% Positive predictive value=97.10% and Negative predictive value =62.50%. The accuracy is 93.51%. The calculated p value is <0.001which is statistically very highly significant. In this study, comparing Pipelle with D&C, the Pipelle device had 100% sensitivity, 97.4 specificity, PPV 71.4%, NPV 100%, 97.5% accurate for proliferative endometrium. The sensitivity, specificity, PPV, NPV, Accuracy rate were 100% in endometrial CA and hormone progesterone effect. The sensitivity is 80% in simple hyperplasia without atypia and 57.1% in disordered proliferative endometrium and in endometrial polyp the sensitivity was 42.9%. The calculated P value is <0.001 which is statistically significant. No adverse effects were noted in both Pipelle and D&C procedures.
Conclusion: Endometrial sampling using Pipelle device is an easy and safe method of getting tissue diagnosis, which can be done as an outpatient procedure. Pipelle is cost effective and has better patient compliance in addition to the added advantage of no anesthesia or other procedure complications like perforation compared to D&C.

Keywords: Abnormal uterine bleeding, Pipelle device, Dilatation and Curettage.

Introduction

Abnormal Uterine Bleeding (AUB) is one of the common disorders in gynecology and accounts for more than 70% of gynecological consultations among perimenopausal and postmenopausal women. The bleeding could be a sign of underlying localized condition of uterus including infection, benign and malignancy. Endometrial assessment in AUB includes the various diagnostic modalities mainly ultrasonography, endometrial curettage and office based methods including biopsy by hysteroscopy or endometrial samplers such as Pipelle [1, 2]. Endometrial assessment is indicated at the age of 40 years to exclude endometrial hyperplasia or carcinoma as less than 1% endometrial carcinoma occur under 35 years of age and 6% in those 45 years or less [3]. When a woman is found to have high risk factors for endometrial pathology, such as perimenopausal abnormal uterine bleeding, postmenopausal uterine bleeding or history of

chronic anovulation sampling of endometrium becomes mandatory [4]. Hysteroscopic biopsy & D&C is considered as the standard for endometrial sampling without its place in gynecology being challenged. But in 60% of D&C, less than half of uterine cavity is curetted, with added risk of complications of general anesthesia, infection, perforation, consuming operative room, invasive and large proportion of hospital bed usage. This has led to the advent of simple methods for endometrial sampling. Pipelle does not require a general anaesthesia or analgesia and can be performed in the outpatient or general practice setting. EAB done using a special device called Pipelle and D&C were equally successful for diagnosing endometrial pathologies. Though many studies have been reported about the effectiveness of Pipelle type device in outpatient endometrial sampling, very few studies are available from India. This study is being conducted to establish the validity of Pipelle & adequacy of endometrium sampled by Pipelle for histopathology. The present study is taken up to compare the diagnostic accuracy of endometrial aspiration biopsy using Pipelle device with D&C in AUB patients.

Methodology

An interventional comparative study of 81 patients, 30 years of age & older who presented with abnormal uterine bleeding in the Department of Obstetrics and Gynecology was undertaken to study the diagnostic value of Pipelle Endometrial sampling with Dilatation & Curettage after providing informed consent. The study period was one year from November 2018 to October 2019. Ethical committee approval was obtained. Reproductive women, Peri menopausal and Post-menopausal women who presents with abnormal uterine bleeding were included in the study. Pregnancy, Patients with lower genital tract infections, Pelvic inflammatory disease, clotting disorders or coagulopathy, Carcinoma cervix, Hormonal Replacement Therapy, Adnexal Mass/lesions were excluded from the study. A detailed clinical assessment of patient was performed in the outpatient department including history, physical examination and base line investigations. A transvaginal sonography was performed before endometrial biopsy. The uterus was scanned in the sagittal and longitudinal projections with the use of 5.0-to-7.5 MHz vaginal transducers. The thickest anteroposterior diameter of the endometrial stripe was then measured in the sagittal plane with digital calipers on the display. The endometrial thickness was then recorded. Diagnostic intervention endometrial sampling by Pipelle device without anesthesia, and endometrial sampling by D&C under anesthesia was then done.

The Pipelle device used for sampling is a flexible thin device with inbuilt suction. The inner piston of the device is then withdrawn to create suction and the endometrial sample is obtained by rotating the cannula and a strip of endometrium is peeled off and sucked into the syringe. Following Pipelle procedure in OPD patient shifted to OT, anesthesia was given and D&C procedure was done. After dilatation with Hegars dilators, a small sharp curette was introduced; systematic, thorough and gentle sampling of all parts of the uterine cavity was done. Both samples were sent to a histopathologist who was blinded as to the method of sample collection for histopathology assessment. The reports from Pipelle biopsy and diagnostic D&C standard are compared. Descriptive and inferential statistical analysis has been carried out in the present study. Results on continuous measurements are presented on Mean SD (Min-Max) and results on categorical measurements are presented in Number (%). Significance is assessed at 5% level of significance. The following assumptions on data is made, Assumptions: 1. Dependent variables should be normally distributed, 2. Samples drawn from the population should be random, Cases of the samples should be independent. Chi-square/ Fisher Exact test has been used to find the significance of study parameters on categorical scale between two or more groups, Non-parametric setting for Qualitative data analysis. Fisher Exact test used when cell samples are very small. Sensitivity, Specificity, PPV, NPV, Accuracy are computed to find the diagnostic properties of Pipelle against HPE. The Statistical software namely SPSS 18.0, and R environment ver.3.2.2 were used for the analysis of the data and Microsoft word and Excel have been used to generate graphs, tables etc.

Results

Of the 81 patients studied 49 (60.5%) were perimenopausal. Of the study group 1-6 months duration of AUB was seen in 70.4% of the subjects, 6-12 months in 12.3%, more than 12 months of AUB in 17.3% of subjects. Premenopausal women included in the study had heavy menstrual bleeding (HMB) as their main complaint. Polymenorrhea was the second most common complaint in this group. Prolonged bleeding following a period of amenorrhoea was the third most common complaint in this group. Past history of medical illness noted in 46.9% of the subjects. Hypothyroidism was the commonest of medical illness noted in 16% of patients, followed by hypertension in 8.6%, diabetes in 2.5% of the subjects. Combination of HTN+DM in 7.4% who were in some form of treatment at the time of admission. Anaemia was present in 3.7% of AUB patients. DM + HTN + Hypothyroidism was noted in 1.2%, 2.5% were the case of Breast-CA. 2 patients had epilepsy, 1 patient had CKD and 1 patient had Rheumatoid arthritis.

33.3% of subjects had normal sized uterus, whereas 66.6% had abnormal. Among them uterus 8-12 weeks size were in 19.7%, 12-16 weeks size uterus were in 7.4%, Bulky uterus were in 34.6% & uterus size not made out in 4.9%. Endometrial thickness of less than 5mm was found in 14.8%, 5-8mm was found in 34.6%, 9-10mm noted in 28.4%, 12-16mm noted in 13.6% & more than 16mm was seen in 8.6% of study subjects. Mean ± SD: 9.87±8.01mm.

Table 1: Adequacy in Pipelle

Adequacy in Pipelle	No. of patients	%
Adequate	71	87.7
Scanty	9	11.1
Not obtained	1	1.2
Total	81	100.0

Table 2: Adequacy in D & C

Adequacy in D & C	No. of patients	%
Adequate	71	87.7
Scanty	7	8.6
Not obtained	3	3.7
Total	81	100.0

par with D&C in obtaining a tissue diagnosis.

Discussion

The evaluation of abnormal uterine bleeding begins with a history, physical examination, and pelvic examination which includes a cervical cytology of the ectocervix and the endocervical canal. Although medical history is not specific enough to make a firm diagnosis for AUB, some questions assist in further narrowing the diagnostic possibilities, questions placing the bleeding in context of a woman's other health considerations (age, weight, previous menstrual patterns, medical problems, are most valuable in diagnosis. Furthermore, consistent questioning about of the broad categories of AUB (pregnancy complications, bleeding diathesis, anovulation, and structural lesions) helps to avoid omitting important history. When the source of the bleeding is determined to be the uterine cavity, sampling of the endometrium for pathology examination is usually considered to be mandatory. D&C was traditionally the method of choice for investigating patients with postmenopausal bleeding. However, in approximately 60% of the D&C procedures less than half of the uterine cavity is curetted. Most focal lesions (polyps and fibroids) are missed by D&C in postmenopausal women with AUB [5]. Another drawback of D&C is that this procedure is performed under anesthesia. D&C is now considered to be outdated practice and is replaced by less invasive outpatient evaluation using endometrial biopsy devices and outpatient hysteroscopy guided biopsies [6]. For the diagnosis of diffuse lesions (endometrial hyperplasia or carcinoma), the accuracy of outpatient endometrial biopsy has proven to be similar to the more invasive and costly D&C. Many instruments have been devised for the sampling of endometrial tissue and evaluation of the endometrial cavity. In 1882, Moriche obtained the first endometrial sample using a catheter and endometrial biopsy has been performed in an outpatient setting since 1935. The 1970's saw the introduction of Vabra curette followed by the Pipelle sampler in the 1980's. The Vabra aspirator has been used extensively over the past 20 years. This disposable device requires an external vacuum source, usually an electric pump, which can be quite noisy and startling to the patient. The cannula is commonly plastic, with a 4- mm diameter, although 2and 3mm stainless steel curettes are also available. A circumferential in-and-out motion is used to obtain a sample, and patient discomfort may necessitate intravenous analgesia. Moreover, if the cervix is stenotic, larger cannulas may be difficult to introduce and cervical dilation may be necessary before sampling can be done. Vabra aspiration produces a sample comparable to that obtained with dilatation and curettage The Pipelle has become one of the most popular new devices, because it requires little expertise and can be used by anyone experienced in sounding the uterus [7, 8]. Developed by Cornier, it was originally employed for endometrial sampling in fertility studies but its usefulness in the diagnosis of pathological lesions was soon realized. The Pipelle curette offers two advantages: it can traverse most cervical canals without prior dilation or use of a vulsellum and it is generally well tolerated without analgesia.. In his first series Cornier found four cases of endometrial cancer in 75 women with unexplained vaginal bleeding. Studies in women with known endometrial cancer have shown the Pipelle to be sensitive, although small localized lesions may be missed. When compared with conventional D&C the Pipelle has proved good [9]. Some investigators were concerned that the Pipelle might sample less of the endometrium, although this was not reflected in lower diagnostic accuracy [10]. A review of the studies containing information regarding the accuracy of endometrial sampling using 18 different devices from 1966 to 1999, was done by Dijkhuizen *et al*, identified 39 informative studies involving 7914 women [11]. The studies included combinations of menopausal and or perimenopausal women. Either subsequent formal D&C or hysterectomy was used as a reference compared with office endometrial biopsy. Diagnostic accuracy was better in menopausal women. Yet overall, accuracy was good in all women, especially with the use of the Pipelle brand of curette, where sensitivity for endometrial carcinoma was 99.6% and specificity was 91%. Sensitivity for atypical hyperplasia was 81% with a specificity exceeding 98%. A similar systematic review by Clark *et al* [12] involving 1013 patients from 11 primary studies using 6 different commercial clinic biopsy instruments identifies good accuracy for a biopsy to identify endometrial cancer if the specimen was adequate for evaluation. The combined failure rate for obtaining an adequate specimen was 7%, and biopsy failure was more common in menopausal women. Endometrial biopsy results were also compared with the reference standards D&C or hysterectomy. When a biopsy was positive for cancer, the post biopsy probability of endometrial cancer was 81.7% (95% confidence interval (CI) 59.7-92.9). The pooled probability that a negative biopsy missed an endometrial cancer was 0.95 (95% CI;0.4-2.4). Endometrial sampling is associated with a greater percentage of false-negative results if the pathology is local, such as endometrial polyps. Guido and associates (1995) reported false negative results in 11 of 65 patients-17%-undergoing Pipelle endometrial sampling for abnormal bleeding [13]. Five of these 11 had malignant tissue present only in endometrial polyps, and another 3 patients had disease localized to less than 5% of the endometrial surface. Overall a positive result was accurate in the diagnosis of endometrial cancer whereas a negative result was not. Therefore if an endometrial biopsy is negative in a situation where AUB continues, or if a biopsy cannot be obtained, then further more aggressive diagnostic efforts are warranted. Several studies comparing the adequacy of sampling using Pipelle device with D&C have shown a comparable ability to detect abnormalities [14]. In a meta-analysis comparing endometrial sampling techniques, the Pipelle was found to be most accurate. Among postmenopausal women, the sensitivity for detection of atypical endometrial hyperplasia was 81% and for detection of endometrial cancer as 99.6%. The sensitivity of the device for the detection of endometrial cancer among premenopausal women was 99.6%. The specificity of the Pipelle device for diagnosing endometrial hyperplasia or malignancy was 98%. Silver *et al* made a randomized study comparing Novak and Pipelle endometrial biopsy instruments with respect to quality of the biopsy obtained and pain related to the procedure. The instruments yielded biopsies of similar quality (p =.856). Pain scores were lower for the Pipelle (p=.001). Williams *et al* reported that women over 54 years had more inadequate samples with Pipelle [15]. D&C and Pipelle had comparable results as per our observations. In our study, age group of 30-40 years 16 patients had adequate sample in D&C,15 out of 16 had adequate sample in Pipelle. Out of 49 pateints between the age group of 41-50 years 45 patients had adequate sample in both procedure. Scanty was obtained in 4 subjects in pipelle,3 subjects in D&C and in 1 subject sample was not obtained. Between 51-60years,8 subjects had adequate sample in D&C,2 were missed in D&C.7 subjects had adequate sample, 2 had scanty sample & in 1 subject sample not obtained. Thus no association between age or menopausal status and adequacy of the sample is formulated.

Table 3: Comparison of Pipelle HPE and D&C HPE

Findings	Pipelle HPE (n=81)		D&C HPE (n=81)	
	No. of patients	%	No. of patients	%
Nil	7	8.6	7	8.6
simple hyperplasia without atypia	34	41.9	35	43.2
disordered proliferative endometrium	17	20.9	14	17.3
proliferative endometrium	7	8.6	5	6.2
endometrial polyp	7	8.6	7	8.6
hormone effect	5	6.2	5	6.2
endometrial CA	2	2.5	2	2.5
others	2	2.5	6	2.5

Table 4: Adequacy in Pipelle/ D&C distribution in relation to endometrial thickness (ET)

	TVS ET		Total (n=81)	P value
	Normal (n=63)	Abnormal (n=18)		
Adequacy in Pippelle				
▪ Adequate	58(92.1%)	13(72.2%)	71(87.7%)	0.039*
▪ Scanty	5(7.9%)	4(22.2%)	9(11.1%)	
▪ Not obtained	0(0%)	1(5.6%)	1(1.2%)	
Adequacy in D & C				
▪ Adequate	57(90.5%)	14(77.8%)	71(87.7%)	0.214
▪ Scanty	4(6.3%)	3(16.7%)	7(8.6%)	
▪ Not obtained	2(3.2%)	1(5.6%)	3(3.7%)	

The Sensitivity of Pipelle in obtaining a adequate tissue comparing it with D&C by applying Fisher exact test is calculated to be 95.71%, Specificity =71.43% Positive predictive value=97.10% and Negative predictive value =62.50%. The accuracy is 93.51%. The calculated p value is <0.001which is statistically very highly significant. Thus it is informed that Pipelle is as good as D&C in obtaining an adequate endometrial tissue sample.

Table 5: Correlation of Pipelle HPE in comparison with D&C HPE

Findings	Observation					Correlation					
	TP	FP	FN	TN	Total	Se	Sp	PPV	NPV	Accuracy	P value
simple hyperplasia without atypia	28	6	7	40	81	80.0	86.9	82.3	85.1	83.9	<0.001**
disordered proliferative endometrium	8	9	6	58	81	57.1	86.6	47.1	90.6	81.5	0.002**
proliferative endometrium	5	2	0	74	81	100.0	97.4	71.4	100.0	97.5	<0.001**
endometrial polyp	3	4	4	70	81	42.9	94.6	42.9	95.6	90.1	0.007**
hormone effect	5	0	0	76	81	100.0	100.0	100.0	100.0	100.0	<0.001**
endometrial CA	2	0	0	79	81	100.0	100.0	100.0	100.0	100.0	<0.001**
others	1	1	5	72	81	16.7	96.6	50.0	93.5	92.4	0.021*

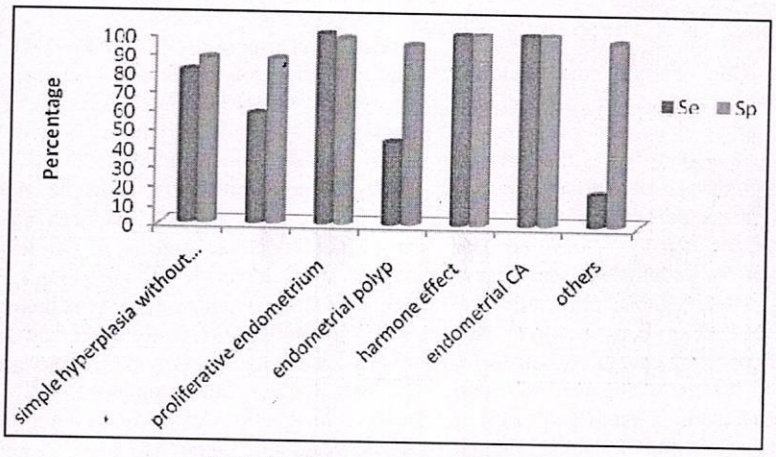


Fig 1: Show the percentage of Se and Sp

In this study, the Pipelle device had 100% sensitivity, 97.4 specificity, PPV 71.4%, NPV 100%, 97.5% accurate for proliferative endometrium. The sensitivity, specificity, PPV, NPV, Accuracy rate were 100% in endometrial CA and hormone progesterone effect. The sensitivity 80% in simple hyperplasia without atypia and 57.1% in disordered proliferative endometrium and in endometrial polyp the sensitivity was 42.9%. The calculated P value is <0.001 which is statistically significant.

The observation shows that Pipelle endometrial sampling is in

Table 6: Sample adequacy compared with other studies

Study	Year	No of patients	Sample adequacy (%)
Present study	2019	81	92
Shazia Fakhar [8]	2008	100	98
Fouzia Yasmin [1]	2007	100	100
Abera Choudary [3]	2005	350	98
Epstein [16]	2001	133	84
Bakour [17]	2000	248	70.20

In our study histopathology report was available in 71 of the 81 Pipelle samples and 71 of 81 D&C samples. Comparing Pipelle with D&C, Sensitivity of Pipelle in obtaining a adequate tissue by applying the Fisher exact test is calculated to be 95.71%, Specificity =71.43%, Positive predictive value=97.10% and Negative predictive value =62.50%, Accuracy=93.51%.

Table 7: Pipelle biopsy for diagnosis of endometrial lesions

Year	References	Cases	Curettage or hysterectomy	Pipelle	Specimen satisfaction (%)	Pathological accuracy (%)
2019	Present study	81	81	81	87.7%	70.4%
2015	Sanam and Majid [2]	130	130	130	88.0	94.0
2013	Leng *et al.*	200	200	200	93.0	85.0
2012	Kazandi *et al* [18].	82	82	82	93.0	66.0
2008	Fakhar *et al* [8].	100	100	100	98.0	94.0
2003	Machado *et al* [19].	1535	168	1535	73.9	96.9
1995	Guido *et al* [20]	65	65	65	97.0	83.0

Mild discomfort in 10% of women of Pipelle sampling. Pain scores were lower for the Pipelle (21). In present study, no adverse effects were reported. Pipelle is cost effective. The average cost of a Pipelle sampling is Rs.250 compared to Rs.2000 of D&C which includes procedure, anesthesia, surgery and inpatient charges.

Conclusion

Endometrial sampling using Pipelle device is an easy and safe method of getting tissue diagnosis which can be done as an outpatient procedure. Pipelle is cost effective and has better patient compliance in addition to the added advantage of no anesthesia or other procedure complications like perforation compared to D & C. Thus it can be considered as the first line investigation for getting an adequate endometrial sample for histology in patients with AUB with high sensitivity and specificity even for the detection of hyperplasia and malignancy.

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Dr. Somashekhar

Original Research Article

Histopathological study of umbilical cord and placental membranes in clinically suspected cases of chorioamnionitis

Somashekar H K[1*], Rashmi B[2], Manjunatha S[3]

{[1,3]Assistant Professor, Department of OBGY} {[2]Department of Pathology} Kodagu Institute of Medical Sciences, Madikeri, Kodagu District, Karnataka, INDIA.
Email: somugynaec@gmail. com

Abstract

Background: According to the World Health Organization, approximately four million neonates die annually with a global neonatal mortality rate of 23/1,000 live births. About a million of these deaths are attributable to neonatal infections. The placenta is the organ that links mother and foetus during pregnancy. It forms a barrier to toxins and infective organisms. Chorioamnionitis is diagnosed on the basis of either clinical and/or histological findings. Histological chorioamnionitis is the gold standard for defining the maternal and fatal inflammatory responses to microbial organisms in the amniotic fluid. **Objective:** The aim of the study was to assess the utility of histopathological study of of umbilical cord and placental membranes in clinically suspected cases of chorioamnionitis **Material and Methods:** This was a prospective study carried out in the Department of OBG, Kodagu institute of medical sciences, Madikeri, from June 2015 to May 2017. All the cases of clinically suspected chorioamnionitis were registered for the study. Histopathological examination of placental membranes and umbilical cord was carried out to detect the presence of histological chorioamnionitis (HCA). **Results:** In our study HCA was present in 63% and funicitis in 57% of clinically suspected cases of chorioamnionitis. **Conclusion:** Histopathological examination of umbilical cord and placental membranes is an accurate method to assess the presence of histological chorioamnionitis and neonatal sepsis.
Key Words: Placental membranes; Umbilical cord; Histological chorioamnionitis; Funisitis.

Address for Correspondence
Dr. Somashekar. H K, Assistant Professor, Department of OBGY, Kodagu Institute of Medical Sciences, Madikeri, Kodagu District, Karnataka, INDIA.
Email: somugynaec@gmail. com
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INTRODUCTION

Neonatal septicaemia continues to be a major cause of morbidity and mortality in our country. It is one of the major causes of neonatal mortality in the developing countries contributing to 15% of all neonatal deaths.[1] The placenta is the organ that links mother and foetus during pregnancy. It plays a crucial role in foetal growth and development. In addition the placenta forms a barrier to toxins and infective organisms. Chorioamnionitis is diagnosed on the basis of either clinical and/or histological findings.[2] Histological chorioamnionitis is the gold standard for defining the maternal and fatal inflammatory responses to microbial organisms in the amniotic fluid.[3] Potential benefits of pathological examination of the placenta include the evaluation and explanation of the aetiology associated with an adverse pregnancy outcome, the formulation of a plan of management for future pregnancies, the capability to predict the risk for long-term neonatal neurodevelopmental problems, and medicolegal risk assessment of an adverse pregnancy outcome. This has led some experts to suggest that placental pathology should be a routine component of obstetric and neonatal care.[4]

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MATERIAL AND METHODS

This was a prospective study carried out in the Department of OBG, Kodagu institute of medical sciences, Madikeri, from June 2015 to May 2017. All the cases of clinically suspected chorioamnionitis were registered for the study. Histopathological examination of placental membranes and umbilical cord was carried out to detect the presence of histological chorioamnionitis.

Inclusion Criteria

- Pregnant women with history of,
- Preterm delivery
- Premature rupture of membranes
- Uterine tenderness on palpation
- Fever during the time of labour
- Increased white blood cell count of mother
- Foul smelling amniotic fluid
- Tachycardia of the foetus

Exclusion Criteria

- Full term normal delivery
- Post term pregnancy
- Intrauterine death and still birth cases
- Maternal diabetes mellitus, hypertension
- Presence of congenital anomalies of baby

RESULTS

In the period from June 2015 to May 2017, 100 total cases of placental membranes, umbilical cord of clinically suspected case of chorioamnionitis were collected.

Age distribution: The patients were between the age of 19 - 39 years and the maximum numbers of patients were in the age group of 26 yrs to 32 yrs.

Table 1: Age distribution of study participants

Age distribution	Frequency	Percentage	Mean ± SD
19-25	31	31 %	
26-32	62	62 %	
33-39	7	7 %	26. 83 ± 3. 908
Total	100	100 %	

Parity of the mother: Out of total 100 cases 41 are primipara and 59 are multipara.

Table 2: Distribution of study participants according to the parity

Parity of the mother	Frequency	Percentage
Primiparity	41	41 %
Multiparity	59	59 %
Total	100	100 %

Gestational age of mother: Out of 100 patients 35 were preterm delivery and 65 were term delivery.

Table 3: Distribution of study participants according to the gestational age in weeks at the time of labour

Gestational age	Frequency	%	Mean ± SD	Median age
Preterm (≤ 36 weeks)	35	35 %		
Term (≥ 37 weeks)	65	65 %	36. 25 ± 2. 5	37 weeks
Total	100	100 %		

Clinical profile of mother: Maximum numbers of cases were preterm delivery followed by PROM.

Table 4: Distribution of study participants according to the clinical profile

Clinical profile of study participants	Frequency	Percentage
Preterm delivery	35	35 %
PROM	32	32 %
Tachycardia foetus	12	12 %
Increased WBC- mother	9	9 %
Uterine tenderness	5	5 %
Foul smelling amniotic fluid	4	4 %
Fever during labour	3	3 %
Total	100	100 %

Results of placental membranes: On histopathological examination 63 were positive and 37 were negative for chorioamnionitis.

Results of umbilical cord: On histopathological examination 57 were positive and 43 were negative for funisitis.

Table 5: Clinical profile of study participants and its association with CA

Clinical profile	CA (Test- HP)			p value
	Present	Absent	Total	
Preterm delivery	24 (68. 6 %)	11 (31. 4 %)	35	*
PROM	14 (43. 75 %)	18 (56. 25 %)	32	
Tachycardia foetus	7 (58. 3 %)	5 (41. 7 %)	12	
Increased WBC- mother	9 (100 %)	0	9	
Uterine tenderness	3 (60 %)	2 (40 %)	5	
Foul smelling amniotic fluid	3 (75 %)	1 (25 %)	4	
Fever during labour	3 (100 %)	0	3	
Total	63	37	100	



Figure 1:



Figure 2:



Figure 3:



Figure 4:

Figure 1: Umbilicalcord and placental membranes ; **Figure 2:** Subchorionic infiltration of neutrophils ; **Figure 3:** Band of neutrophils in the chorion; **Figure 4:** Neutrophils in the umbilical artery

DISCUSSION

Acute inflammatory lesions of the placenta have been considered to reflect the presence of amniotic fluid infection. Chorioamnionitis is the major cause of spontaneous preterm birth and other neonatal complications. [5]

Clinical profile of pregnant women Age distribution and parity of mothers: In the present study 66. 1% of patients in the age group 26 to 32 years were having either HCA or funisitis. According to the parity of mother 75. 6% of primipara cases were showing inflammatory response.

Gestational age at delivery: The mean gestational age of participants was 36. 25 weeks and the median gestational age was 37 weeks, which is similar to the study done by Mahe E *et al,* in their study the mean gestational age was 36. 4 weeks and the median gestational age was 39. 5 weeks.[6] In our study the incidence of intrapartum fever was 3% and increased WBC count of mother is 9% which is correlating with Catherin A *et al* as shown in the table.[7] In our study the incidence of uterine fundal tenderness among clinically suspected cases of chorioamnionitis is 5%, which is correlating with the study done by Smulian JC *et al.*[8] Tita A *et al* observed that maternal tachycardia occur frequently in chorioamnionitis being reported in 50-80%. Uterine fundal tenderness and foul odour of the amniotic fluid was reported in 25% of PROM cases, where as 8% of term births.[9] Park CW *et al* concluded that, there were no significant difference in parity, maternal age, and clinical chorioamnionitis with Preterm labour and PROM. Patients with preterm PROM had a significantly higher rate of intra-amniotic infection, acute HCA and acute HCA with funisitis.[10] In our study on correlating the clinical profile of cases, 68. 6% of preterm cases had HCA.

Table 6: Comparison of prevalence of HCA with clinical chorioamnionitis

Reference study	Catherine	Smulian[11]	Poposki	Present study
Clinical chorioamnionitis	46	139	57	100
Histological chorioamnionitis	40	86	32	63

In our study HCA was present in 63%, and funicitis in 57% of clinically suspected cases of chorioamnionitis.

CONCLUSION

Histopathological examination of placental membranes and umbilical cord is an accurate method to assess the presence of histological chorioamnionitis and neonatal sepsis, especially in the critical postpartal period, in order to effectively manage the conditions associated with the maternal and neonatal infections.

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Original Research Article

Screening for gestational diabetes mellitus (GDM)

Sapna H P[1], Somashekar H K[2*], Harsha T N[3]

[1]Sr. Resident, Department of OBGY, JSS Medical College, Mysore, Karnataka, INDIA.
[2]Assistant Professor, [3]Sr. Specialist, Department of OBGY, KoIMS Teaching Hospital, Madikeri, Karnataka, INDIA.
Email: somugynaec@gmail.com

Abstract

Background: The prevalence of diabetes mellitus in the World is 5.4% and in India, in adults it is found to be 2.4% in rural and 4-11.6% in urban population. It is estimated that 1 out of every 200 pregnancies is complicated by diabetes mellitus and additionally that 5 in every 200 pregnant women will develop gestational diabetes mellitus. It is important to identify a pregnant woman with gestational diabetes mellitus because Gestational Diabetes mellitus (GDM) is associated with significant metabolic alterations, increased perinatal mortality and morbidity, maternal morbidity and exaggerated long term morbidity among the mothers and their off springs. **Objective:** The objective of this study is to find out prevalence of gestational diabetes mellitus and to evaluate and compare the occurrence of GDM with and without risk factors. **Material and Methods:** Prospective study conducted among 450 pregnant women attending the OPD/admitted at a tertiary care hospital in Mysore after the approval from the institutional Ethical committee, were randomly selected according to the inclusion and exclusion criteria. **Results:** In our study 106 (23.56% patients) had positive screening for 50 gms OGCT. Out of 106 patients, 25 (23.58%) patients of screening positive patients had positive OGTT and 68% of GDM patients had risk factors. There were no risk factors noted in 32% of GDM patients and would have been missed if universal screening is not practiced. **Conclusion:** Universal screening for GDM is superior to selective (risk factor based) screening in detecting more cases, facilitating early diagnosis and is associated with improved pregnancy outcome.

Key Words: Oral glucose challenge test (OGCT); Oral glucose tolerance test (OGTT); Gestational diabetes mellitus (GDM)

Address for Correspondence
Dr. Somashekar. H. K, Assistant Professor, Department of OBGY, Kodagu Institute of Medical Sciences, Madikeri, Kodagu District, Karnataka, INDIA.
Email: somugynaec@gmail. com

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INTRODUCTION

The prevalence of diabetes mellitus in the World is 5.4%. It is estimated that 1 out of every 200 pregnancies is complicated by diabetes mellitus.[1] It is important to identify a pregnant woman with gestational diabetes mellitus because Gestational Diabetes mellitus (GDM) is associated with significant metabolic alterations, increased perinatal mortality and morbidity, maternal morbidity and exaggerated long term morbidity among the mothers and their off springs.[2,3] The screening of all pregnant women for GDM should be universal which is also recommended by the second and third international workshops on GDM and the WHO expert committee on diabetes.[4,5]

MATERIAL AND METHODS

Prospective study conducted among 450 pregnant women attending the OPD / admitted at a tertiary care hospital in Mysore after the approval from the institutional Ethical committee, were randomly selected according to the following inclusion and exclusion criteria, irrespective of risk factors.

Inclusion Criteria: All pregnant women attending antenatal clinic, of gestational age between 24 to 28 weeks.

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Exclusion Criteria: Diabetes mellitus diagnosed prior to pregnancy. All the 450 pregnant women subjected to oral glucose challenge test.

- Universal screening done by 50 gm Oral Glucose Challenge Test (OGCT) irrespective of time and meal of the study.
- If venous blood sample ≥140 mg/dl, the screening considered positive.

Table 1:

Time tested	Normal	Impaired fasting glucose or Impaired glucose Tolerance	Diabetes
Fasting	<110 mg/dl	110-125 mg/dl	≥126 mg/dl
2 hr	<140 mg/dl	140-199 mg/dl	≥ 200 mg/dl

Statistical Methods

- **All the statistical methods were carried out through the SPSS for Windows (version 16.0)**

Frequencies and percentages Crosstabs Chi-Square Test

RESULTS

Age: Chi-square revealed a significant difference in frequencies of different age groups, majority of cases were in 21-25 yrs age group (54%), followed by age group of more than 25 yrs (38.7%).

Table 2:

Age (yrs)	Total No. of Cases (450)	Percentage
≤ 20	33	7.3%
21-25	243	54.0%
26-30	105	23.4%
>30	69	15.3%
TOTAL	450	100.00%

Chi square (2) = 224.880 P value (P) =. 000 It was observed that as age increases the prevalence of GDM increases linearly. Out of 450 pregnant women screened, 192 (42.7%) were with risk factors and 258 (57.3%) were without risk factors. Among GDM cases, age > 25 years (48%) followed by obesity and family history of diabetes mellitus (28%) and past history of abortion were seen. In our study 106 (23.56% patients) had positive screening for 50 gms OGCT. Out of 106 patients, 25 (23.58%) patients of screening positive patients had positive OGTT and 68% of GDM patients had risk factors. There were no risk factors noted in 32% of GDM patients and would have been missed if universal screening is not practiced.

Gravidity: Almost equal number of cases are there in the study population, Primigravida (50.2%) and Multigravida (49.8%), Difference is not statistically significant (P=. 925). Higher number of GDM cases are in Multigravida (64%) as compared to Non-GDM cases (48.9%) is observed in our study.

Table 3:

Gravidity	GDM cases (25)		
	No.	%	No.
Primigravida	9	36%	217
Multigravida	16	64%	208
Total	25	100%	425

CC = 0.069, P =0.143

OGTT and RISK FACTORS: Out of 450 women studied 25 were diagnosed as GDM as per Carpenter and Coustan's criteria. Out of 25 cases, 17 cases (68%) are having risk factors and 8 cases (32%) are without risk factors.

Table 4:

OGTT test	Risk factors		Total
	Present	Absent	
Normal (negative)	175 (41.2%)	250 (58.8%)	425 (100%)
Abnormal (positive)	17 (68%)	8 (32%)	25 (100%)
Total	192 (42.7%	258 (57.3%)	450 (100%)

CC = 0.123, P =.008

Complications in current pregnancy and delivery: Pre-eclampsia is the common complication, 7 cases (28%) in the GDM group followed by 6 cases (24%) of hydramnios compared to Non-GDM cases where 41 cases of pre-eclampsia (9.64%), followed by 14 cases (3.29%) of hydramnios (3.29%) which is a statistically significant difference ($p<0.05$). Other complications are also more in GDM cases like preterm labour (12%),infections (16%), IUD (8%), still birth (4%) shoulder dystocia (12%), with a statically significant ($P<0.05$) except for preterm labour, still birth and oligohydraminos, for which the difference is not statistically significant.

Table 5:

Complications	Study population (450)			
	No	%	χ^2	P
Hydramnios	20	4.44%	373.556	0.000
Preterm labour	29	6.44%	341.476	0.000
Preeclampsia	48	10.66%	278.480	0.000
IUD	6	1.33%	426.320	0.000
Infections	9	2%	414.720	0.000
Still birth	4	0.88%	434.142	0.000
Shoulder dystocia	10	2.22%	410.889	0.000
Oligohydramnios	17	3.77%	384.509	0.000

Neonatal Complications in study population: 8 cases (32%) of Macrosomia seen in GDM group compared to 13 cases (3%) in Non-GDM group which is a statistically significant. All other neonatal complications are more in GDM group i.e. Hypoglycemia (12%), RDS (12%),

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Congenital anomaly (8%) compared to Non-GDM group with a statistically significant difference,($P<0.05$) except L.B.W. and Hyperbilirubinemia which is not statistically significant.

Table 6:

Neonatal complication	Study population (450)			
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Macrosomia	21	4.66%	369.920	.000
Low birth weight	34	7.55%	324.276	.000
Hyperglycemia	7	1.55%	422.436	.000
Hypocalcemia	0	0%	0	.000
RDS	10	2.22%	410.889	.000
Hyperbilirubinemia	11	2.44%	407.076	.000
Congenital anomaly	5	1.11%	430.222	.000

DISCUSSION

Prevalence of the GDM in our study is 5.5% which is comparable to Kumar *et al.*,[4] and Vitorattos *et al.*,[5] studies. Of the 450 screened women,192 had risk factors, and the commonest risk factor were age >25 yr (38%), similarly this is the commonest risk factor in Jindal A *et al.*,[6] and Dixon DRD *et al.*,[7] Out of 450 women screened with GCT (cut of value ≥140 mg/dl) 106 cases (23.56%) found to be screen positive in our study, which is comparable to the Jindal *et al.*,[6] and Dixon DRD *et al.*,[7] There were 25 cases diagnosed of GDM in our study. Of them 17 cases(68%) are with one or other risk factors and 8 cases(32%) are without risk factor. If selective screening is done, then these 8 cases (32%) would have been missed as they have no risk factors. the percentage of cases missed if selective screening is used is comparable to other studies as shown in table. Our study support the concept of universal screening.

Table 7:

Studies	Percentage of patients missed in selective screening
Bhattacharya *et al.*,[7]	33.3%
Baliutaviciese D *et al.*,[11]	23.13%
Wagaarachchi.T *et al.*,[12]	40%
Coustan *et al.*,[10]	35%
Present study	32%

CONCLUSION

Universal screening for GDM is superior to selective (risk factor based) screening in detecting more cases, facilitating early diagnosis and is associated with improved pregnancy outcome.

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Dr. Harsha

CASE REPORT

Heterotopic Pregnancy Following Spontaneous Conception: A Rare Case Report

H P Sapna, T N Harsha

ABSTRACT

Heterotopic pregnancy in natural conception is quite rare and most often presents as a life-threatening emergency like acute abdomen and hemorrhagic shock. In early unruptured stage, it presentation is nonspecific mimicking normal and abnormal pregnancy. A high index of suspicion and a definitive search for it even after confirming normal intrauterine gestation is needed. This little effort ensures a timely diagnosis and management thus preventing catastrophe. We hereby report a rare case of multigravida with unruptured heterotopic pregnancy following a spontaneous conception, who presented to us with nonspecific abdominal pain.

KEY WORDS: Ectopic pregnancy, heterotopic pregnancy, natural conception, transabdominal and transvaginal ultrasonography.

Introduction

Heterotopic pregnancy is quite rare following spontaneous conception. According to Peleg *et al.*, It is defined as the presence of intrauterine and extrauterine gestation.[1] Extrauterine being commonly seen in the fallopian tube and uncommon being cervix[2] and or ovary.[3] The incidence of heterotopic pregnancy is very low. The incidence was originally estimated on a theoretical basis to be 1 in 30,000 pregnancies. However, recent data indicate that the rate is higher due to assisted reproductive techniques and it is approximately found to be 1 in 7000 overall and is as high as 33/10000 with ovulation induction.[4]

Below is a unique case history of heterotopic pregnancy in a clinically stable patient without any risk factors which was picked up by ultrasonography. This case report stresses the importance of holistic approach and thorough ultrasonography in managing these types of patients.

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Case Report

Gravida 4 para 3 living 3 with 2½ months of amenorrhea came with severe pain abdomen of 2 days duration. Vitals were stable. Per abdomen tenderness was noted in the lower abdomen. No guarding/rigidity noted. Per speculum - cervix and vagina healthy, no active bleeding noted. Per vaginal examination-cervical motion tenderness+, uterus bulky in size, non-tender, right fornicial fullness+, tenderness+, left fornix free and non-tender. Urine pregnancy test was found to be positive.

Transabdominal scan revealed single live right tubal pregnancy of 7 weeks 6 days with minimal free fluid in pouch of Douglas with a single intrauterine gestational sac of 17 mm noted without yolk sac and fetal pole (Figure 1). Transvaginal scanning (TVS) was done to confirm the same. The Doppler study of the right adnexal mass showed low resistance flow. Blood investigations done which revealed were all within normal limits with Hb 11.6 g/dl.

A provisional diagnosis of heterotopic pregnancy with unruptured right ectopic pregnancy was made. The patient was taken for emergency laparotomy as laparoscopy was not available in our center and was found to have an unruptured right sided ampullary tubal pregnancy with minimal hemoperitoneum. Right sided salpingectomy (Figure 2) and left sided tubectomy were done. The intrauterine gestation was allowed to continue as the patient did not agree

[1]Senior Resident, Department of OBG, JSS Medical College & Hospital, Mysuru, [2]Consultant Gynaecologist, Department of OBG, District Hospital, Madikeri

Address for correspondence:

Dr. Sapna H P, #268/C 'Shivasadana', 7th Cross Road, 3rd Stage, Gokulam, Mysuru - 570002, Karnataka, India.

E-mail: sapna.prabhu@gmail.com

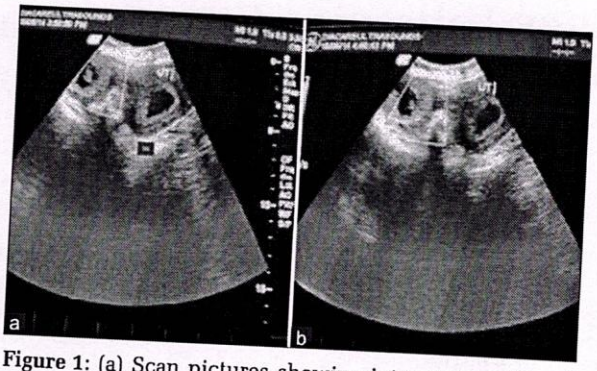


Figure 1: (a) Scan pictures showing intrauterine, (b) and extra uterine (tubal) pregnancy

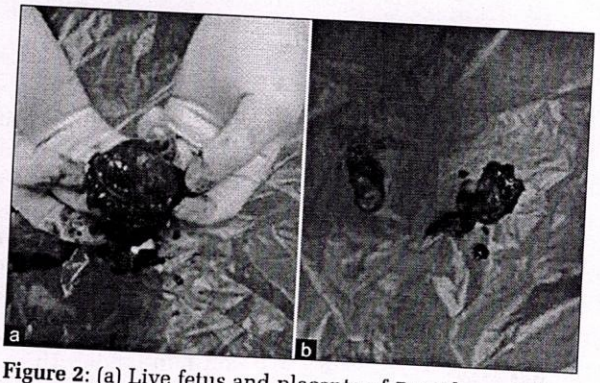


Figure 2: (a) Live fetus and placenta of 7 weeks gestation, (b) after removal (ectopic pregnancy)

for termination by evacuation even after thorough counseling but later after 15 days she spontaneously aborted.

Discussion

The early diagnosis of heterotopic pregnancy is quite challenging because of the lack of clinical symptoms and signs as well as diagnostic confusion with other early pregnancy issues.[5]

With an increase in trend of assisted reproductive techniques, there is an increase in assisted conception, the likelihood of detecting heterotopic pregnancy following assisted conception will increase, but spontaneous heterotopic pregnancy remains a diagnostic dilemma and a challenge for gynecologists. Laparoscopy has been found to be useful for the early diagnosis of heterotopic pregnancy and has resulted in good surgical outcomes.

There are various risk factors for heterotopic pregnancy, like history of previous tubal damage (after previous tubal surgery endometriosis, endometriosis or pelvic inflammatory disease), previous ectopic pregnancy and assisted reproductive techniques (pharmacological ovulation stimulation, *in-vitro* fertilization, gamete intrafallopian transfer). There are also few cases which have been reported in a natural cycle.[6] In our case study except for multigravida, there were no other risk factors.

Heterotopic pregnancy can has various presentations. It has to be considered more likely (a) after assisted reproduction techniques, (b) with persistent or rising human chorionic gonadotropin levels after dilatation and evacuation for an induced/spontaneous abortion, (c) when the uterine fundal height is larger than that for her menstrual dates, (d) when there is more than one corpus luteum present in a natural conception, and (e) when a vaginal bleeding is absent with the presence of signs and symptoms of ectopic gestation.[7]

The clinical presentation of an unruptured heterotopic pregnancy is highly nonspecific and is variable. The common presenting symptoms and signs are pain abdomen, adnexal mass, peritoneal irritation and an enlarged uterus.[8] Heterotopic pregnancy is likely to be missed in natural conception unless a sonologist is aware of and carefully screens the tubes and pelvis. If overlooked, it may present with rupture and acute abdominal syndrome, which can lead to maternal shock and death. Our patient just had non-specific pain abdomen and without any other manifestations.

Transvaginal ultrasonography is an important aid in the diagnosis of heterotopic pregnancy but ultrasonographic findings such as extrauterine gestational sac with fetal cardiac activity, fetal node and hyperechogenic ring surrounding the gestational sac and adnexal mass points towards tubal heterotopic pregnancy.[9] Any Suspected adnexal masses have to be investigated by Doppler ultrasound to improve its sensitivity and specificity. Our case study was diagnosed by ultrasonography based on her clinical symptom of pain abdomen.

The heterotopic pregnancy can be managed by various methods. First being few cases may spontaneously resolve without any intervention.[10] However, there are no clear guidelines for the same. The second one being medical treatment, i.e. potassium chloride or hyperosmolar glucose has to be injected locally to the intact heterotopic gestational sac or fetus via

laparoscopy or TVS.[11] These two options are useful in very few cases. The last option being surgical removal of the ectopic gestation by salpingectomy or salpingostomy which is the most common mode of treatment. Laparotomy was widely used in the past, but laparoscopy is now being preferred due to early post-surgical recovery.[12] However, a laparotomy may be preferred in cases with serious intraabdominal bleeding or in patients with hemorrhagic shock.

Our patient though was clinically stable was subjected to emergency laparotomy and was found to have a right sided unruptured tubal ectopic pregnancy with minimal hemoperitoneum so was further proceded with right sided total salpingectomy and left sided tubectomy. Her intrauterine pregnancy was allowed to continue as per patients request.

The sonologists have to be very keen in screening the adnexa even after they find the intrauterine gestational sac because in the busy schedule one has the tendency to miss the adnexal pathology once intrauterine pregnancy has been diagnosed.

Conclusion

Heterotopic pregnancy though extremely rare can occur even in spontaneous conception. Hence, It requires a high index of suspicion for early and timely diagnosis and management. A timely intervention can result in a successful intrauterine fetus, thus preventing a catastrophe like tubal rupture and hemorrhagic shock which can be life threatening.

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Original Research Article

Screening for gestational diabetes mellitus (GDM)

Sapna H P[1], Somashekar H K[2*], Harsha T N[3]

[1]Sr. Resident, Department of OBGY, JSS Medical College, Mysore, Karnataka, INDIA.
[2]Assistant Professor, [3]Sr. Specialist, Department of OBGY, KoIMS Teaching Hospital, Madikeri, Karnataka, INDIA.
Email: somugynaec@gmail.com

Abstract

Background: The prevalence of diabetes mellitus in the World is 5.4% and in India, in adults it is found to be 2.4% in rural and 4-11.6% in urban population. It is estimated that 1 out of every 200 pregnancies is complicated by diabetes mellitus and additionally that 5 in every 200 pregnant women will develop gestational diabetes mellitus. It is important to identify a pregnant woman with gestational diabetes mellitus because Gestational Diabetes mellitus (GDM) is associated with significant metabolic alterations, increased perinatal mortality and morbidity, maternal morbidity and exaggerated long term morbidity among the mothers and their off springs. **Objective:** The objective of this study is to find out prevalence of gestational diabetes mellitus and to evaluate and compare the occurrence of GDM with and without risk factors. **Material and Methods:** Prospective study conducted among 450 pregnant women attending the OPD/admitted at a tertiary care hospital in Mysore after the approval from the institutional Ethical committee, were randomly selected according to the inclusion and exclusion criteria. **Results:** In our study 106 (23.56% patients) had positive screening for 50 gms OGCT. Out of 106 patients, 25 (23.58%) patients of screening positive patients had positive OGTT and 68% of GDM patients had risk factors. There were no risk factors noted in 32% of GDM patients and would have been missed if universal screening is not practiced. **Conclusion:** Universal screening for GDM is superior to selective (risk factor based) screening in detecting more cases, facilitating early diagnosis and is associated with improved pregnancy outcome.
Key Words: Oral glucose challenge test (OGCT); Oral glucose tolerance test (OGTT); Gestational diabetes mellitus (GDM)

Address for Correspondence
Dr. Somashekar. H. K, Assistant Professor, Department of OBGY, Kodagu Institute of Medical Sciences, Madikeri, Kodagu District, Karnataka, INDIA.
Email: somugynaec@gmail. com
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INTRODUCTION

The prevalence of diabetes mellitus in the World is 5.4%. It is estimated that 1 out of every 200 pregnancies is complicated by diabetes mellitus.[1] It is important to identify a pregnant woman with gestational diabetes mellitus because Gestational Diabetes mellitus (GDM) is associated with significant metabolic alterations, increased perinatal mortality and morbidity, maternal morbidity and exaggerated long term morbidity among the mothers and their off springs.[2,3] The screening of all pregnant women for GDM should be universal which is also recommended by the second and third international workshops on GDM and the WHO expert committee on diabetes.[4,5]

MATERIAL AND METHODS

Prospective study conducted among 450 pregnant women attending the OPD / admitted at a tertiary care hospital in Mysore after the approval from the institutional Ethical committee, were randomly selected according to the following inclusion and exclusion criteria, irrespective of risk factors.

Inclusion Criteria: All pregnant women attending antenatal clinic, of gestational age between 24 to 28 weeks.

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Exclusion Criteria: Diabetes mellitus diagnosed prior to pregnancy. All the 450 pregnant women subjected to oral glucose challenge test.

- Universal screening done by 50 gm Oral Glucose Challenge Test (OGCT) irrespective of time and meal of the study.
- If venous blood sample ≥140 mg/dl, the screening considered positive.

Table 1:

Time tested	Normal	Impaired fasting glucose or Impaired glucose Tolerance	Diabetes
Fasting	<110 mg/dl	110-125 mg/dl	≥126 mg/dl
2 hr	<140 mg/dl	140-199 mg/dl	≥ 200 mg/dl

Statistical Methods

- **All the statistical methods were carried out through the SPSS for Windows (version 16.0)**

Frequencies and percentages Crosstabs Chi-Square Test

RESULTS

Age: Chi-square revealed a significant difference in frequencies of different age groups, majority of cases were in 21-25 yrs age group (54%), followed by age group of more than 25 yrs (38.7%).

Table 2:

Age (yrs)	Total No. of Cases (450)	Percentage
≤ 20	33	7.3%
21-25	243	54.0%
26-30	105	23.4%
>30	69	15.3%
TOTAL	450	100.00%

Chi square (2) = 224.880 P value (P) =. 000 It was observed that as age increases the prevalence of GDM increases linearly. Out of 450 pregnant women screened, 192 (42.7%) were with risk factors and 258 (57.3%) were without risk factors. Among GDM cases, age > 25 years (48%) followed by obesity and family history of diabetes mellitus (28%) and past history of abortion were seen. In our study 106 (23.56% patients) had positive screening for 50 gms OGCT. Out of 106 patients, 25 (23.58%) patients of screening positive patients had positive OGTT and 68% of GDM patients had risk factors. There were no risk factors noted in 32% of GDM patients and would have been missed if universal screening is not practiced.

Gravidity: Almost equal number of cases are there in the study population, Primigravida (50.2%) and Multigravida (49.8%), Difference is not statistically significant (P=. 925). Higher number of GDM cases are in Multigravida (64%) as compared to Non-GDM cases (48.9%) is observed in our study.

Table 3:

Gravidity	GDM cases (25)		
	No.	%	No.
Primigravida	9	36%	217
Multigravida	16	64%	208
Total	25	100%	425

CC = 0.069, P =0.143

OGTT and RISK FACTORS: Out of 450 women studied 25 were diagnosed as GDM as per Carpenter and Coustan's criteria. Out of 25 cases, 17 cases (68%) are having risk factors and 8 cases (32%) are without risk factors.

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Original Research Article

Tablet misoprostol as a cervical priming agent prior to surgical abortion

Vijaya Manohar Revankar[1]*, Harsha T. N.[2]

[1]Department of Obstetrics and Gynecology, KMC, Mangalore, Manipal University, Karnataka, India
[2]Department of Obstetrics and Gynecology, Government Hospital, Madikeri, Karnataka, India

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***Correspondence:**
Dr. Vijaya Manohar Revankar,
E-mail: vijaya.manohar.revankar@gmail.com

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ABSTRACT

Background: Every effort to promote effective contraceptive methods as well as emergency contraception is being made, still there would be a need and place for termination of pregnancy. Objective of present study was to evaluate and to know the efficacy and adverse effects of tablet misoprostol 400 micro gram as a cervical priming agent administered either by oral or vaginal route, 3 hours before MTP.
Methods: Prospective randomized not blinded study carried out for two years at Government Tertiary care level hospital, OBG Department, Mangalore on 100 women with gestational age up to 12 weeks requesting for surgical abortion.
Results: In both the groups there was no significant statistical difference with respect to age (p=0.44), parity and gestational age (p=0.59). With respect to baseline cervical dilatation significant statistical difference was not observed in both the groups. Baseline dilatation of the cervix was 8.0 mm versus 8.2 mm (p value=0.55). Baseline cervical dilatation was ≥7mm in 90% of women when tab misoprostol was given by oral route and 94% with vaginal route. There was no significant statistical difference with respect to side effects (p value>0.05) except nausea (p=0.01) found in both the groups. Gastro Intestinal side effects were more in oral misoprostol group, but it was not statistically significant.
Conclusions: Oral route is an effective alternative to vaginal route. Oral route is preferred over vaginal route because women can do self-administration at home and there was no internal examination discomfort.

Keywords: Cervical dilatation, Cervical priming, Misoprostol, Surgical abortion

INTRODUCTION

Every effort to promote effective contraceptive methods as well as emergency contraception is being made, still there would be a need and place for termination of pregnancy. One of the most import events in woman's life is child bearing and surely women would like to decide how many and when she should have children. Many contraceptive methods are now available to help her to meet her requirement. But contraceptive methods do fail sometimes, and then women find herself with an unwanted pregnancy. MTP act has legalized termination of such unwanted pregnancy in India in 1971.

The method generally used to do early abortion is mechanical dilatation of cervix followed by suction evacuation or dilatation and curettage. With surgical methods common complications associated with mechanical dilation are cervical laceration, uterine perforation, cervical incompetence and recurrent abortions.[1,2] Therefore, there is overwhelming urge to find a reliable and easier method for cervical dilatation.

The complications of surgical abortion were less when cervix was primed before surgical abortion. The RCOG also recommends cervical priming is useful before surgical abortion when the pregnant women are less than 18 years and pregnancy was more than 10 weeks.[3] Various studies conducted to search for appropriate technique and drugs for cervical priming, which should be cheap, easily available with minimal or no complications. At present a synthetic analogue of PGE_1 that is misoprostol is more useful as a cervical priming agent since it is freely available, no need to freeze it, ease of administration and cheap.[4,5]

Therefore, the purpose of this study was to use tab misoprostol 400 micro gram for priming of the cervix before MTP upto 12 wks.

METHODS

Prospective randomised not blinded study done at Govt. Tertiary Care Level Hospital, Mangalore Karnataka for two years.

Inclusion criteria

- Pregnant women upto 12 weeks of gestation for surgical abortion.

Exclusion criteria

- History of Heart disease
- History of Allergy to prostaglandins.

Period of gestation was calculated from LMP and confirmed by internal examination and if required by USG. Written informed consent, detailed history and examination was done. 100 pregnant women, were given tab. Misoprostol 400 microgram 3 hours prior to surgical abortion. 50 women were given orally and 50 women received tab Misoprostal vaginally. Dilatation and curettage was done under IV sedation. Dilation of the cervix was assessed by passing Hegar's dilator to start with number 12 size and the dilator which was passed through the os without any resistance was considered as baseline dilatation. Non-sensitized Rh-negative women were given 50 microgram Anti D injection intramuscularly. All adverse effects were noted.

Statistical analysis

Results were analyzed using SPSS version by Chi Square test, Fisher's exact test, ANOVA (Analysis of Variance). If p value was <0.05 it was considered statistically significant.

RESULTS

It is observed that in oral group, majority of patients 22 (40%) were 26-30 years, followed by 14 (28%) in 21-25 years. In vaginal group, majority of patients 20 (40%) in21-25 years, followed by 17 (34%) in26-30 years.

Table 1: Mean age with standard deviation.

Group	Mean age (yrs)	SD	t value	p value
Oral	28.16	5.32	0.77	0.443 NS
Vaginal	27.36	5.06		

Mean age of the patients were 28.16 and 27.36 years for oral and vaginal groups respectively, which is not statistically significant difference (t=0.77, p=0.443). (Table 1).

Table 2: Mean period of gestation (weeks) with standard deviation.

	Mean GA	Standard deviation	t	p
Oral (n=50)	8.03	2.06	0.545	0.587 NS
Vaginal (n=50)	8.08	1.97		

Distribution of patients according to gestational age is comparable in both the groups, majority of them 22 (44%) in the gestational age <8 weeks followed by 8-10 wks. Mean period of gestation is 8.03 and 8.08 weeks in oral and vaginal groups respectively, which is not statistically significant (p value= 0.545, p=0.587) (Table 2).

Distribution of patients according to gravidity is comparable in both groups. Majority of them were gravida 3.

Table 3: Distribution of patients according to cervical dilation (CD) (mm).

CD (mm)	Group				Total
	Oral (N=50)		VAG (N=50)		
	N	%	N	%	
3	2	4	0		2
4	3	6	1	2	4
5	0		2	4	2
7	8	16	9	18	17
8	21	42	20	40	41
9	6	12	9	18	15
10	8	16	8	16	16
12	2	4	1	2	3
	50		50		100

Distribution of patients according to cervical dilatation is comparable in both the groups. Majority of the patients had cervical dilatation of 8mm both in oral (42%) and vaginal group (40%) followed by 7mm (oral 16%, vaginal 18%) and 9 mm (Oral 12%, vaginal 18%) (Table 3).

Fong et al showed that misoprostol tablet given 3 hours before suction aspiration was sufficient for pretreatment dilatation of cervix (Table 7).[6]

In present study, majority of the women in the oral misoprostol group were 26-30 years and 21-25 years in vaginal misoprostol group. The mean age was 28.2 and 28.4 respectively (p=0.44), which is comparable to Oppegaard K et al, Lawrie et al and MacIsaac L et al studies.[7-9] But the mean age in Ashok PW et al and Ngai et al is not comparable because they selected only nulligravidae (Table 8).[10,11]

Table 8: Comparison of the age with other studies, values in mean (SD).

	Group			
	Oral		Vaginal	
	n	(Mean age years)	N	(Mean age years)
Present study.	50	28.2 (5.3)	50	27.4 (5.1)
Ashok et al, University Aberdeen, U.K.	32	20.1 (4.5)	32	20.4 (5.1)
Ngai SW et al, Queen Mary Hospital University of Honkong	40	23.4 (6.0)	37	22.2 (4.7)
Lawrie A et al, Aberdeen Maternity Hospital, U.K.	28	25.5 (16-40)	30	26.4 (17-37)
Oppegaard K et al, Ulleval University Hospital, Norway	158	27.7 (6.9)	163	28.1 (6.2)
Maclsaac L et al, University of California, California	45	23.0 (16-39)	47	25.0 (16-43)

Table 9: Comparison of mean cervical dilation (mm) with other studies.

Group	Ashok PW et al	Ngai SW et al	Lawrie A et al	Oppegard K et al	Present study	Fong YF et al
Oral	7.0	7.2	6.9	6.2	8.0	-
Vaginal	7.0	6.8	7.0	6.5	8.2	8.2
'p' value	P=0.87					

Table 10: Comparison of side effects experienced by patients with other studies, values in percentage.

	Ashok PW et al			Ngai SW et al		Present study		
	Oral	Vaginal	Odds ratio	Oral	Vaginal	Oral	Vaginal	Odds ratio
Nausea	56	25	3.86	5	0	44	20	0.01 sig
Vomiting	6	6	0.97	0	0	6	0	0.24 ns
Diarrhea	12	0	0.47	0	0	10	0	0.06 ns
Abdominal pain	69	62	1.21	20	21	70	56	0.15 ns
Vaginal bleeding	25	34	0.6	13	14	36	40	0.68 ns

Mean cervical dilatation in our study was slightly more than that of Ashok PW et al and Ngai SW et al.[10,11] No significant statistical difference was found in both groups of tablet misoprostol. Mean cervical dilatation in various studies ranges from 6.2 to 8.2mm (Table 9).

Tab misoprostol 400 microgram was given 3 hours prior to surgical abortion in both groups in present study, Ashok PW et al and Ngai SW et al where as it was 12 hours (oral group) and 3 hours (vaginal group) in Lawrie et al and Oppegaard K et al.[7,11] There was a satisfactory preoperative cervical dilatation of ≥7 mm.[11,8] In current study, 90% in oral route group and 94% in vaginal route group had preoperative satisfactory dilatation of cervix ≥7mm (Table 10). In present study nausea, vomiting, diarrhea and abdominal pain were more in oral than vaginal group but statistically not significant (p>0.05) except nausea which is statistically significant (p=0.01).

Vaginal bleeding and shivering is slightly more in vaginal group than oral but there was no significant statistical difference (p>0.05). Present study was comparable with Ashok PW et al. However, studies of Lawrie A et al, Carbonel JL et al and Oppegaard et al and women in the Lawrie et al, study experienced severe pain and excessive bleeding preoperatively and incomplete abortion compared to vaginal route, as pretreatment interval was 12 hours (oral) and 3 hours (vaginal) with 400 microgram

Table 4: Mean and median cervical dilation (mm) with standard deviation/range.

	Mean (mm)	Standard deviation	Median (mm)	Range (mm)	T	P
Oral (n=50)	8.0	1.90	8.0	3-12	0.598	0.551 NS
Vaginal (n=50)	8.2	1.41	8.0	4-12		

Mean cervical dilatation in mm was 8.0 (1.9) and 8.2 (1.4) in oral and vaginal group respectively, which is not a statistically significant difference (t=0.598, p=0.55) (Table 4).

Table 5: Distribution of gestational age and mean cervical dilation (mm)–MCD.

Gestational age (wks)	Group					
	Oral (n=50)			Vaginal (n=50)		
	N	MCD	SD	N	MCD	SD
< 8	22	7.68	1.86	22	7.81	0.96
8 to < 10	17	8.11	1.83	15	8.26	1.62
10 – 12	11	8.45	2.11	13	8.76	1.69
P value		0.53 NS			0.16 NS	
	50	8	1.9	50	8.2	1.41

In oral misoprostal group, mean cervical dilatation was 8.45mm in patients with gestational age 10-12 weeks followed by 8.11 mm in 8-10 weeks and 7.68 mm in <8 weeks of period of gestation. Significant statistical difference was not seen (p=0.53).

Similarly, in vaginal group, mean cervical dilation was 8.76 mm in patients gestational age 10-12 weeks followed by 8.26mm in 8 - 10 weeks and 7.81 mm in <8 weeks of gestation (p=0.16). Significant statistical difference was not seen (Table 5).

GI side effects were more with oral misoprostol than vaginal misoprostol as shown in the table, but not statistically significant (p value >0.05) except nausea for which the difference is significant (p=0.01).

Table 6: Distribution of patients according to side effects.

Side effects	Group				Odds ratio	95% confidence interval	Chi square value (x^2)	'p' value
	Oral (50)		Vaginal (50)					
	N	%	N	%				
Nausea	22	44	10	20	0.32	0.13-0.76	6.62	0.01 NS
Vomiting*	3	6	0	0	0.49	0.40-0.60	*	0.24 NS
Diarrhea*	5	10	0	0	0.47	0.38-0.59	*	0.06 NS
Abdominal pain	35	70	28	56	0.55	0.24-1.20	2.10	0.15 NS
Vaginal bleeding	18	36	20	40	0.19	0.53-2.66	0.17	0.68 NS
Shivering	3	6	1	2	0.32	0.03-3.18	1.04	0.31 NS
Fever	2	4	2	4	1.00	0.14-7.40	0	1 NS
Total	50		50		*Fishers exact test			

Vaginal bleeding and shivering is slightly more in vaginal group than oral but there was no statistical significant difference found (p value >0.05) (Table 6).

DISCUSSION

In present study, we have selected pretreatment interval of 3 hours. Since when tablet misoprostol was given orally the plasma concentration increased rapidly and reached peak value between 12.5 minutes to 60 minutes and decreased steeply by 120 minutes and remained at lower concentration whereas when the same tablet was kept inside the vagina the peak level of the drug achieved between 60-120 minutes and decreased slowly.[5]

Table 7: Comparison of patients with respect to age, period gestation, parity and cervical dilation.

	Oral group (n=50)	Vaginal group (n=50)	P value
Age (years)	28.2 (5.3)	27.4 (5.1)	P-0.44 NS
Gestation (weeks)	8.0 (2.1)	8.1 (2.0)	P-0.59 NS
Primigravidae: n (%)	3 (6%)	3 (6%)	-
Multigravidae: n (%)	47 (94%)	47 (94%)	-
Cervical dilation (mm)	8.0 (1.9)	8.2 (1.4)	P-0.55 NS

misoprostol.[7] In Carbonel JL et al study oral group experienced more gastrointestinal side effects as they gave 400 microgram misoprostal 8 hrs prior to surgical abortion in oral group, in contrast to 2-4hrs in vaginal group.[12]

Present study has showed that oral tab misoprostol 400 micrograms given orally 3 hours before surgical abortion has similar efficacy and no significant difference in the side effects compared to vaginal misoprostol with same pretreatment interval.

CONCLUSION

Present study concluded that either oral or vaginal tab misoprostol 400 microgram given 3 hours before as a priming agent was resulted in effective dilatation of the cervix. Oral route is an effective alternative to vaginal route. Oral route is preferred over vaginal route because women can do self-administration at home and there was no internal examination discomfort. For doctors and Nursing staff it reduces the work load especially in day care settings.

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Original Research Article

A study of maternal near miss at a district teaching hospital: a retrospective observational study

Manjunatha S., Harsha T. N.*, Damayanthi H. R.

Department of Obstetrics and Gynecology, Kodagu Institute of Medical Sciences Teaching Hospital, Madikeri, Karnataka, India

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***Correspondence:**
Dr. Harsha T. N.,
E-mail: drharsha.tn@gmail.com

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ABSTRACT

Background: Maternal health is an integral part of health care system. Maternal mortality is an indicator of maternal health and health care delivery system. Severe morbid conditions require comprehensive approach. Hence the concept of Maternal Near Miss (MNM) has emerged. The data of maternal near miss helps to reduce the maternal death and helps to achieve the goals related to reduce the maternal mortality rate of the country as well as the world and to improve the quality of life of the woman population by a quality care. Objectives of present study were to identify and analyze the strategies undertaken in the management of maternal near miss and outcome, measures to improve the quality of care and to assess the various indicators of MNM.

Methods: With the permission from the hospital administrators and after taking the ethical clearance from the institutional ethical committee, a retrospective observational study was conducted for the period of one year between January 2016 to December 2016 at district teaching hospital of Kodagu Institute of Medical Sciences, Madikeri, by collecting data from hospital records. Admissions to the ICU as well as wards which fit in to the WHO maternal near miss criteria were included and studied.

Results: WHO criteria for the MNM was followed. In present study, there were 25 MNM cases and four Maternal Deaths out of 3347 live births giving a maternal mortality ratio of 119/100000 live births (LB), Maternal Near Miss ratio of 7.46/1000LB, MNM:1MD ratio is 6.25 and mortality index (MI) is 13.79%. Twenty five cases of obstetric emergencies with serious concerns for maternal health were selected out of 97 cases who met the WHO criteria for MNM (25.77%). Twelve cases (48%) received multiple blood-transfusions, 8 cases (32%) of sepsis, 7 (28%) of PPH, and 5 (20%) of hypertensive disorder of pregnancy (pre-eclampsia, eclampsia). There were 12 cases (48%) that had more than one inclusion criteria. Surgical intervention was required in 8 (32%) i.e. 2 peripartum hysterectomies, 2 laparotomies, 1 manual removal of placenta, 1 uterine reposition and 2 traumatic PPH repair.

Conclusions: Maternal-Near-Miss (MNM/SAMM) and its relation to maternal mortality contribute as sensitive measures of pregnancy outcome than mortality alone. Proper documentation is of paramount importance in analysis of data, to make conclusions and recommendation. Prospective structured study is required to get a clear picture and to suggest corrective measures which can be taken as far as obstetric care is concerned, to reduce maternal mortality and to achieve the sustainable developmental Goal (SDG) of maternal mortality ratio <70/100000 LB by 2030.

Keywords: Maternal near miss, Maternal mortality, Severe acute maternal morbidity

INTRODUCTION

Maternal mortality data in practical terms is the tip of an iceberg and the maternal near miss data is invisible and which is very important tool to reduce the maternal mortality. Knowing the causes for the maternal death and analysing the modes of treatment which followed to save the life of pregnant women is an important tool which constitutes the maternal near miss cases. Process of pregnancy and labour is considered to be another birth to

women. Providing the good health care and managing the complications due to childbirth is an at most important challenge in present scenario of the healthcare system. Every woman can experience sudden and unexpected complications during pregnancy, child birth and just after delivery. Survival of a pregnant woman is dependent on the disease, her basic health, the health care facilities and the personnel of the health care.

Maternal mortality is one of the important indicators used for the measurement of maternal health. Improvement of maternal health is one of the millennium development goals, MDG 5 with Target 5 A that calls for the reduction of maternal mortality ratio by three quarters (75%) between 1990 and 2015. Since 1990, though maternal deaths world-wide have dropped by 47%, the number of maternal deaths in developing countries remains high. The global maternal mortality ratio is 210/100,000 births while it is about 240 in developing countries as compared to 14/100,000 in developed countries. India has also reported a decline from 437/100000 LB in 1990-991 to 178/100000 LB in 2010-12.[1,2]

To overcome this challenge, severe acute maternal morbidity (SAMM) and now called Maternal Near Miss (MNM) and its review is introduced in maternal health care to complement information obtained with review of maternal deaths.

Auditing maternal deaths is an approach commonly used for assessing the quality of care in order to address any identified weakness or failure within the system and take corrective action. Studying cases of women who nearly died but survived a complication during pregnancy, childbirth or postpartum are increasingly recognized as a useful means to examine the quality of obstetric care.[3]

Maternal Near Miss defined variously over years. First to use the term defined Near miss morbidity a narrow category of morbidity encompassing potentially life threatening episodes.[4] A Near miss describes a patient with an acute organ system dysfunction, which if not treated appropriately could result in death.[5] All- women admitted for ICU in pregnancy or up to 42 day postpartum are considered as near-miss maternal mortality.[6] Severe Acute Maternal Morbidity (SAMM) also known as "near-miss" case means a woman with organ dysfunction or failure who would have died had it not been that luck or good care was on her side. A near-miss case was defined as "any pregnant or recently delivered or aborted woman whose immediate survival is threatened and who survives by chance or because of the hospital care received.[7] A near-miss case was defined as "any pregnant or recently delivered or aborted woman whose immediate survival is threatened and who survives by chance or because of the hospital care received.[8] There were some controversies on the definitions because of the differences in availability health facilities between developed and developed countries. On clarity WHO standardised the definition of the maternal near miss as a woman who nearly died but survived a complication that occurred during pregnancy, childbirth or within 42 days of termination of pregnancy and has given the criteria for maternal near miss.[1] MOHFW Govt. of INDIA: defines a MNM case as a woman who survives life threatening conditions during pregnancy, abortion, and childbirth or within 42 days of pregnancy termination, irrespective of receiving emergency medical/surgical interventions.[2]

Maternal near miss shares same pathway and pathological processes as maternal death. Also, the major reasons and causes are same for both, so review of Maternal near miss cases is likely to yield valuable information regarding severe morbidity, which, if untreated may lead to maternal death.

The data, statistics and strategies of MNM is the need of hour to reduce the maternal mortality and to improve the maternal health. Present study is taken up to draw the current MNM data in our teaching hospital by which adopting and improving the treatment strategies for reducing the maternal mortality to achieve the sustainable developmental goal by 2030.

METHODS

A Retrospective observational study was conducted after taking the permission from the hospital administrators and after the approval from the institutional Ethical committee. The case sheets of 3347 cases between the period January 2016 and December 2016 collected from the hospital Medical records and studied. Data was analysed in terms of obstetric emergencies (pre-eclampsia, eclampsia, ante partum haemorrhage, post partum haemorrhage, ectopic pregnancy etc.) and their management medically and surgically, antenatal and postnatal cases, parity, gestational age ≤34weeks to 40 weeks, registration of cases (booked, unbooked and referred cases), modes of delivery(vaginal, Caesarean, home), duration of hospital stay (≤24hrs-13days), duration of ICU stay (≤24hrs-4days). The study was conducted as per the criteria defined by the WHO. The following criteria of WHO were included in present study.

- Clinical criteria
- Laboratory criteria
- Management criteria

Slight modification in the criteria done with respect to blood transfusions. We have included transfusions 3-4 against 5 transfusions given by the WHO. Cases admitted in ICU as well as Ward also considered. The following indicators were calculated.

- Maternal death (maternal mortality ratio)
- Maternal near miss ratio
- MNM:1MD ratio
- Mortality index
- SMOR

Statistical analysis

The data was entered into the Microsoft excel sheet and the percentage was calculated.

RESULTS

A retrospective observational study was conducted, and data was collected from case sheets of 3347 live births (LB) in a year between the period of January 2016 and December 2016. Out of 3347 live births 04 were maternal deaths (119/100000 LB).

Out of 97 obstetrics emergency cases 25 cases (25.77%) were selected for the study who met the WHO criteria for the MNM, (Table 1).

Table 1: Selection of MNM cases.

Total Live Births (Jan 2016-Dec 2016)	Vaginal 1812 / Caesarean 1535	3347
Total MNM cases		25
Total maternal deaths		04
	Total	Taken for MNM
ICU admission	43	22
MNM cases with ICU admission	MNM cases without ICU admission	Total MNM cases
22	03	25

Out of 25 cases of MNM 22 (88%) cases were taken from ICU admission and 03 (12%) from the ward. maternal near miss ratio of 7.46/1000LB. MNM:1MD ratio is 6.25 This means for every maternal death there were 6.25 cases of MNM. Mortality Index (MI) is 13.79%.

Table 2: The age wise distribution of MNM.

Age (Yrs)	No. of case (N=25)	%
≤20	02	8
21-25	10	40
26-30	09	36
31-35	03	12
36-40	01	4
Total	25	

There were 8% (02) cases in ≤20years of age, 40% (10) in 21-25yeras of age, 36% (09) in 26-30 years,12% (03) in 31-35 year age group and 4% (01) in 36-40 age group (Table 2).

There were 80% (20) of antenatal cases and 20% (05) of cases were postnatal cases (Table 3). In antenatal cases 55% (11) were Gravida 1, 35% (07) cases were Gravida 2 and 10% (02) were Gravida 3 (Table 4).

Table 3: Distribution of cases.

Type	N=25	%
ANC	20	80
PNC	05	20
Total	25	100

Table 4: Distribution of cases by parity.

Parity	N=20	%
G1	11	55
G2	07	35
G3	02	10
Total	20	100

There were 18% (03) cases in the Gestational age group of 35-<37wks, 6% (01) in 37-<38wks, 23% (04) in 38-<39wks, 47% (08) in 39-<40wks and 06% (01) cases in >40wks (Table 5).

Table 5: Distribution of cases by gestational age in weeks.

GA (Weeks)	N=17	%
≤34	0	00
35-<37	3	18
37-<38	1	06
38-<39	4	23
39-40	8	47
>40	1	06

52% (13) of cases were booked cases, 36% (09) of cases were unbooked and 12(03) cases were referred to our hospital (Table 6).

Table 6: Distribution of cases by registration with our hospital.

Status	N=25	%
Booked	13	52
Unbooked	09	36
Referred in	03	12
Total	25	100

Table 7: Distribution of cases in various modes of delivery.

Mode	Our hospital (N=17)	Outside our hospital (N=5)	Total
Vaginal	04	03	07
Caesarean delivery	13	-	13
Home	-	02	02
Ectopic pregnancy and incomplete abortion	03		03
Total	20	05	25

In the MNM cases selected, Total 07 cases of vaginal deliveries selected in which 04 were conducted at our hospital and 03 were conducted in other hospitals and referred to our hospital. Total 13 cases of caesarean section cases selected which were conducted at our hospital. 02 deliveries were conducted at home and referred to our hospital, 02 cases of ruptured ectopic pregnancy and 01 case of hypovolumic shock due to incomplete abortion (Table 7).

Table 8: Distribution of cases in various modes of delivery.

	Yelikar et al	Ranatunga G.A. et al	D'Cunha P.	Present study
Duration of study (months)	29	12	12	12
Total live births	35564	16511	3142	3347
MNM cases	416	91	87	25
MD	84	05	05	04
MMR (per 100000 live birth)	236	30.3	159	119
MNM R (Per 1000 live birth)	11.69	5.5	27.8	7.46
MNM: 1MD	4.95:1	18.2:1	17.6:1	6.25:1
MI	16.8%	5.2%	5.43%	13.79%
SMOR (Per 1000 live birth)	14.06	5.81	29.28	8.66

Table 9: Comparative statistics in similar studies.

	Yelikar et al	Ranatunga GA et al	Present study
Mode of delivery			
Vaginal	52.29%	25.7%	23.53%
Instrumental	17.24%	2.9%	-
Caesarean delivery	30.46%	68.5%	76.47%
Registration status			
Booked	17.7%	-	52%
Unbooked	82.21%	-	36%
Referred in	-	-	12%
Parity			
Primigravida	46.34%	38.5%	55%
Multigravida	53.66%	61.5%	45%
Age			
≤19	5.28%	-	8%
20-29	48.5%	-	76%
≥30	46.1%	-	16%

Twelve percentage (03) of cases have stayed in the hospital for less than 24hrs, 4% (01) for 1-2days, 20% (05) for 3-6 days, 48% (12) for 7-10 days, and 16% (04) stayed in the hospital for 11-13 days and survived (Table 8). Duration of stay in ICU, 24% (06) of cases stayed for <24hrs, 24% (06) for 1-2 days, 44% (11) of cases for 2-3 days and 8% (02) cases stayed in the ICU for 3-4 days (Table 9).

12 cases (48%) were managed by multiple blood-transfusion. 8 cases (32%) of sepsis, 7 cases (28%) of PPH, 5 cases (20%) of hypertensive disorder of pregnancy (pre-eclampsia, eclampsia) There were 12 cases (48%) that had more than one inclusion criteria Surgical intervention (s) were required in 8 cases (32%) (i.e. 2 peripartum hysterectomies, 2 laparotomies, 1 MRP, 1 uterine reposition and 2 traumatic PPH repair).

DISCUSSION

In our study, there were 25 Maternal-Near-Miss (MNM) cases and four maternal deaths out of 3347 live births which fit into the maternal near miss cases criteria of the WHO and these cases were studied in detail. 04 maternal deaths out of 3347 live births in that year giving Maternal mortality ratio of 119/100,000 live births (LB) at our institution which is very low compared to the national statistics (current MMR of India is 174/100000 LBs and near to the United Nations SDG by 2030 which is 70/100000.[2]

Maternal near miss ratio is 7.46/1000LB at our hospital. In a similar study done by Yelikar et al, the MNM-ratio is 11.69/1000LB which is slightly higher than our institution probably because of higher sample size (n=416 cases), and in a study by Ranatunga GA et al 5.5/1000LB which is slightly lower compare to our study (n=91).[9,10]

MNM: 1MD ratio is 6.25 this means for every maternal death there were 6.25 cases of MNM. In study of Yelikar et al this ratio is 4.95, and in the study of GA Ranatunga et al this ratio is 18.2 with a good significant rate.[9,10] Siddiqui et al, Galvão et al, and Ps et al reported the maternal mortality to near miss ratio 5.8, 4.5, and 5.6 respectively which is consistent with present study.[10-12]

Mortality index (MI) in this study is 13.79% which is high compared to the study done by Ranatunga et al study the MI is 5.2%. High mortality index shows that the quality of health care system is low and vice versa.[9,10] Author in developing countries need to improve the health care system to improve the quality of life. High mortality index in our study may be because of pre-health conditions of the mother, not regular for the antenatal check-up and non-institutional deliveries without supervision. All these comparisons are shown in the Table 8.

Twenty-five cases of obstetric emergencies with serious concerns for maternal health were selected out of 97 cases who met the WHO criteria for MNM (25.77%).

Twelve cases (48%) were managed by multiple blood-transfusion and components transfusion which is highest

percentage in our study. Similarly, in Yelikar et al. study highest percentage of MNM cases managed by multiple blood component transfusion which is around 86% of cases.[9] Huseyin et al reported transfusion of blood products in 40%.[13] This shows the cases related to blood transfusion like PPH to save the mother are more common causes of maternal death and having the blood and its components in the blood bank and timely management can save the mothers. These cases were well managed by our hospital.

Eight cases (32%) of sepsis which was the reason for the prolonged hospital stay and morbidity of the women. 7 cases (28%) of PPH which were managed surgically as well as medically, 5 cases (20%) of hypertensive disorder of pregnancy (pre-eclampsia, eclampsia) were managed successfully in our hospital with ICU care and ward care. In a study by Yelikar et al the MNM cases were more with hypertensive disorders like eclampsia and pre-eclampsia.[9] Similar observation of hypertensive disorders are the leading causes for the maternal illness were found in Upadhyay et al and Huseyin et al.[13,14] Where as in present study the percentage of hypertensive disorder in pregnancy are least which shows that better antenatal care at our hospital.

There were 12 cases (48%) that had more than one inclusion criteria. Similary in Ranatunga et al study 45% of cases (41 out of 91 cases) had more than one criterion.[10]

Surgical intervention(s) were required in 8 cases (32%) (i.e. 2 peripartum hysterectomies, 2 laparotomies, 1 MRP, 1 uterine reposition and 2 traumatic PPH repair). Twenty three percentage of cases were required the surgical interventions in a study by Yelikar et al slightly lesser than present study.[9]

Other parameters of the study like mode of delivery, registration status, parity of the mother and age of the subjects included were compared with the other studies and shown in Table 10.[9,10] Rate of MNM cases is more in the caesarean mode of delivery cases compared to other studies and in the vaginal mode of deliveries the cases going for MNM is less compared to other studies. Surgical procedures have more morbidity compared to normal deliveries.

MNM cases are more in booked cases compared to unbooked cases in the studies as well as other studies compared.[9,10] In the study of Yaliker et al the MNM cases are more in unbooked cases (82%) compared to booked cases which is usually acceptable.[9] Statistics of our study signals that we need to give more care for the booked cases.

MNM cases are more in Primigravida compared Yelikar et al and Ranatunga GD et al studies.[9,10] Primigravida cases need to be given more care in our hospital. Whereas MNM incidence in multigravida is less compared to other studies.[9,10]

More MNM cases are found in the 20-29 age groups which is similar compared to other studies.[9]

CONCLUSION

MNM-R is an eminent adjunctive strategy to help identify gaps in health service provision. MNM-R and MDR are complementary to each other. The current MDR format is not equipped to gather information on those pregnant women who delivered through complications and just about averted mortality. Hence, investigating MNM cases aids in taking measures for further amendment of service delivery and programs. When used together, they help in recognizing the contributory factors of maternal deaths so that appropriate actions can be adopted at community and health systems level. MNM is a vital tool that can go a long way in reducing maternal mortality.

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Dr. Manjunatha

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Serum Uric Acid Level in Primigravidae with Pre-Eclampsia: A Case Control Study from Karnataka

Veena H C[1], Manjunatha S[2]

[1]Assisstant Professor, Kodagu Institute of Medical Sciences, Madikeri, Karnataka,
[2]Professor and HOD, Dept of OBG, Kodagu Institute of Medical Sciences, Madikeri, Karnataka

Abstract

Introduction: Pregnancy inducedhypertension is an exclusive condition affecting 10% ofpregnant women. The study of uric acid in serum is an interesting problemespecially in normal pregnancy and pregnancy inducedhypertension (PIH). **Objective:** To compare the changes of serum uric acid level in healthy non pregnant, PIH and normotensive pregnant women. **Methodology:** Cross sectional observational study conducted in the Obstetrics and Gynecology department, hospital, Navodaya medical college , Raichur, Karnataka involving 30 each pregnant, PIH and non-pregnant women. Serum uric acid levels were measured and analysed the data using SPSS 23 version software. **Results:** Comparison ofmean serum uric acid level in pregnant normotensive (4.14±1.05) and in PIH women (6.03±1.61) was found significant. Comparison of mean serum uric acid level in pregnant normotensive women (4.14±1.05) and in non pregnant women (3.39±0.5) found significant. Mean serum uric acid level in PIH women was 6.03±1.61 whereas in non pregnant women was 3.39±0.5 ($p<0.001$). **Conclusion:**Serum uric acid level is at higher side in PIH women as compared to pregnant normotensives and non pregnant women in our study.

Key words: *Serum uric acid, PIH, preeclampsia, preganancy*

Introduction

Quality of life of mother and newborn has become an important concern in todays era. Hypertensive disorders are amongst the most common medical disorders during pregnancy. It is also responsible for maternal and perinatal morbidity and mortality.[1]In developing countries 7-10% of all pregnancies complicated by some form of hypertensive disorder and lead to various maternal and fetal complications.[2] Pre-eclampsia and eclampsia is still reported as "a disease of theories" since its etiology is still obscured. The crux in the pathophysiology of pre-eclampsia appears to be endothelial cell dysfunction.[3] Pre-eclampsia is a multisystem disorder characterized by hypertension to the extent of 140/90 mm Hg or more, proteinuria (≥300mg/day) and edema induced by pregnancy after 20th week.[4]We know that serial changes occur in serum uric acid level in normal pregnancy and pregnancy induced hypertension.[5, 6]The raised levels of uric acid in the pregnancy induced hypertension were considered to be due to its diminished destruction in liver. Stander and Cadden[7] did not find impairment of uric acid excretion, but, Seitchik[8] showed that there was excessive reabsorption of urate by renal tubules in toxaemic conditions.Reduced uric acid clearance secondary to reduced glomerular filtration rate, increased reabsorption, and decreased secretion may be at the origin of elevated serum levels in women with preeclampsia.[9,10]

So, in view of the greater emphasis being placed on maternal and child health in present era, we want to revisit serum uric acid as a useful biomarker, which is extremely cheap & widely available and early screening will definitely help in prevention of medical emergency.

Objectives:

- To compare the changes of serum uric acid level in healthy non pregnant women and healthy pregnant women

Corresponding Author:
Dr Anitha K,
Associate Professor, Dept of Physiology, Navodaya Medical College, Raichur, Karnataka.
Email ID dranithaks@gmail.com

- To compare the changes of serum uric acid level in healthy pregnant women and pre-eclampsia patients

- To compare the changes of serum uric acid level in healthy non pregnant women and pre-eclampsia patients

Methodology

Study population: The study was conducted in the Obstetrics and Gynecology department, Navodaya medical college , Raichur, Karnataka. Total 90 women volunteers were selected out of which 30 healthy non-pregnant women, 30 pregnant women and 30 pregnant women with preeclampsia were considered as subjects. 30 healthy non-pregnant women were considered as control. 30 normal pregnant and 30 pre-eclamptic women were taken from the outpatients and inpatients wards of Obstetrics and Gynecology department. Ethical Clearancewas taken fromInstitutionalEthical Committee.

Study duration: one year

Study design: Case control study

Inclusion criteria:

- Age >18 years, singleton pregnancy beyond the 20th week pregnancy was taken for the study

- 30 healthy pregnant women were considered for the study.

- 30 pregnant women with pre-eclampsia who fulfill above criteria was considered.

Exclusion Criteria: Patients with history of hyperuricemia, preexisting diabetes, hypertension, renal disease, thyrotoxicosis, liver disease, cardiovascular illness, and symptomatic infectious diseases were excluded.

The diagnosis of preeclampsia was based on the definition of American College of Obstetrics and Gynaecologists. [14]The criteria is as stated below:

1. Systolic blood pressure greater than 140 mm Hg or a rise of at least 30 mm Hg, and/ or

2. Diastolic blood pressure greater than 90 mm Hg or a rise of at least 15 mm Hg (manifested on two occasions at least 6 hours apart), and/ or

3. Proteinuria of 300 mg or greater in 24 hours urine collection or protein concentration of 1gm/ L (on two occasions at least 6 hours apart).

30 normal, healthy non-pregnant female volunteers selected for control study. They were of comparable age, and physical activity. They were non-smoker, not taking tobacco and free from any other metabolic or organic disorders. We collected necessary information about subject in Performa.

Method of collection of data: Each subject taking part in the study was explained about the purpose of the study and procedure to be adopted in the study. Informed consent was taken from all the subjects. A detailed history followed by clinical examination was carried out for each one of the subject.

Procedure: The blood pressure of the participants were measured with a standard mercury sphygmomanometer. Three readings were taken at the interval of 10 minutes. Proteinuria analysis were performed using standard procedures.Blood samples of participants were taken from right or left cubital vein would be collected in plain tubes and serum levels of uric acid was measured.

Determination of uric acid was carried out by quantitative estimation on colorimetric method by enzymatic uricase method, which has many advantages like single reagent system, one step procedure, prevents protein precipitation. Highly sensitive and specific and the reagent was stable. It is a very speedy method and one can determine uric acid within 5minutes and very small amount of serum was required.

Statistical analysis: Data was entered in MS excel sheet and analysed by using SPSS 23.0 version. The quantitative data was expressed as mean and standard deviation. Comparison of mean between two groups was done by suing unpaired t test. A p value less than 0.05 was considered as significant whereas $p<0.001$ was considered as highly significant.

Results

Table 1 depicts distribution of study population according to age group. In our study we involved 30 women in each group. Commonly observed age group in our study was between 21 to 30 years in all three groups. 93.3% pregnant women, 63.3% PIH women and 60% non pregnant women belongs to this age group.

Table 2 shows distribution according to mean age group of study population. Mean age of pregnant normotensive women was 25.53± 3.16 years. Mean age of PIH women was 24.33± 4.70 years. Mean age of non-pregnant women was 21.53± 2.46 years.

Table 3 explains about comparison of mean serum uric acid level in pregnant normotensive and PIH women. Mean serum uric acid level in pregnant normotensive women was 4.14±1.05 whereas in PIH women was 6.03±1.61. When we compared the uric acid levels in both groups, it was found to be statistically significant ($p<0.001$). It means serum uric acid level in PIH group was considerably higher as compared to pregnant normotensive women in our study.

Table 4 explains comparison of mean serum uric acid level in pregnant normotensive and non pregnant women. Mean serum uric acid level in pregnant normotensive women was 4.14±1.05 whereas in non pregnant women was 3.39±0.5. When we compared the uric acid levels in both groups, it was found to be statistically significant ($p<0.001$). It means serum uric acid level in pregnant normotensive group was at higher side compared to non pregnant women in our study.

Table 5 shows comparison of mean serum uric acid level in PIH and non pregnant women. Mean serum uric acid level in PIH women was 6.03±1.61 whereas in non pregnant women was 3.39±0.5. When we compared the uric acid levels in both groups, it was found to be statistically significant ($p<0.001$). It means serum uric acid level in PIH group was at higher side compared to non pregnant women in our study.

Table 1: Distribution according to age group of study population

Frequency		Pregnant		PIH		Non pregnant	
		Percent	Frequency	Percent	Frequency	Percent	
Age group in years	≤20	1	3.3	8	26.7	12	40.0
	21-30	28	93.3	19	63.3	18	60.0
	> 30	1	3.3	3	10.0	0	0
	Total	30	100.0	30	100.0	30	100.0

Table 2: Distribution according to mean age group of study population

	Mean	Std. Deviation
Pregnant	25.53	3.16
PIH	24.33	4.70
Non pregnant	21.53	2.46

Table 3: Comparison of mean serum uric acid level in pregnant normotensive and PIH women

	Group	N	Mean	Std. Deviation	t	p	Inference
Uric acid	Pregnant	30	4.14	1.05	-5.403	0.0001	Highly significant
	PIH	30	6.03	1.61		(<0.001)	

Table 4: Comparison of mean serum uric acid level in pregnant normotensive and non pregnant women

	Group	N	Mean	Std. Deviation	t	p	Inference
Uric acid	Pregnant	30	4.14	1.05	3.500	0.001	Highly significant
	Non pregnant	30	3.39	.50		(≤0.001)	

Table 5: Comparison of mean serum uric acid level in PIH and non pregnant women

	Group	N	Mean	Std. Deviation	t	p	Inference
Uric acid	PIH	30	6.03	1.61	8.571	0.0001	Highly significant
	Non pregnant	30	3.39	.50		(<0.001)	

Discussion

In our study we involved 30 women in each group. Commonly observed age group in our study was between 21 to 30 years in all three groups. 93.3% pregnant women, 63.3% PIH women and 60% non-pregnant women belong to this age group. (table 1)

Mean age of pregnant normotensive women was 25.53± 3.16 years. Mean age of PIH women was 24.33± 4.70 years. Mean age of non-pregnant women was 21.53± 2.46 years (table 2).

Ajay kumar Singh et al[11] conducted the study in Uttar Pradesh and reported the mean age 27.40 ± 3.55 years in Normotensives and 27.03 ± 3.91 years in PIH women in his study.

Mean serum uric acid level in pregnant normotensive women was 4.14±1.05 whereas in PIH women was 6.03±1.61. When we compared the uric acid levels in both groups, it was found to be statistically significant ($p<0.001$). It means serum uric acid level in PIH group was considerably higher as compared to pregnant normotensive women in our study. (table 3)

Ajay kumar Singh et al[11] found that mean serum uric acid level in normotensives was 4.94 ± 0.83 whereas in PIH it was 7.63 ± 0.59. The difference was significant.

Jasmin Diwan et al[12] from Jamnagar, Gujrat reported that mean serum uric acid level was 4.6 ± 0.42 in normal pregnancy and it was 7.6 ± 0.76 in PIH women. They also found the difference between two groups serum uric acid significant.

Patel Tejal et al[13]determined the mean serum uric acid level in the lasttrimester of pregnancy for the normal women to be3.5 ± 0.6 mg% and in preeclampsia group it was 6.4±1.7mg%.

Thereare couple of previous studies that highlights on the uric acid level in preeclampsia and its significant rise.[14-16]

Serum uric acid is one of the parameters used in earlydiagnosis of pregnancy induced hypertension. It was reported that there is positive correlation between hyperuricaemia and hypertension which distinguishes between pregnancyinduced hypertension and chronic hypertension.

Mean serum uric acid level in pregnant normotensive women was 4.14±1.05 whereas in non- pregnant women was 3.39±0.5. When we compared the uric acid levels in both groups, it was found to be statistically significant ($p<0.001$). It means serum uric acid level in pregnant normotensive group was at higher side compared to non-pregnant women in our study. (table 4). Mean serum uric acid level in PIH women was 6.03±1.61 whereas in non pregnant women was 3.39±0.5. When we compared the uric acid levels in both groups, it was found to be statistically significant ($p<0.001$). It means serum uric acid level in PIH group was at higher side compared to non pregnant women in our study. (table 5)

Shah C J et.al[17]stated that serum uric acid levels are significantly raised in pre eclampsia than normal pregnancy and there is a high positive correlation with the disease severity in relation to hypertension and proteinuria. Lim KH et al[18]also stressed on the clinical utility of serum uric acid measurements in hypertensive diseases of pregnancy.

In non-pregnant women, hyperuricemia is anindependent predictor of cardiovascular and renaldisease in general population and in chronic hypertension.Elevated uric acid level in maternal blood, presumablydue to reduced renal urate excretion is frequently notedin preeclampsia.

Conclusion

Serum uric acid level is at higher side in PIH women as compared to pregnant normotensives and non pregnant women in our study. Present study show that uric acid isone of the important laboratory tests for screening of pre-eclampsia.The importance of continuousantenatal surveillance and thereof uric acid by laboratorytest in early identification of suspected and establishedcases of hypertension in pregnancy is thus evident. Thedisease can be identified early and its deterioration preventedby proper management.

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Research Article

High maternal haemoglobin and its relation to pregnancy induced hypertension

Manjunatha S.[1]*, Amruta S. Bennal[2]

[1]Department of Obstetrics and Gynecology, Kodagu institute of medical sciences, Madikeri , Karnataka, India
[2]Navodaya medical college, Raichur, Karnataka, India

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***Correspondence:**
Dr. Manjunatha S.,
E-mail: hsogmanju@gmail.com

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ABSTRACT

Background: Pregnancy induced hypertension (PIH) is poorly understood condition of human pregnancy. It is a pregnancy specific disorder that can affect virtually every organ system. Exact cause is not known, thought to be multifactorial. The underlying pathology is endothelial dysfunction and intensive vasospasm, affecting almost all vessels. The responsible agent for dysfunction and vasospasm, still not been isolated precisely. So we have done the study to know the association of first trimester, high maternal haemoglobin with occurrence of PIH.
Methods: The longitudinal study was conducted in the 400 pregnant women, who were enrolled in first trimester of pregnancy and followed till the delivery, with 200 pregnant women with haemoglobin >13gm% as cases and 200 pregnant women haemoglobin 11 to 13 gm% as controls. Statistical analysis was done by using Chi-square test.
Results: The pregnant women with higher haemoglobin concentration in first trimester had higher risk of developing pre-eclampsia (PIH) comparing to other pregnant women ($p < 0.0001$).
Conclusions: High haemoglobin concentration in first trimester of pregnancy can be considered as risk factor Pregnancy induced hypertension.

Keywords: PIH, Maternal haemoglobin, Pregnant women, Hypertension

INTRODUCTION

Quality of life for mother and newborn has become our most important concern now a days. Pregnancy induced hypertension is defined as the hypertension that develop is a multisystem disorder of unknown etiology charecterised by development of hypertension to the extent of 140/90 mm Hg or more with protinuria after the 20th week in previously normotensive and non-proteinuric patients.[1] It is poorly understood condition of human pregnancy, which can affect multiple organs and is leading cause of maternal mortality worldwide.[2] PIH more often affects nulliparous women.[3] Pre-eclampsia is the most frequently encountered medical complication during pregnancy 4 with, overall worldwide incidence of Pre-eclampsia is 3-5%,[5] but in India, overall incidence is 5-15%.[1] Although the etiology of preeclampsia remains unknown, it is suggested that preeclampsia is associated with intervillous and spiral artery thrombosis, vascular endothelial damage and abnormalities of coagulation, leading to inadequate maternal, fetal and placental circulation.[6] Immunological adaptation disorders, abnormal increase of vasoconstrictor tone, nutritional factors, and genetic factors are some other theories.[7] The underlying pathology is endothelial dysfunction and intensive vasospasm, affecting almost all vessels. The responsible agent for dysfunction and vasospasm, still not been isolated precisely.[1] Routinely haemoglobin is assessed as a part of routine antenatal check-up. There are very few studies which have suggested that, high Hemoglobin concentration in first trimester of pregnancy is associated

with occurrence of pre-eclampsia.[8] Some studies have linked high maternal serum hemoglobin levels (Hb =.13.2 gm%) in pregnancy outcomes, such as preeclampsia, preterm birth and small for gestational age.[9] Many investigators believe that the conditions for the development of preeclampsia are set as early as the first trimester.[10] Present study is done to know the relationship between high maternal haemoglobin and PIH .

METHODS

The study was conducted in Navodaya Medical College, Raichur. The study protocol was approved by the Institute's Ethical Committee and each subject signed an informed consent statement prior to participation and could withdraw without prejudice at any time. Age group 20 to 30 years and women attending OBG department for antenatal checkup are taken for the study. The study group consisted of 200 antenatal pregnant women in first trimester, with normal blood pressure and with hemoglobin more than 13 gm%. The control group consists 200 antenatal pregnant women in first trimester, with normal blood pressure and with hemoglobin less than 13 gm% and above 11g m%. Hemoglobin concentration was set to 13 gm% as per this study.[9] Previous history of hypertension, Diabetes Mellitus, renal disease, thyroid disorder, dyslipidemia, multiple pregnancy, previous history of pre-eclampsia, pregnant women with any other medication except for vitamins, Iron & Calcium, were excluded from the study. Height and weight of the individuals were measured. BMI was calculated. The subjects and controls were advised to come for follow up every-month till delivery. Each visit the Blood Pressure was measured using sphygmomanometer. The subjects and controls were monitored till the delivery. The women with blood pressure more than Blood pressure ≥ 140/90 mmHg after 20 weeks of gestation were considered pregnancy induced hypertension (PIH).[11] Maintaining all aseptic precautions, 2 ml of blood was drawn from ante-cubital vein and collected in an EDTA containing tube. The hematological investigations were performed on a fully automated Orphee Mythic - 18 three part differential cell counter.

Statistical analysis

After gathering the data, results were expressed in excel sheet and calculated for percentage. Both groups were compared regarding PIH and chi-square ($\chi 2$) was applied and p value <0.05 was considered as significant.

RESULTS

The longitudinal study was conducted in the 400 pregnant women, who were enrolled in first trimester of pregnancy and followed till the delivery. There was no statistical significant difference in the age group and other anthropometric parameters when they were included in the study. Among them 200 pregnant women with haemoglobin more than 13 gm%, were taken as study subjects and 200 pregnant women with haemoglobin more than 11 to 13 gm% were taken controls. In the study group 9 pregnant women developed pre-eclampsia and in control group 4 developed pre-eclampsia. Chi-square test showed statistically significant difference in two groups. The results were represented in table (Table 1) and graphs (Figure 1).

Table 1: PIH in normal Hb group and high level Hb group.

	Control (%)	Study group (%)	Total	χ^2 value	p-value
Developed PIH	8 (4)	36 (18)	44	20.02	P<0.0001
No PIH	192 (96)	164 (82)	356		
Total	200	200	400		

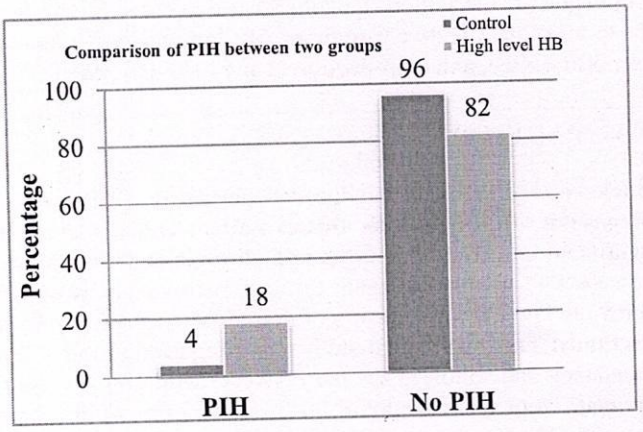


Figure 1: Comparison of PIH between two groups.

DISCUSSION

Our study indicates that women with high Hb concentration during the first trimester are associated with higher risk of developing PIH. Our findings show that there was a statistically significant relation between high maternal hemoglobin in the first trimester of pregnancy and preeclampsia. PIH might be explained by a generalized vasoconstriction and abnormal endothelial cell function[11] Muphy et al showed that the levels of hemoglobin in the first and second trimesters were related to adverse pregnancy outcome such as preeclampsia.[12] Sarrel et al suggested that an increased free hemoglobin concentration was the cause of vasoconstriction in preeclampsia.[13] High hemoglobin concentration might affect growth is the development of preeclampsia (a syndrome of hypertension, proteinuria, and multiorgan dysfunction), which complicates ≈2% of all pregnancies. Failure of the plasma volume to expand is associated with a ≤3-fold increase in the incidence of preeclampsia in pregnancy. Thus, the poor placental flow associated with not only high hemoglobin concentrations but also

maternal vascular dysfunction might be implicated in fetal growth restriction.[12] The principal mechanism for perinatal morbidity and mortality due to PIH is poor placental and fetal perfusion. The mechanism for the observed higher haemoglobin concentration is the failure of normal plasma expansion, hypovolemia and poor placental perfusion are all part of physiologic disturbance of PIH.[14] In preeclampsia, the loss of serum protein and the increase in capillary endothelial permeability led to a decrease in intravascular volume and increased tissue edema.[15] All organs could be affected, including the liver, brain, and the lungs. The decrease in blood volume could lead to an increase in maternal hemoglobin concentration.[16] Many investigators believed that the conditions in the development of preeclampsia were set as early as the first trimester.[10] Measuring the rate of haemoglobin in the first visit of pregnant women is performed in all cases in routine form. This method could be beneficial for recognizing mothers who were exposed to danger.[12]

CONCLUSIONS

By considering present and previous studies that have been performed on this subject, high maternal haemoglobin is one of the risk factor for PIH; evaluating main risk factors like: type of nutrition, iron resources, medicine that causes haemoglobin to increase is necessary. Haemoglobin estimation has to be done during each antenatal check-up from first trimester till delivery.

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Research Article

The relationship between maternal blood group and preeclampsia

Manjunatha S.[1]*, Anita K.[2]

[1]Department of Obstetrics and Gynecology, Kodagu Institute of Medical Sciences, Madikeri, Karnataka, India
[2]Department of Physiology, Navodaya Medical College, Raichur, India

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***Correspondence:**
Dr. Manjunatha S,
E-mail: hsogmanju@gmail.com

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ABSTRACT

Background: Pre-eclampsia is a pregnancy specific, multisystem, hypertensive disorder characterized by new onset hypertension and proteinuria after 20 weeks of gestation and remission of signs after delivery, which is the leading cause of maternal, fetal and neonatal mortality and morbidity. Despite extensive research, the etiology and pathogenesis of Pre-eclampsia remain obscure and poorly understood. ABO blood groups are known to be associated with many disorders. In this study we have tried to know the relationship between maternal blood group and preeclampsia.

Methods: It is a cross-sectional study. 100 pregnant women with preeclampsia and 100 women with normal pregnancy were selected. Rh negative females or women with any other medical and surgical complication were excluded from the study. Using blood group O as the reference group, the relation between maternal blood group and preeclampsia was estimated using odds ratios and 95% confidence intervals from logistic regression models.

Results: When compared with blood group O, women of blood group AB have an increased risk of preeclampsia.

Conclusions: The present study indicates that AB blood group have the highest risk of developing preeclampsia. AB blood group is associated with an increased risk of thrombotic events this may be the cause of increased incidence of PIH in this group. Thus attention should be given to the AB blood group pregnant women in order to prevent the PIH.

Keywords: ABO blood groups, PIH, Pregnant women, Preeclampsia

INTRODUCTION

Women die as a result of complications during and following pregnancy and childbirth. Most of these complications develop during pregnancy. The major complications that account for nearly 75% of all maternal deaths , are severe bleeding (mostly bleeding after childbirth), infections (usually after childbirth), high blood pressure during pregnancy, complications from delivery unsafe abortion.[1] In India, roughly one maternal death occurs every five minutes.[2] Hypertensive disorders complicating pregnancy are common and form one of the deadly triad ,along with haemorrhage and infection , that results in much of the maternal morbidity and mortality related to pregnancy. How pregnancy incites or aggravates hypertension remains unsolved despite decades of intensive research , and hypertensive disorders remain among the most significant unsolved problems in obstetrics.[3] Preeclampsia is a multisystem disorder of unknown etiology characterised by development of hypertension to the extent of 140/90 mm Hg or more with protinuria after the 20th week in previously normotensive and non-proteinuric patients.[4] Pre-eclampsia is a complex pathophysiological state where regulatory systems of inflammation and endothelial function are stimulated beyond the physiological limits of normal pregnancy.[5] Though there is genetic susceptibility, the pathogenesis of pre-eclampsia has been enigmatic.[6,7] There is increased association of preeclampsia with the following: primigravida, rhesus incompatibility, diabetes, genetic disorders, pre-existing vascular and renal diseases,t hrombophilias raised body mass index before pregnancy

etc.[5] The antigens of ABO blood-group areoligosaccharides that are attached to the cell-surface glycoconjugates and are expressed by epithelia, endothelia and erythrocytes (RBCs) in primates. Susceptibility to diseases such as infections, cancer, cardiovascular diseases and hematologic disorders are found to be been associated with ABO blood groups. It is a key determinant of coagulation factor VIII and von Willebrand factor plasma concentrations.[8] ABO antigens may alter the presentation of cell-surface glycans and modulate their interactions with pathogens or may provide receptors for pathogen attachment, hence ABO antigen is associated with various diseases. ABO antigens may play a major role in the interaction of the immune and coagulation systems by influencing gene-environment interactions. As the current view on preeclampsia suggests that it has an exaggerated maternal systemic immune response component and characteristic changes in coagulation systems, differences in ABO blood groups may increase the risk of disease according to the inherited antigens.

METHODS

This cross sectional study was conducted at Navodaya medical college. Institutional ethical clearance was taken. An informed consent was taken from every patient after full explanation of procedure. The subjects for the study were selected from the out-patient and in –patient department of obstetrics and gynaecology and also from the labour room. 100 pregnant women who were fulfilling the criteria for preeclampsia were considered as cases and 100 women with normal pregnancy without any complications were selected as controls. Only Rh positive primi cases were included in the study. Subjects having any other medical and surgical complication and women having history of any drug use, multi-fetal pregnancy, Rh negative blood group subject smoking, erythroblastosis fetalis, were excluded from the study. Relevant past and personal history from the subjects are taken. General physical examination, vital signs were recorded. A drop of blood was taken from their finger tip using lancet, under aseptic precautiòn. 1 drop of blood was mixed with 1 ml of normal saline in a test tube. This provided the red cell suspension. Blood group was determined by haemagglutination technique. A drop of monoclonal Anti A, Anti B, Anti D was added separately on a clean glass slide and to each of this a drop of red cell suspension was added. With separate applicator, the serum was well mixed back and forth and observed for agglutination and it was confirmed under low power objective. Results of agglutination were recorded immediately for ABO blood group and after 2 minutes for Rh. The protenuria was measured by urine dipsticks.

Statistical Analysis

The data were analyzed by using Microsoft Excel and Epinfo. The relationship of blood group with preeclampsia was estimated by calculating odds ratio from logistic regression models using blood group O and controls respectively as reference group after adjustment for various covariates. A p-value of <0.05 was considered as statistically significant.

RESULTS

The study population consist of 100 cases and 100 controls. Using blood group O as the reference group, the association between blood group and preeclampsia was estimated using odds ratios and 95% confidence intervals from logistic regression models. The results as shown in table- 2 indicated that AB has the highest, and O has lowest risk for PIH among the ABO blood groups.

Table 1: Showing the distribution of different blood groups in both categories.

Category	Blood group (%)				
	A	B	AB	O	Total
Cases	10 (10)	12 (12)	50 (50)	28 (28)	100
Control	16 (16)	24 (24)	6 (6)	54 (54)	100

Table 2: Showing the association between ABO blood group and PIH.

Blood groups	Odds ratio	95% confidence limit		Significance (P value)	
		Lower bound	Upper bound		
A	1.205	0.48	3.99	0.87	NS
B	0.964	0.42	2.21	0.931	NS
AB	16.07	6.14	42.07	<0.0001	HS

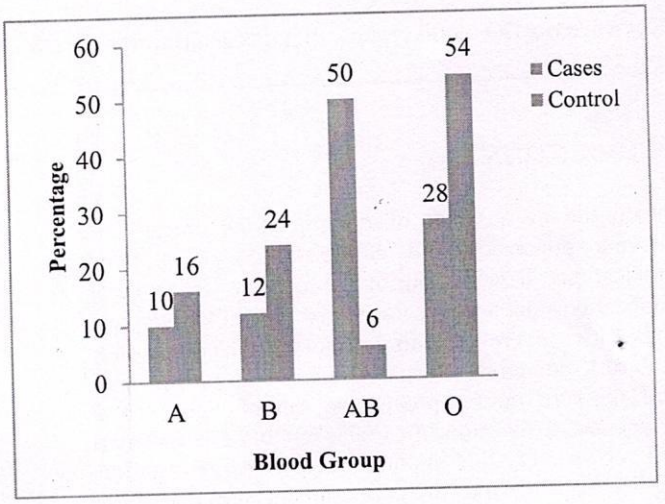


Figure 1: Distribution of different blood groups in both categories.

The reference category is: blood group O

DISCUSSION

The results of our study indicate that women with blood group AB have the highest risk for preeclampsia compared to other blood group. Preeclampsia, a syndrome unique to human pregnancy and one of the leading causes of maternal and foetal morbidity and mortality, is also associated with maternal blood group. Patients with blood group AB have an increased risk of severe, early-onset, or intrauterine growth restriction (IUGR) associated forms of preeclampsia.[8] The results of our study are consistent with findings of Lee BK et al[9] Bharali et al[10] Spinillo et al[11] C Phaloprakram et al.[12] One suggested mechanism of how blood group influences the risk of gestational hypertensive disorders is through the maternal immune response. Placental Protein[13] (PP13) is considered to be an early marker for preeclampsia. PP13 is primarily produced by the placenta in anthropoid primates It is a galectin (galectin-13) that binds beta-galactosides, such as N-acetyl-galactosamine, galactose, fucose, located at terminal positions on ABO blood-group antigens, with strongest affinity to blood group AB.[8] In women from AB group, the close proximity of A and B antigens could explain the stronger binding of PP13 to blood group AB erythrocytes, leading to its sequestration. In consequence the PP13 plasma levels are low in pregnant on the first trimester of gestation, which could predispose pregnancy complications, including preeclampsia.[13] Compared with O group, A, B, and AB groups are associated with an increased risk of thrombotic events, although this relationship is debated. ABO blood groups may differ in the occurrence of known vascular risk factors for preeclampsia, such as endothelial dysfunction[14], insulin resistance,[15] and hypercholesterolemia.[16] ABO blood group is a key determinant of coagulation factor VIII and von Willebrand factor plasma concentrations. Low plasma concentrations of these glycoproteins in blood-group O individuals may lead to excess bleeding, while elevated plasma concentrations of these factors in non-O blood-group individuals have been implicated in increasing the risk of thromboembolic and ischemic heart diseases.[8] Recent genome-wide association studies indicate that genetic variants at the ABO locus are associated with soluble E-selectin,[17,18] P-selectin, and ICAM-1,[19] vascular inflammatory agents that are associated with hypertension and type- 2 diabetes.[20] However, of a diverse panel of inflammatorybiomarkers, including E-selectin, P-selectin, and ICAM-1, a recentstudy found that only E-selectin levels were higher in pre-eclampsiacases versus controls.[21]

CONCLUSIONS

The results of this study suggest relationship between ABO blood group systems and PIH preeclampsia with AB blood group women having highest risk.. Considering the role of ABO blood groups on the hemostatic process and thrombus formation, special attention should be given to pregnant patients carrying the AB blood group in order to prevent the preeclampsia and improve prognosis.

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Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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Original Research Article

A study of maternal near miss at a district teaching hospital: a retrospective observational study

Manjunatha S., Harsha T. N.*, Damayanthi H. R.

Department of Obstetrics and Gynecology, Kodagu Institute of Medical Sciences Teaching Hospital, Madikeri, Karnataka, India

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***Correspondence:**
Dr. Harsha T. N.,
E-mail: drharsha.tn@gmail.com

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ABSTRACT

Background: Maternal health is an integral part of health care system. Maternal mortality is an indicator of maternal health and health care delivery system. Severe morbid conditions require comprehensive approach. Hence the concept of Maternal Near Miss (MNM) has emerged. The data of maternal near miss helps to reduce the maternal death and helps to achieve the goals related to reduce the maternal mortality rate of the country as well as the world and to improve the quality of life of the woman population by a quality care. Objectives of present study were to identify and analyze the strategies undertaken in the management of maternal near miss and outcome, measures to improve the quality of care and to assess the various indicators of MNM.

Methods: With the permission from the hospital administrators and after taking the ethical clearance from the institutional ethical committee, a retrospective observational study was conducted for the period of one year between January 2016 to December 2016 at district teaching hospital of Kodagu Institute of Medical Sciences, Madikeri, by collecting data from hospital records. Admissions to the ICU as well as wards which fit in to the WHO maternal near miss criteria were included and studied.

Results: WHO criteria for the MNM was followed. In present study, there were 25 MNM cases and four Maternal Deaths out of 3347 live births giving a maternal mortality ratio of 119/100000 live births (LB), Maternal Near Miss ratio of 7.46/1000LB, MNM:1MD ratio is 6.25 and mortality index (MI) is 13.79%. Twenty five cases of obstetric emergencies with serious concerns for maternal health were selected out of 97 cases who met the WHO criteria for MNM (25.77%). Twelve cases (48%) received multiple blood-transfusions, 8 cases (32%) of sepsis, 7 (28%) of PPH, and 5 (20%) of hypertensive disorder of pregnancy (pre-eclampsia, eclampsia). There were 12 cases (48%) that had more than one inclusion criteria. Surgical intervention was required in 8 (32%) i.e. 2 peripartum hysterectomies, 2 laparotomies, 1 manual removal of placenta, 1 uterine reposition and 2 traumatic PPH repair.

Conclusions: Maternal-Near-Miss (MNM/SAMM) and its relation to maternal mortality contribute as sensitive measures of pregnancy outcome than mortality alone. Proper documentation is of paramount importance in analysis of data, to make conclusions and recommendation. Prospective structured study is required to get a clear picture and to suggest corrective measures which can be taken as far as obstetric care is concerned, to reduce maternal mortality and to achieve the sustainable developmental Goal (SDG) of maternal mortality ratio <70/100000 LB by 2030.

Keywords: Maternal near miss, Maternal mortality, Severe acute maternal morbidity

INTRODUCTION

Maternal mortality data in practical terms is the tip of an iceberg and the maternal near miss data is invisible and which is very important tool to reduce the maternal mortality. Knowing the causes for the maternal death and analysing the modes of treatment which followed to save the life of pregnant women is an important tool which constitutes the maternal near miss cases. Process of pregnancy and labour is considered to be another birth to

women. Providing the good health care and managing the complications due to childbirth is an at most important challenge in present scenario of the healthcare system. Every woman can experience sudden and unexpected complications during pregnancy, child birth and just after delivery. Survival of a pregnant woman is dependent on the disease, her basic health, the health care facilities and the personnel of the health care.

Maternal mortality is one of the important indicators used for the measurement of maternal health. Improvement of maternal health is one of the millennium development goals, MDG 5 with Target 5 A that calls for the reduction of maternal mortality ratio by three quarters (75%) between 1990 and 2015. Since 1990, though maternal deaths world-wide have dropped by 47%, the number of maternal deaths in developing countries remains high. The global maternal mortality ratio is 210/100,000 births while it is about 240 in developing countries as compared to 14/100,000 in developed countries. India has also reported a decline from 437/100000 LB in 1990-991 to 178/100000 LB in 2010-12.[1,2]

To overcome this challenge, severe acute maternal morbidity (SAMM) and now called Maternal Near Miss (MNM) and its review is introduced in maternal health care to complement information obtained with review of maternal deaths.

Auditing maternal deaths is an approach commonly used for assessing the quality of care in order to address any identified weakness or failure within the system and take corrective action. Studying cases of women who nearly died but survived a complication during pregnancy, childbirth or postpartum are increasingly recognized as a useful means to examine the quality of obstetric care.[3]

Maternal Near Miss defined variously over years. First to use the term defined Near miss morbidity a narrow category of morbidity encompassing potentially life threatening episodes.[4] A Near miss describes a patient with an acute organ system dysfunction, which if not treated appropriately could result in death.[5] All- women admitted for ICU in pregnancy or up to 42 day postpartum are considered as near-miss maternal mortality.[6] Severe Acute Maternal Morbidity (SAMM) also known as "near-miss" case means a woman with organ dysfunction or failure who would have died had it not been that luck or good care was on her side. A near-miss case was defined as "any pregnant or recently delivered or aborted woman whose immediate survival is threatened and who survives by chance or because of the hospital care received.[7] A near-miss case was defined as "any pregnant or recently delivered or aborted woman whose immediate survival is threatened and who survives by chance or because of the hospital care received.[8] There were some controversies on the definitions because of the differences in availability health facilities between developed and developed countries. On clarity WHO standardised the definition of the maternal near miss as a woman who nearly died but survived a complication that occurred during pregnancy, childbirth or within 42 days of termination of pregnancy and has given the criteria for maternal near miss.[1] MOHFW Govt. of INDIA: defines a MNM case as a woman who survives life threatening conditions during pregnancy, abortion, and childbirth or within 42 days of pregnancy termination, irrespective of receiving emergency medical/surgical interventions.[2]

Maternal near miss shares same pathway and pathological processes as maternal death. Also, the major reasons and causes are same for both, so review of Maternal near miss cases is likely to yield valuable information regarding severe morbidity, which, if untreated may lead to maternal death.

The data, statistics and strategies of MNM is the need of hour to reduce the maternal mortality and to improve the maternal health. Present study is taken up to draw the current MNM data in our teaching hospital by which adopting and improving the treatment strategies for reducing the maternal mortality to achieve the sustainable developmental goal by 2030.

METHODS

A Retrospective observational study was conducted after taking the permission from the hospital administrators and after the approval from the institutional Ethical committee. The case sheets of 3347 cases between the period January 2016 and December 2016 collected from the hospital Medical records and studied. Data was analysed in terms of obstetric emergencies (pre-eclampsia, eclampsia, ante partum haemorrhage, post partum haemorrhage, ectopic pregnancy etc.) and their management medically and surgically, antenatal and postnatal cases, parity, gestational age ≤34weeks to 40 weeks, registration of cases (booked, unbooked and referred cases), modes of delivery(vaginal, Caesarean, home), duration of hospital stay (≤24hrs-13days), duration of ICU stay (≤24hrs-4days). The study was conducted as per the criteria defined by the WHO. The following criteria of WHO were included in present study.

- Clinical criteria
- Laboratory criteria
- Management criteria

Slight modification in the criteria done with respect to blood transfusions. We have included transfusions 3-4 against 5 transfusions given by the WHO. Cases admitted in ICU as well as Ward also considered. The following indicators were calculated.

- Maternal death (maternal mortality ratio)
- Maternal near miss ratio
- MNM:1MD ratio
- Mortality index
- SMOR

Statistical analysis

The data was entered into the Microsoft excel sheet and the percentage was calculated.

RESULTS

A retrospective observational study was conducted, and data was collected from case sheets of 3347 live births (LB) in a year between the period of January 2016 and December 2016. Out of 3347 live births 04 were maternal deaths (119/100000 LB).

Out of 97 obstetrics emergency cases 25 cases (25.77%) were selected for the study who met the WHO criteria for the MNM, (Table 1).

Table 1: Selection of MNM cases.

Total Live Births (Jan 2016-Dec 2016)	Vaginal	1812	3347
	Caesarean	**1535**	
Total MNM cases			25
Total maternal deaths			04
		Total	Taken for MNM
ICU admission		43	22
MNM cases with ICU admission	MNM cases without ICU admission		Total MNM cases
22	03		25

Out of 25 cases of MNM 22 (88%) cases were taken from ICU admission and 03 (12%) from the ward. maternal near miss ratio of 7.46/1000LB. MNM:1MD ratio is 6.25 This means for every maternal death there were 6.25 cases of MNM. Mortality Index (MI) is 13.79%.

Table 2: The age wise distribution of MNM.

Age (Yrs)	No. of case (N=25)	%
≤20	02	8
21-25	10	40
26-30	09	36
31-35	03	12
36-40	01	4
Total	25	

There were 8% (02) cases in ≤20years of age, 40% (10) in 21-25yeras of age, 36% (09) in 26-30 years,12% (03) in 31-35 year age group and 4% (01) in 36-40 age group (Table 2).

There were 80% (20) of antenatal cases and 20% (05) of cases were postnatal cases (Table 3). In antenatal cases 55% (11) were Gravida 1, 35% (07) cases were Gravida 2 and 10% (02) were Gravida 3 (Table 4).

Table 3: Distribution of cases.

Type	N=25	%
ANC	20	80
PNC	05	20
Total	25	100

Table 4: Distribution of cases by parity.

Parity	N=20	%
G1	11	55
G2	07	35
G3	02	10
Total	20	100

There were 18% (03) cases in the Gestational age group of 35-<37wks, 6% (01) in 37-<38wks, 23% (04) in 38-<39wks, 47% (08) in 39-<40wks and 06% (01) cases in >40wks (Table 5).

Table 5: Distribution of cases by gestational age in weeks.

GA (Weeks)	N=17	%
≤34	0	00
35-<37	3	18
37-<38	1	06
38-<39	4	23
39-40	8	47
>40	1	06

52% (13) of cases were booked cases, 36% (09) of cases were unbooked and 12(03) cases were referred to our hospital (Table 6).

Table 6: Distribution of cases by registration with our hospital.

Status	N=25	%
Booked	13	52
Unbooked	09	36
Referred in	03	12
Total	25	100

Table 7: Distribution of cases in various modes of delivery.

Mode	Our hospital (N=17)	Outside our hospital (N=5)	Total
Vaginal	04	03	07
Caesarean delivery	13	-	13
Home	-	02	02
Ectopic pregnancy and incomplete abortion	03		03
Total	20	05	25

In the MNM cases selected, Total 07 cases of vaginal deliveries selected in which 04 were conducted at our hospital and 03 were conducted in other hospitals and referred to our hospital. Total 13 cases of caesarean section cases selected which were conducted at our hospital. 02 deliveries were conducted at home and referred to our hospital, 02 cases of ruptured ectopic pregnancy and 01 case of hypovolumic shock due to incomplete abortion (Table 7).

Table 8: Distribution of cases in various modes of delivery.

	Yelikar et al	Ranatunga G.A. et al	D'Cunha P.	Present study
Duration of study (months)	29	12	12	12
Total live births	35564	16511	3142	3347
MNM cases	416	91	87	25
MD	84	05	05	04
MMR (per 100000 live birth)	236	30.3	159	119
MNM R (Per 1000 live birth)	11.69	5.5	27.8	7.46
MNM: 1MD	4.95:1	18.2:1	17.6:1	6.25:1
MI	16.8%	5.2%	5.43%	13.79%
SMOR (Per 1000 live birth)	14.06	5.81	29.28	8.66

Table 9: Comparative statistics in similar studies.

	Yelikar et al	Ranatunga GA et al	Present study
Mode of delivery			
Vaginal	52.29%	25.7%	23.53%
Instrumental	17.24%	2.9%	-
Caesarean delivery	30.46%	68.5%	76.47%
Registration status			
Booked	17.7%	-	52%
Unbooked	82.21%	-	36%
Referred in	-	-	12%
Parity			
Primigravida	46.34%	38.5%	55%
Multigravida	53.66%	61.5%	45%
Age			
≤19	5.28%	-	8%
20-29	48.5%	-	76%
≥30	46.1%	-	16%

Twelve percentage (03) of cases have stayed in the hospital for less than 24hrs, 4% (01) for 1-2days, 20% (05) for 3-6 days, 48% (12) for 7-10 days, and 16% (04) stayed in the hospital for 11-13 days and survived (Table 8). Duration of stay in ICU, 24% (06) of cases stayed for <24hrs, 24% (06) for 1-2 days, 44% (11) of cases for 2-3 days and 8% (02) cases stayed in the ICU for 3-4 days (Table 9).

12 cases (48%) were managed by multiple blood-transfusion. 8 cases (32%) of sepsis, 7 cases (28%) of PPH, 5 cases (20%) of hypertensive disorder of pregnancy (pre-eclampsia, eclampsia) There were 12 cases (48%) that had more than one inclusion criteria Surgical intervention (s) were required in 8 cases (32%) (i.e. 2 peripartum hysterectomies, 2 laparotomies, 1 MRP, 1 uterine reposition and 2 traumatic PPH repair).

DISCUSSION

In our study, there were 25 Maternal-Near-Miss (MNM) cases and four maternal deaths out of 3347 live births which fit into the maternal near miss cases criteria of the WHO and these cases were studied in detail. 04 maternal deaths out of 3347 live births in that year giving Maternal mortality ratio of 119/100,000 live births (LB) at our institution which is very low compared to the national statistics (current MMR of India is 174/100000 LBs and near to the United Nations SDG by 2030 which is 70/100000.[2]

Maternal near miss ratio is 7.46/1000LB at our hospital. In a similar study done by Yelikar et al, the MNM-ratio is 11.69/1000LB which is slightly higher than our institution probably because of higher sample size (n=416 cases), and in a study by Ranatunga GA et al 5.5/1000LB which is slightly lower compare to our study (n=91).[9,10]

MNM: 1MD ratio is 6.25 this means for every maternal death there were 6.25 cases of MNM. In study of Yelikar et al this ratio is 4.95, and in the study of GA Ranatunga et al this ratio is 18.2 with a good significant rate.[9,10] Siddiqui et al, Galvão et al, and Ps et al reported the maternal mortality to near miss ratio 5.8, 4.5, and 5.6 respectively which is consistent with present study.[10-12]

Mortality index (MI) in this study is 13.79% which is high compared to the study done by Ranatunga et al study the MI is 5.2%. High mortality index shows that the quality of health care system is low and vice versa.[9,10] Author in developing countries need to improve the health care system to improve the quality of life. High mortality index in our study may be because of pre-health conditions of the mother, not regular for the antenatal check-up and non-institutional deliveries without supervision. All these comparisons are shown in the Table 8.

Twenty-five cases of obstetric emergencies with serious concerns for maternal health were selected out of 97 cases who met the WHO criteria for MNM (25.77%).

Twelve cases (48%) were managed by multiple blood-transfusion and components transfusion which is highest

percentage in our study. Similarly, in Yelikar et al. study highest percentage of MNM cases managed by multiple blood component transfusion which is around 86% of cases.[9] Huseyin et al reported transfusion of blood products in 40%.[13] This shows the cases related to blood transfusion like PPH to save the mother are more common causes of maternal death and having the blood and its components in the blood bank and timely management can save the mothers. These cases were well managed by our hospital.

Eight cases (32%) of sepsis which was the reason for the prolonged hospital stay and morbidity of the women. 7 cases (28%) of PPH which were managed surgically as well as medically, 5 cases (20%) of hypertensive disorder of pregnancy (pre-eclampsia, eclampsia) were managed successfully in our hospital with ICU care and ward care. In a study by Yelikar et al the MNM cases were more with hypertensive disorders like eclampsia and pre-eclampsia.[9] Similar observation of hypertensive disorders are the leading causes for the maternal illness were found in Upadhyay et al and Huseyin et al.[13,14] Where as in present study the percentage of hypertensive disorder in pregnancy are least which shows that better antenatal care at our hospital.

There were 12 cases (48%) that had more than one inclusion criteria. Similary in Ranatunga et al study 45% of cases (41 out of 91 cases) had more than one criterion.[10]

Surgical intervention(s) were required in 8 cases (32%) (i.e. 2 peripartum hysterectomies, 2 laparotomies, 1 MRP, 1 uterine reposition and 2 traumatic PPH repair). Twenty three percentage of cases were required the surgical interventions in a study by Yelikar et al slightly lesser than present study.[9]

Other parameters of the study like mode of delivery, registration status, parity of the mother and age of the subjects included were compared with the other studies and shown in Table 10.[9,10] Rate of MNM cases is more in the caesarean mode of delivery cases compared to other studies and in the vaginal mode of deliveries the cases going for MNM is less compared to other studies. Surgical procedures have more morbidity compared to normal deliveries.

MNM cases are more in booked cases compared to unbooked cases in the studies as well as other studies compared.[9,10] In the study of Yaliker et al the MNM cases are more in unbooked cases (82%) compared to booked cases which is usually acceptable.[9] Statistics of our study signals that we need to give more care for the booked cases.

MNM cases are more in Primigravida compared Yelikar et al and Ranatunga GD et al studies.[9,10] Primigravida cases need to be given more care in our hospital. Whereas MNM incidence in multigravida is less compared to other studies.[9,10]

More MNM cases are found in the 20-29 age groups which is similar compared to other studies.[9]

CONCLUSION

MNM-R is an eminent adjunctive strategy to help identify gaps in health service provision. MNM-R and MDR are complementary to each other. The current MDR format is not equipped to gather information on those pregnant women who delivered through complications and just about averted mortality. Hence, investigating MNM cases aids in taking measures for further amendment of service delivery and programs. When used together, they help in recognizing the contributory factors of maternal deaths so that appropriate actions can be adopted at community and health systems level. MNM is a vital tool that can go a long way in reducing maternal mortality.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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OPTHALMOLOGY

Department of Ophthalmology

Depar tment	Name of the Faculty Qualification IMR number	Current Designation & Date of promotion	Nature of the Employment Regular/Permane nt or contract/Outsourc ed	Details Service in the last 5 Years	Number of Lecture taken/Year Topics Covered
1.	Dr. Kripalini S H MBBS, MS Ophthalmology (KMC No 84038)	Associate Professor	Regular/Permanent	2015 – 2019 June Worked as Assistant Professor at KVG Medical College and Hospital Sullia – 4 Years 6 Months 2019 July till Date Working as Associate Professor at KOIMS, Madikeri – 2 Years 5 Months	60 per Year (Hypermetropia, Aphakia, Myopia, ophthalmia Neonatarum, Allergic Conjunctivitis,mycot ic corneal ulcer,acanthamoeba keratitis, Senile cataract, POAG & its management, Anatomy of retina & vaso occlusive disorders of eye, csr,cme,armd,optic neuritis,toxic optic neuropasthy,anatomy of ocular motility,incomitant squint,entropion,ectr opion,anatomy of orbit,proptosis,extrac cular fbs,closed globe injury,blindness,visu al disability,vision 2020,eyecamps,eye bank, rehabilitation of blind,
2.	Dr. Kiran Bhat, MBBS, MS Ophthalmology (KMC No 42676)	Assistant Professor	Regular	Working as Assistant Professor, KOIMS – 6 Years	60 per Year Macular Hole & RD, AION, NAION & traumatic optic neuropathy, Colour blindness cortical blindness & ICSOLS, Binocular single vision & its anomalies, Incomitant Squint, Secondary cataract, preoperative evaluation & surgica techniques, Anatomy of angle of anterior chamber, Aqueous humour dynamics, congenital glaucoma. PACG & its Management, Surgical procedure

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					for glaucoma Diseases of vitreous, Eales disease & hypertensive Retinopathy, ROP & RP
3.	Dr. Vikram M J, MBBS, MS Ophthalmology (KMC No: 67337)	Senior Resident	Regular	Working as Senior Resident, KOIMS – 5 Years	10 per Year, (Anatomy of Eyelid & Blepharitis , Anatomy of lacrimal apparatus and dry eye disease, Thyroid eye disease, Sympathetic ophthalmitic & chemical injuries, Blindness Visual disability and vision 2020
4.	Dr. Mohamed Abdul Kayoom N MBBS, DO, DNB (KMC No: 97160)	Senior Resident	Regular	Working as Senior Resident, KOIMS – 6 months	60 per Year (Strabismus Surgery and Nystagmus, Symblepharon ankyloblepharon &Ptosis, Preseptal orbital cellulitis and cavernous sinus thrombosis, Open globe injuries and intraocular foreign bodies, NPCB & DBCS, Strabismus – Introduction and Heterophoria, Anatomy of Eyelid & Blepharitis, Anatomy of lacrimal apparatus and dry eye disease, Thyroid eye disease, Sympathetic ophthalmitic & chemical injuries,

I/C HOD,
Department of Ophthalmology,
Kodagu Institute of medical Sciences,
Teaching Hospital, Madikeri.

N B

2. Medical Education Training/research methodology and dates

Faculty Name	MET Date	Research Methodology Date
Dr. Kripalini S H	26-28 October 2021	23-10-2021
Dr. Kiran Bhat,	25-27 June 2019	26-09-2021
Dr. Vikram M J,	Nil	Nil
Dr. Mohamed Abdul Kayoom N	Nil	Nil

* To be updated every new session/academic year
* To be updated on 1st October each year.

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Kodagu Institute of medical Sciences,
Teaching Hospital, Madikeri.

Annexure

E – 1

Sl.No	Faculty Name	Publication in Vancouver Referencing style	Pubmed indexed Yes/ No	Scopes
1.	Dr. Kripalini S H	Kiran Bhat, Kripalini S H. Prospective study to know the incidence of refractive error in school going children.MedPulse International Journal of Ophthalmology. September 2021; 19(3): 32-34.	Not Pubmed	
		Farheen Sana shakir, Kripalini S H. Prospective study to assess socio demographic and clinical profile of non-compliant patients on topical anti glaucoma medications in rural hospital in southern India. MedPulse International Journal of Ophthalmology. September 2021; 19(3): 35-37.	Not Pubmed	
		Kripalini SH, Shwetha Aiyappa DS, Kumar Abhijith. A study to assess The Spectrum of ocular manifestations among the patients with zoster ophthalmicus in A tertiary Care Hospital.Turk J Physiother Rehabil.2021;32(3):15214-18.		Yes
		Shwetha, Kripalini S H, Aiyappa D S, Ajith Kumar H, Bhoomika Gowda.Allergic rhinitis – clinical correlation with blood picture.Turk J Physiother Rehabil.2021;32(3):15219-23.		Yes
		Kriaplini S.H, Kumar A. A prospective study on corneal complications of small incision cataract surgery conducted in rural hospital.Tro J ophtha & Oto. 2019;4(2): 92-99.	Not Pubmed	
		Kripalini SH, Kirthana V Achar. Occurrence of post- operative complications in relation to the two types of surgeries; Phacoemulsification and small incision cataract surgery. MedPulse International Journal of Ophthalmology. May 2019; 10(2):31-37.	Not Pubmed	
		Kripalini SH, Kirthana V Achar. Clinical comparison of visual outcomes following manual small incision cataract surgery and phacoemulsification. MedPulse International Journal of Ophthalmology. May 2019; 10(2): 38-43.	Not Pubmed	
		Kripalini S. H. Comparative study of surgically induced astigmatism: superior versus superotemporal scleral incision performed in rural hospital. Ophthal Rev: Tro J ophtha & Oto. 2019;4(2): 86-91.	Not Pubmed	
		Privila E, Kripalini S H. Socio demographic determinants of incidence of fundus changes in hypertensive patients.MedPulse International Journal of Ophthalmology. April 2019; 10(1): 18-24.	Not Pubmed	
		Privila E, Kripalini S H. A Study on fundus changes in patients with essential hypertension and malignant hypertension. MedPulse International Journal of Ophthalmology. April 2019; 10(1): 11-17.	Not Pubmed	

2.	Dr. Kiran Bhat	Bhat, Manjunath S .A Clinial Study of Ocular fundus changes in Pregnancy ɛd Hypertension. Medpulse International journal of Ophthalmology October 2021; 20	Not Pubmed	
		Kiran Bhat, Kripalini S H. Prospective study to know the incidence of refractive error in school going children.MedPulse International Journal of Ophthalmology. September 2021; 19(3): 32-34.	Not Pubmed	
		. Kiran Bhat, Dr. Roopesh G, Dr. Sathish. Study of Association between ıte partner violenc Partner Violence with quality of life, Journal of clinical and diagnostic research jan 2021;15, VC 01-04	Not Pubmed	
3.	Dr. Vikram M J	Astigmatism – A Cataract Surgeon's nightmare	Not Pubmed	
4.	Dr. Mohamed Abdul Kayoom N	Sathyamurthy , N Mohamed Abdul Kayoom , Pavan S Mahajan , V Lima , th , P V Manjusha, Analyzing the Effect of Single Intraoperative treal Bevacizumab on Central Macular Thickness in Diabetes Mellitus s Undergoing Phacoemulsification Under Local Anesthesia. International l of Scientific Study. May 2020; 8(2) ;59-63	Not Pubmed	
		Ganesh Sathyamurthy , N Mohamed Abdul Kayoom , Balam p, A Study on Central Macular Thickness Changes in Diabetic Patients going Phacoemulsification. International Journal of Scientific Study | ber 2019; 7(9) ;01-04	Not Pubmed	

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Department of Ophthalmology,
Kodagu Institute of medical Sciences,
Teaching Hospital, Madikeri.

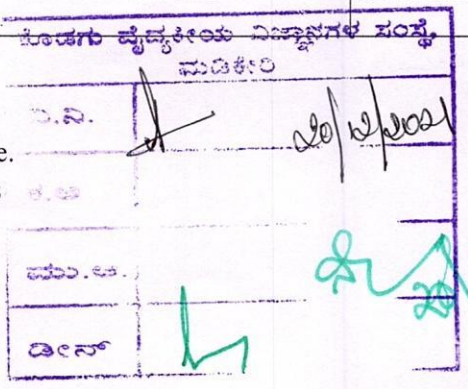
ORTHOPEADICS

Department of Orthopedics

Depart ment	Name of the Faculty Qualification IMR number	Current Designation & Date of promotion	Nature of the Employment Regular/Per manent or contract/Out sourced	Details Service in the last 5 Years	Number of Lectures taken/Year Topics Covered
1.	Dr. Anand Kumar B S (KMC No 76765)	Professor & HOD, 09-03-2019	Regular	Working as Associate Professor – 3 Years KOIMS Professor & HOD – 2 Years KOIMS	20 per Year Ortho Trauma, Bone & Joint Infection Nerve injuries, bone tumours
2.	Dr. Mozimul Haq Siddiqui (KMC No 76338)	Associate Professor	Regular	Working as Assistant Professor, Kodagu Institute of Medical Sciences, Madikeri – 4 Years, Associate Professor Kodagu Institute of Medical Sciences, Madikeri – 2 Years	20 per Year Ortho Trauma, Bone & Joint Infection Nerve injuries, bone tumours
3.	Dr. Vinay N (KMC No 85813)	Assistant Professor	Regular	Working as Assistant Professor- KOIMS	20 per Year Ortho Trauma, Bone & Joint Infection Nerve injuries, bone tumours
4.	Dr. Manjunatha A (KMC No 71420)	Associate Professor (29-03-2021)	Regular	Working as Assistant Professor PESIMSR KUPPAM - 1year 8month SDUAHER KOLAR – 5months, Sri Padmavathi Medical for Women – 1 Year KOIMS - Assistant Professor 1Years 8 Months , KOIMS – Associate Professor 9 Months ,	20 per Year Ortho Trauma, Bone & Joint Infection Nerve injuries, bone tumours, Spine Trauma Regional Orthopedics
5.	Dr. Santhosha J B (KMC No 106179)	Assistant Professor	Regular	Working as Senior Resident – 1 Year, KOIMS Assistant Professor – Aims Belluru – 6 Months Assistant Professor – KOIMS 01-04-2021 to till date	20 per Year Ortho Trauma, Bone & Joint Infection Nerve injuries, bone tumours
6.	Dr. Sridhar (KMC No 50378)	Assistant Professor (10-12-2019)	Regular	Senior Resident Kodagu Institute of Medical Sciences, Madikeri,– 2 Year Assistant Professor - Kodagu Institute of Medical Sciences, Madikeri - 3 Years	20 per Year Ortho Trauma, Bone & Joint Infection Nerve injuries, bone tumours

N B

1. Publications by faculty should be attached as annexure.
2. Publications should be quoted in Vancouver referencing style.
3. Medical Education Training/research methodology and dates
   * To be updated every new session/academic year
   * To be updated on 1st October each year.



Annexure

E – 1

Sl.No	Faculty Name	Publication in Vancouver Referencing style	Pubmed indexed Yes/ No	Scopes
1.	Dr. Anand Kumar B S	1)Prasad Soraganvi, Anand Gowda, Ajit Krishna Murthyet al Effectiveness of Treatment of Chronic Lateral Epicondylitis by Static Wrist Extensor Splint Annals of Health & Health Sciences.2015;2(1) :38-43.	No	No
		2)Anand Kumar BS, Prasad Soraganvi, Sharvanan E Udayar et al A Comparative Study of Anteromedial and Anterolateral Plate Osteosynthesis of Middle Third of Humeral Shaft Fractures International Journal of Health Sciences & Research 2015; 5(7):2015	No	No
		3)Anand Kumar BS,PrasadSoraganvi, Sathyrup D et al Management of Displaced Supracondylar Humeral Fractures in Children by Open Reduction and Internal Fixation with K-Wires: A Prospective Study Indian Journal of Orthopaedics Surgery 2015;1(4):236-240	No	No
		4)Prasad Soraganvi', Anand Kumar BS, Gadiyar HB et alDoes delay in Acl reconstruction increases incidence of associated injuries? Indian Journal of Orthopaedics Surgery 2015;1(4):279-281		
		5)Sameer Wooly, Anand Kumar.B.Set al Management of Idiopathic Clubfoot By Ponseti Method – Our Experience Indian Journal of Orthopaedics Surgery 2016;2(1):83-87		
		6)Kumar BS, Soraganvi P, Satyarup D.Treatment of Middle Third Humeral Shaft Fractures with Anteromedial Plate Osteosynthesis through an Anterolateral Approach Malaysian Orthopaedic Journal 2016 ;10 (1):37-43	Yes	No
		7)Soraganvi PC, Anand-Kumar BS, Rajagopalakrishnan R. Anterior Knee Pain after Tibial Intra-medullary Nailing: Is it Predictable?Malaysian Orthopaedic Journal 2016; 10(2):16-20	Yes	No
2.	Dr. Mozimul Haq Siddiqui	A Study of Functional Outcomes following open reduction and internal fixation of clavicle fractures at kodagu, International Journal, January 2018:5 (1):07-09.	No	No
		A Study of Functional Outcomes following cemented biopolar hemiarthroplasty for fracture neck of femur at kodagu, Medpulse International Journal 2018:5(1) 10-12	No	No
3.	Dr. Vinay N	Vinay N, Manjunatha A, Anand KBS. A comparative study on outcome of conservative and surgical treatment of type III supracondylar fracture of humerus in children. Int J Res Orthop 2020;6:817-22. 9)A Retrospective Study on Neurological Complications in Supracondylar Fracture of Humerus in Children Manjunatha A, Drvinay N ,Anand Kumar BS A study on post operative complications in management of fracture of clavicle Dr. Vinay N and Dr. Santhosha JB DOI: Clinical profile of patients with clavicle fracture Dr. Santhosha JB and Dr. Vinay N DOI: https://doi.org/10.22271/ortho.2019.v5.i3j.1594	No	No
4.	Dr. Manjunatha A	1) Vinay N, Manjunatha A, Anand Kumar B S. A comparative study on outcome of conservative and surgical treatment of type III supracondylar fracture of humerus in children.. 2) Sukumar N PT, Manjunatha A. Shoulder pain and disability index: its effectiveness and reliability in an outpatient setting in Indian population. 3) Clinical profile of patients undergoing treatment for displaced tibial plateau fracture Dr. Hemanth R, Dr. Manjunatha A and Dr. Anand Kumar BS 4) The functional outcome of operative management of displaced tibial plateau fracture Dr. Hemanth R, Dr. Manjunatha A and Dr. Anand Kumar BS DOI: 5) A study to compare the effect of elastic anti pronation taping technique	No	

		versus space correction taping technique in female subjects with medial tibial stress syndrome Dr. Sukumar Nayak, Dr. Manjunatha A and Dr. Preethish Kumar Thakur PT 6)Effect of elastic anti pSSronation taping technique along with Cryotherapy in decreasing pain and increasing ankle dorsiflexion range of motion in female subjects with medial tibia stress syndrome Dr. Sukumar Nayak, Dr. Manjunatha A and Dr. Preethish Kumar Thakur PT 7) Evaluation of results after dynamization of interlocking nail in diaphyseal fractures of femur and tibia Dr. Manjunatha A and Dr. Santhosha JB 8)Clinical profile of patients with diaphyseal fractures of femur and tibia attending tertairy care hospital Dr. Manjunatha A and Dr. Santhosha JB 9)A Retrospective Study on Neurological Complications in Supracondylar Fracture of Humerus in Children Manjunatha A, Drvinay N ,Anand Kumar BS		
5.	Dr. Santhosha J B	1.Evaluation of results after dynamization of interlocking nail in diaphyseal fractures of femur and tibia Dr. Manjunatha A and Dr. Santhosha JB 2.Clinical profile of patients with diaphyseal fractures of femur and tibia attending tertairy care hospital Dr. Manjunatha A and Dr. Santhosha JB 3. A study on post operative complications in management of fracture of clavicle Dr. Vinay N and Dr. Santhosha JB 4. Clinical profile of patients with clavicle fracture Dr. Santhosha JB and Dr. Vinay N 5. Clinical profile of patient with clavicle fractures – Dr. Santhosha J B & Vinay 6. A study on post operative complications in management of fracture of clavicle Dr. Santhosha J B & Vinay 7. Prevalence of fraxcture of forearm bones in obese and nonobese children A Cross Sectional Study Dr. Santhosha J B , sp Akshatha, 8. Collaboration between Pediatrician and orthopedician in management congenital talipes equines varus by ponseti method Dr. Santhosha J B	No	

Anand Kumar. B.S

Professor & HOD,
Department of Orthopedics,
Kodagu Institute of Medical Sciences,
Teaching Hospital, Madikeri

PATHOLOGY

KOKMS PATH /130/2021-22 17/12/2024

30.Department wise list of Faculty Members

Department	Name of the faculty Qualification IMR Number	Current Designation & Date of Promotion	Nature of employment Regular/permanent or contract/outsourced	Details of Service in the Last 5 years	Number of lectures taken/year. Topics covered
PATHOLOGY	Dr PADMAJA KULKARNI MBBS MD PATHOLOGY KMC: 59627	PROFESSOR & HEAD OF THE DEPARTMENT 7TH JULY 2017	PERMANENT	WORKING IN KODAGU INSTITUTE OF MEDICAL SCIENCES, MADIKERI FROM 2016 TO TILL DATE	10-15 LECTURES PER YEAR TOPICS: GENERAL PATHOLOGY & SYSTEMIC PATHOLOGY - TWO CHAPTERS EVERY YEAR TOPICS COVERED: • CELL INJURY • INFLAMMATION & HEALING • NEOPLASIA • GENETICS & NUTRITIONAL PATHOLOGY • IMMUNIOPATHOLOGY • WBC DISORDERS • RESPIRATORY SYSTEM • RENAL SYSTEM • ENDOCRINES • FEMALE GENITAL SYSTEM • BONE & SOFT TISSUE PATHOLOGY • HEPATOBILIARY SYSTEM
	Dr Gayathri B.N MBBS, MD	Associate Professor	Permanent	From 03.05.2014- Associate Professor at KOIMS Madikeri 1.Diagnostic work in lab 2.Setting up department, library and museum 3, Teaching for MBBS and Paramedical students	Theory • CVS • GIT • Hepatobiliary • MGT • Female genital system • Cell Injury • Immunology Practicals

Professor and HOD
Department of Pathology
Kodagu Institute of Medical Sciences
Madikeri-571201

30.Department wise list of Faculty Members

					Histopathology Cytology Hematoloy Charts Instruments
	KARUMBAIAH K P MD PATHOLOGY KMC: 41883	Associate Professor	Permanent	From FEBRAUARY 2017 Associate Professor at KOIMS Madikeri	10 CLASSES /YEAR 1. Acute inflammation 2. Chronic inflammation 3. Healing 4. Rheumatic fever 5. Endocarditis 6. Aneurysms 7. Heart failure Blood banking
	Priyadarshini MM MD PATHOLOGY KMC: 82735	ASSOCIATE PROFESSOR (9.03.2019)	PERMANENT	2014-TILL DATE KOIMS MADIKERI	1. DERANGEMENTS OF HOMEOSTASIS AND HEMODYNAMICS 2. NEOPLASIA 3. DISORDERS OF LEUKOCYTES AND LYMPHORETICULAR TISSUE 4. RESPIRATORY SYSTEM 5. GASTROINTESTINAL 6. ENDOCRINE 7. MALE GENITAL TRACT 8. BREAST 10 CLASSES /YEAR
	SUMANSHREEM MD PATHOLOGY KMC: 84456	ASSISTANT PROFESSOR	PERMANENT	2018-TILL NOW KOIMS MADIKERI	1. CARDIOVASCULAR SYSTEM 2. FEMALE GENITAL TRACT 3. MALE GENITAL TRACT 4. RENAL SYSTEM 5. NEOPLASIA 6. HEMOSTASIS AND COAGULATION 7. GENETICS AND METABOLIC SYNDROME

30.Department wise list of Faculty Members

									8. NUTRITIONAL DISORDERS
	Dr.Rashmi.B MBBS MD (Pathology)	Assistant Professor	Regular	1 Tutor	2 Asst prof	3 Asst prof	4 Asst prof	5 Asst prof	1. DERANGEMENTS OF HOMEOSTASIS AND HEMODYNAMICS 2. NEOPLASIA 3. CELL INJURY 4. CVS 5. ENDOCRINE 6. FEMALE GENITAL TRACT 7. BREAST
	Dr Sandhya M MBBS, MD	Assistant Professor	Permanent	27 July 2019, 2020,2021- assistant professor in KOIMS Madikeri					10 • Edema • Shock • Thrombosis • Amyloidosis • Occupational lung diseases • Female genital system
	DR Sampat Kumar MD 92057	Assistant Professor	Regular/ permanent	1 PG/TUTOR DR AMCH BANGALORE	2 PG/TUTOR DR AMCH BANGALORE	3 TUTOR GIMS GADAG	4 TUTOR GIMS GADAG	5 ASSISTANT PROFESSOR KOIMS KODAGU	26 Lectures Both Theory and Practical. 1)Describe the pathogenesis of common storage disorders in infancy and childhood 2)Describe the etiology, pathogenesis, pathology and clinical features of oral cancers include salivary gland tumors 3)Cardiovascular systemSpecimen-Atherosclerosis, Myocardial infarctionSlide-Atherosclerosis, Myocardial infarction 4)Hepatobiliary systemSpecimen-Cirrhosis, Chronic cholecystitis with Gall

30.Department wise list of Faculty Members

									stones Slide- Cirrhosis, Chronic cholecystitis 5)Classify testicular tumors and describe the pathogenesis, pathology, presenting and distinguishing features, diagnostic tests, progression and spread of testicular tumors 6)Describe the pathogenesis, pathology, presenting and distinguishing features, diagnostic tests, progression and spread of carcinoma of the penis 7)Describe the pathogenesis, pathology, hormonal dependency presenting and distinguishing features, urologic findings & diagnostic tests of benign prostatic hyperplasia 8)Describe the pathogenesis, pathology, hormonal dependency presenting and distinguishing features, diagnostic tests, progression and spread of carcinoma of the prostate 9) Describe the etiology, pathogenesis, pathology and progression of prostatitis 10)Male genital systemSpecimen-Seminoma testis, Carcinoma penisSlide-Seminoma testis, Benign prostatic

30.Department wise list of Faculty Members

									hyperplasia" 11)Describe the risk factors pathogenesis, pathology and natural history of squamous cell carcinoma of the skin 12)Describe the risk factors pathogenesis, pathology and natural history of basal cell carcinoma of the skin 13) Describe the distinguishing features between a nevus and melanoma. Describe the etiology,pathogenesis, risk factors morphology clinical features and metastases of melanomaClassify and describe the etiology, genetics, pathogenesis, pathology, presentation sequelae and complications Of CNS tumors

ANNEXUR

E-1

Sr. NO	Faculty Name	Publication in Vancouver referencing style.	Pubmed Indexed Yes/NO	Scopes
1	Dr Padmaja Kulkarni	1. Kulkarni PR, Rani H. Cytohistological correlation study of conventional Papanicolaou smears in cervical neoplasia. Journal of Research in Medical Education and Ethics. 2013;3(2):172-9	Yes	MEDICINE, GENERAL SURGERY PEDIATRICS PATHOLOGY, GYANECOLOGY,
		2. PadmajaRamesh Kulkarni1, Hephzibah Rani, ManjunathGubbannaVimalambike, SunilaRavishankar. Opportunistic Screening for Cervical Cancer in a Tertiary Hospital in Karnataka. India Asian Pac J Cancer Prev 2013; 14 (9) : 5101-5105	YES	
		3. Rani H, Kukarni PR, Disnesh US, Sateesh M. Comparison of Squash smears , Frozen section and paraffin sections in the intraoperative diagnosis of central nervous system lesions. El Mednifico Journal 2014;2(2):1-4	NO	
		4. Myageri A, G VU, Melkundi S, Patil PB, Kulkarni P. Squash cytology of primary central nervous system lymphoma in an immunocompetent patient. Asian J Neurosurg 2013;8:195-8.	YES	
		5. PadmajaRameshKulkarni, Anita PanditJavalgi, BhaswanthPottipati, FazilShajahan. PlasmacytoidMyoepithelioma of the Hard Palate in a Child – A Rare Case Report. Journal of	YES	

		Clinical and Diagnostic Research. 2015 ; 9(10): ED01-ED02		
		6. Surekha B Hippargi, Anita P Javalgi, Anirudh V Kushtagi, Padmaja R Kulkarni, Mamta K. Carcinosarcoma Masquerading as Giant Cystic Hematoma. Journal of Clinical and Diagnostic Research. 2014 ; 8(10): FD26-FD27	YES	
		7. KulkarniPadmaja, LaxmeshwarNagaraj.Evaluaio n of different diagnostic Techniques for malaria in tertiary health care centre, Karnataka.Indian Journal of Pathology: Research and Practice 2017;6(1):131-3	NO	
		8. KulkarniPadmaja, Javalgi Anita P, PatilVijayalakshmiS.Knowled ge, Attitude and Practice about Cervical Cancer & Screening among Female Staff of Medical Institute in Karnataka Indian Journal of Cancer Education and Research 2017;5(1):21-4	NO	
		9. Kulkarni P, Varna I. Rapid diagnostic tests versus peripheral smear in malaria: a comparative study .Trop J Path Micro 2016;2(3):179-82.	NO	
		10. KulkarniPadmaja, LaxmeshwarNagaraj.Evaluaion of different diagnostic Techniques for malaria in tertiary health care centre, Karnataka.Indian Journal of Pathology: Research and Practice 2017;6(1):131-3	NO	

		11. KulkarniPadmaja, Javalgi Anita P, PatilVijayalakshmiS.Knowledge, Attitude and Practice about Cervical Cancer & Screening among Female Staff of Medical Institute in Karnataka Indian Journal of Cancer Education and Research 2017;5(1):21-4	**NO**	

ANNEXUR

E-1

Sr. NO	Faculty Name	Publication in Vancouver referencing style.	Pubmed Indexed Yes/NO	Scopes
	Dr Gayathri B.N	1. Gayathri B.N, Pattanashetti MA, PriyadarshiniMM. Cytomorphological Study of Spectrum of Lymphnodes in Teritary care hospital in India. WalwalkarInternation Medical Journal ;2020:43-46 2. Gayathri B.N, Pattanashetti MA, PriyadarshiniMM. Histopathological Study of Myometrial Lesions of uterus in a Tertiary Care Hospital of South India.J Evid Based Med Health.2021;8(6):293-297 3. Pattanashetti MA, Priyadarshini MM, Gayathri B.N.Histopathological Study of Appendiectomy specimens in a Tertiary Care Hospital of Hilly region in South Western India. National Journal of Laboratory Medicine. 2021;10(1):30-33	**NO**	**DOAG**

ANNEXUR

E-1

Sr. NO	Faculty Name	Publication in Vancouver referencing style.	Pubmed Indexed Yes/NO	Scopes
1	KARUM BAIAH K P	K P Karumbaiah. A histopathologic study of connective tissue diseases of skin. IJPRP 2017;6(2): 4851-53.		
2		K P Karumbaiah. A histopathologic study of papillosquamous lesions of skin. IJPRP 2017;6(2): 4875-78.		
3		K P Karumbaiah. A clinicopathologic study of Lichen Planus. SJAMS 2017;5(3F): 1122-26.		
4		K P Karumbaiah. A clinicopathologic study of Scleroderma and Morphea. TJOPM 2017; 3: 1366.		
5		K P Karumbaiah. A Histomorphological study of abnormal uterine bleeding. IJPRP 2017; 6: 4917		
6		K P Karumbaiah. Pityriasis Rosea – A Histomorphologic study. SJAMS 2017;5: 304.		

ANNEXUR

E-1

Sr. NO	Faculty Name	Publication in Vancouver referencing style.	Pubmed Indexed Yes/NO	Scopes
1	PRIYADARSHINI MM	Priyadarshini MM, Manjunatha Y.A, Shaista Choudhary, Suba G. Comparative study using routine stains and Immunohistochemistry staining techniques for detection of Helicobacter pylori. *Tropical Journal of Pathology and Microbiology* 2018 *4*(3), 288-294.	NO	GYNAE PATHOLOGY
2		Priyadarshini M M, Gitanjali M. M, Manjunatha Y. A. Significance of histologic grading using visual analogue scale in chronic gastritis. Trop J Path Micro 2018;4(1):82-87. doi: 10.17511/jopm.2018.i1.15.	NO	GYNAE PATHOLOGY
3		Monnappa G, Monnappa P, Kolakkadan H. Clinicopathologic profile of squamous cell carcinomas in resected specimens of upper aerodigestive tract: A retrospective study of 72 cases. J Diagn Pathol Oncol 2018; 3(4):263-267	NO	GYNAE PATHOLOGY
4		Mallikarjun Pattanashetti, MM Priyadarshini, BN Gayathri Histopathological Study of Appendicectomy Specimens in a Tertiary Care Hospital of Hilly Region in South Western India. National Journal of Laboratory Medicine. 2021 Jan, Vol-10(1)	NO	
5		Mallappa, Sumanashree; Ramanujam, Aishwarya; Monnappa, Priyadarshini; Kulkarni, Padmaja. An Audit Of Indications For Hysterectomy In a District Hospital, Madikeri. Journal of Clinical & Diagnostic Research . Oct2020, vol. 14 issue 10, p27-32. 6p.	YES	

6		Gayathri B N, Mallikarjun A. Pattanashetti and Priyadarshini M M. Cytomorphological study of Spectrum of Lymph Node Lesions in Tertiary Care Hospital in India. Walawalkar International Medical Journal 2020; 7(2):44-51.	NO	

ANNEXUR

E-1

Sr. NO	Faculty Name	Publication in Vancouver referencing style.	Pubmed Indexed Yes/NO	Scopes
1	**SUMAN ASHREE MALLAPPA**	Mallappa, S.,Ramanujam, A., Monnappa P, Kulkarni, P. 2020. An Audit of Indications for Hysterectomy in a District Hospital, Madikeri. *Journal Of Clinical And Diagnostic Research*, 14(10), pp.27-32	**NO**	**GYNAE PATHOLOGY**
2	**SUMAN ASHREE MALLAPPA**	Khatri A, Arora R, Mallappa S. Significance of Crushed Fragments and Eosinophils in Cytological Diagnosis of Hashimoto's Thyroiditis. Cureus. 2019 Oct 7;11(10):	**YES**	**GYNAE PATHOLOGY**
3	**SUMAN ASHREE MALLAPPA**	Mallappa S , Sharma N , Sharma U , Khatri A, Bhandari V . Role of Nipple Discharge Cytology in Predicting NAC Involvement in Carcinoma Breast. Annals of Woman and Child Health 2017; 3(2): 28-33	**NO**	**GYNAE PATHOLOGY**

ANNEXUR

E-1

Sr.NO	FacultyName	Publication in Vancouver referencing style.	Pubmed Indexed Yes/NO	Scopes
1	Dr.Rashmi.B	NavyaBN,RashmiB,Rvikanth GO Sathyavathi R Alva Comparison of diagnostic accuracy of colposcpic findings using modified Reid Colposcopic Index with Histopathology in Cervical lesions. IOSR-Journal of Dental and Medical Sciences Volume 15, Issue 10 Ver.III (October 2016) PP 129-133.	yes	
2		Somashekar HK, Rashmi B, Manjunatha S Histopathological study of Umbilical cord and placental membranes in clinically suspected cases of chorioamnionitis. Medpulse international journal of gynaecology. November 2018;8(2):65-68.	Yes	

ANNEXUR

E-1

Sr. NO	Faculty Name	Publication in Vancouver referencing style.	Pubmed Indexed Yes/NO	Scopes
	Dr Sandhya M	1. Sandhya M, Sowmya T S, K R Nagesha. Spectrum of Dermatological lesions in Skin Biopsies –AHistopathological Study. MedPulse International Journal of Pathology. March 2019; 9(3): 106-110. 2. Sandhya M, Purushotham Ramaiah, D K R Nagesha. Knowledge, attitude and practices regarding voluntary blooddonation. MedPulse International Journal of Pathology. March 2019; 9(3): 100-105. 3. Sandhya M, Sumaya, K R Nagesha.Cytodiagnostic Study of Papanicolaou Smears with HistopathologicalCorrelation-An Emphasis on 2014 Bethesda System for ReportingCervical Cytology. Saudi J Pathol Microbiol, June 2019; 4(6): 443-449.	**NO**	

ANNEXUR

E-1

Sr. NO	Faculty Name	Publication in Vancouver referencing style.	Pubmed Indexed Yes/NO	Scopes
1	DR Sampat Kumar	1. Kumar D, CN D, Nagaram D. Clinicopathological correlation of thrombocytopenia. International Journal of Clinical and Diagnostic Pathology. 2019;2(1):357-360.	Yes	Yes
2	DR Sampat Kumar	2.Kumar D, CN D, Nagaram D. The prevalence, etiology and patterns of thrombocytopenia among geriatric age group. International Journal of Clinical and Diagnostic Pathology. 2019;2(1):361-364.	Yes	Yes
3	DR Sampat Kumar	3. Kumar D, Permi D, Bommannahalli D. Role of Fnac in diagnosis of thyroid lesions. International Journal of Clinical and Diagnostic Pathology. 2019;2(2):136-137.	Yes	Yes
4	DR Sampat Kumar	4. Kumar D, KP D, Bommannahalli D. A descriptive study of utilization of blood and blood components in a tertiary care hospital, Gadag. International Journal of Clinical and Diagnostic Pathology. 2019;2(2):131-135.	Yes	Yes
5	DR Sampat Kumar	5. Kumar S. Role of red cell distribution width in diagnosis of iron deficiency anemia. MedPulse International Journal of Pathology. 2019;September 2019;(11(3):):154-157.	Yes	Yes
6	DR Sampat Kumar	6. Nagaram D, Choudhary S, Kumar S. Red cell distribution width as a screening test in the diagnosis of beta thalassemia trait. MedPulse - International Journal of Pathology. 2019;11(3):158-162.	Yes	Yes

Professor and HOD
Department of Pathology
Kodagu Institute of Medical Sciences
Madikeri-571201

PEADIATRICS

GOVERNMENT OF KARNATAKA
KODAGU INSTITUTE OF MEDICAL SCIENCES
MADIKERI, KODAGU DISTRICT

Department of Pediatrics

Phone: 08272 221449 Fax: 08272 298260 Website: www.kimskodagu.kar.nic.in e-mail: paedkoims@gmail.com

No. KoIMS/PAED/498/2021-22 **Date: 22-12-2021**

Department of Pediatrics

Sl. No.	Name of the Faculty Qualification IMR Number	Current Designation and Date of Promotion	Nature of Employment Regular/ Permanent/ Contract/ Outsourcing	Details of service in the last 5 years	Number of lectures Classes taken Per Year
1.	Dr. Purushotham D R KMC No. 69939	Professor and HOD 09-03-2019	Permanent	Associate Professor (2 years 3 months) Professor and HOD (2 years 9 months)	20 per year Newborn, General Pediatrics, Infectious Diseases, Renal System, Endocrine System, Respiratory System, Communication Skills
2.	Dr. Divya Rani D C KMC No. 82858	Associate Professor 09-03-2019	Permanent	Assistant Professor (2 years 3 months) Associate Professor (2 years 9 months)	20 per year Cardiovascular System, Genetics, Respiratory System. Hematological System, Infectious diseases, fluid and Electrolyte Disturbances
3.	Dr. Salma Shaziya KMC No.77115	Assistant Professor 09-03-2019	Permanent	Senior Resident (2 years 3 months) Assistant Professor (2 years 9 months)	20 per year Cardiovascular System, Renal System, Development pediatrics, Infectious Diseases, Newborn, Central Nervous System
4.	Dr. Kushvanth K N KMC No. 83228	Assistant Professor 30-03-2021	Permanent	Senior Resident (1 Year) NHM Pediatrician (7 months) Assistant Professor (2 years 9 months)	20 per year Cardiovascular System, Infectious Diseases, Cardiovascular System, Newborn

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GOVERNMENT OF KARNATAKA
KODAGU INSTITUTE OF MEDICAL SCIENCES
MADIKERI, KODAGU DISTRICT

Department of Pediatrics

Phone: 08272 221449 Fax: 08272 298260 Website: www.kimskodagu.kar.nic.in e-mail: paedkoims@gmail.com

ANNEXURE - 1

Sl. No.	Faculty Name	Publication in Vancouver Referencing Style	Pub med Indexed Yes/No	Scopes
1.	Dr. Purushotham D. R	1. Study of blood pressure in overweight and obese school children between 5-15 years of age Int. J Res Health Sci. 2014;2(2):38-43	No	Index Copernicus
		2. A study of blood pressure to height ratio and its anthropometric correlates of obesity in adolescents. International Journal Of Medical And Applied Sciences. 2013;2(1): 120-127	No	Index Copernicus
		3. Study of oral glucose tolerance test in overweight and obese urban school children between 5 to 15 years of age. International Journal Of Medical And Applied Sciences 2014;3(1): 56-66	No	Index Copernicus
		4. Study of prevalence and Hepatic dysfunction in Dengue fever in children Sch. J. App. Med. Sci., 2015; 3(5D):2071-2074	No	Index Copernicus
2.	Dr. Divya Rani D. C	1. Early Neonatal Morbidities of late preterm Neonates Admitted to SNCU in the Government District Hospital. Indian Journal of Trauma And Emergency Pediatrics. 2017; 9(4): 221-226.	No	Index Copernicus
		2. A study on Immediate outcome in Late Preterm Neonates at Tertiary Care Hospital. Indian Journal of Trauma And Emergency Pediatrics.2017;9(4):215-219.	No	Index Copernicus
		3. A study on Maternal Risk Factors and Preterm Neonates. Pediatric Education And Research, 2017;5(3):188-191.	No	Index Copernicus
		4. Clinical Profile of Late Preterm Neonates at Tertiary Care Hospital. Pediatric Education And Research, 2017;5(3):192-196.	No	Index Copernicus
		5. Knowledge, attitude and practices of breast feeding among postnatal mothers. International Journal Contemporary Pediatrics. 2015;2(4):445-449.	No	Index Copernicus
		6. Prevalence of protein energy malnutrition among 1-5 years of children in Bellary Taluk. International Journal Contemporary Pediatrics.2015;2(4):307-310.	No	Index Copernicus

GOVERNMENT OF KARNATAKA
KODAGU INSTITUTE OF MEDICAL SCIENCES
MADIKERI, KODAGU DISTRICT

Department of Pediatrics

Phone: 08272 221449 Fax: 08272 298260 Website: www.kimskodagu.kar.nic.in e-mail: paedkoims@gmail.com

		7. The Prevalence of Sepsis in neonate caused by multidrug resistant Bacteria. International Journal of Pediatric Gastritis, 2020; 3(2):131-134.	No	Index Copernicus
		8. The Predictors of MDR organisms causing sepsis in neonates born in a tertiary care Hospital. International Journal of Pediatric Gastritis, 2020:3(2):135-137.	No	Index Copernicus
3.	Dr. Salma Shaziya	1. Foreign Body In the Respiratory Tract of Children Davanagar Karnataka South Indian: A Prospective Study. International Journal Of Scientific Study. 2014; 2(8):6-10.	No	Pub med Indexed
		2. Common Lactation Problems: Impact of Lactation Management Clinic And Telephone Support In Their Management – A 5-Year Prospective Study In Davanagere South India. International Journal Of Scientific Study. 2014; 2(8):14-18.	NO	Pub med Indexed
		3. Comparison Study on Efficacy of Standard WHO Protocal of F-75 and F-100 Diet Versus Davanagere mix in management of severe Acute Malnutrition. National Journal Of Medical And Allied Sciences. 2015; 4(2):3-6.	No	Index Medicus
		4. Study of time lapse in Foreign body Aspiration in relation to chest X-ray And Type of Foreign body. Journal Of Evidence Based Medicine And Healthcare. 2015; 2(41):2349-2362.	No	Index Medicus
		5. Morbidities and Survival outcomes of admitted low birth weight neonates in non-teaching district hospital SNCU. International Journal of Contemporary Pediatrics. 2016; 3(3):828:832.	No	Index Medicus Index Copernicus
		6. A Study on Prevalence of pre-Hypertension in relation to various Obesity Indicators in Tenth standard health school children aged 14to Years. International Journal of Contemporary Pediatrics. 2016;3:35-40	No	Index Medicus Index Copernicus

GOVERNMENT OF KARNATAKA
KODAGU INSTITUTE OF MEDICAL SCIENCES
MADIKERI, KODAGU DISTRICT

Department of Pediatrics

Phone: 08272 221449 Fax: 08272 298260 Website: www.kimskodagu.kar.nic.in e-mail: paedkoims@gmail.com

4.	Dr. Kushvanth K N	1. A cross section study to determine the prevalence of GERD in the children with persistent cough and wheezing. Asian Journal of Clinical Pediatrics and Neonatology AJCPN, 2020; 8(4): 36-40.	No	Index Copernicus
		2. Clinical and metabolic consequences in infant of diabetic Mother. European journal of pharmaceutical and medical research. EJPMR, 2020 ;7(11):733-738.	No	Index Copernicus

22/12/2021

Professor and HOD
Department of Pediatrics
KoIMS, Madikeri

Professor and HOD
Department of Pediatrics
Kodagu Institute of Medical Sciences
Madikeri - 571 201

PHARMACOLOGY

Faculty details for website update 2021

Department	Name of faculty Qualification IMR No	Current designation & date of promotion	Nature of employment Regular/ /permanent /contract/ outsourced	Details of service in last five years					Number of lectures taken/ Topics covered year
Pharma cology	Dr Eesha B R M.B.B.S, M.D. KMC reg no 49386	Professor and Head	Permanent	Ko I MS	Ko I MS	Ko I MS	Ko I MS	Ko I MS	25 Annexure 2A

Department	Name of faculty Qualification IMR No	Current designation & date of promotion	Nature of employment Regular/ /permanent /contract/ outsourced	Details of service in last five years					Number of lectures taken/ Topics covered year
Pharma cology	Dr Sharan B H M.B.B.S, M.D. KMC reg no 73522	Associate Professor	Permanent	Ko I MS	Ko I MS	Ko I MS	Ko I MS	Ko I MS	26 Annexure 2B

Department	Name of faculty Qualification IMR No	Current designation & date of promotion	Nature of employment Regular/ /permanent /contract/ outsourced	Details of service in last five years					Number of lectures taken/ Topics covered year
Pharma cology	Dr Rohith V M.B.B.S, M.D. KMC reg no 76461	Assistant Professor	Permanent	Ko I MS	Ko I MS	Ko I MS	Ko I MS	Ko I MS	26 Annexure 2C

ಕೊಡಗು ವೈದ್ಯಕೀಯ ವಿಜ್ಞಾನಗಳ ಸಂಸ್ಥೆ, ಮಡಿಕೇರಿ

Professor & HOD
Department of Pharmacology
Kodagu Institute of Medical Sciences
Madikeri - 571201

Department	Name of faculty Qualification IMR No	Current designation & date of promotion	Nature of employment Regular/ /permanent /contract/ outsourced	Details of service in last five years					Number of lectures taken/ Topics covered year
Pharma cology	Dr Pramod S G M.B.B.S, M.D. KMC reg no 86794	Assistant Professor	Permanent	Ko I M S	Ko I M S	Ko I M S	Ko I M S	Ko I M S	25 Annexure 2D

Department	Name of faculty Qualification IMR No	Current designation & date of promotion	Nature of employment Regular/ /permanent /contract/ outsourced	Details of service in last five years					Number of lectures taken/ Topics covered year
Pharma cology	Mr Sukesh MSc Medical pharmacology	Tutor	Permanent	Ko I M S	Ko I M S	Ko I M S	Ko I M S	Ko I M S	13 Annexure 2E

Department	Name of faculty Qualification IMR No	Current designation & date of promotion	Nature of employment Regular/ /permanent /contract/ outsourced	Details of service in last five years					Number of lectures taken/ Topics covered year
Pharma cology	Mr Savin C G MSc Medical pharmacology	Tutor	Permanent	Ko I M S	Ko I M S	Ko I M S	Ko I M S	Ko I M S	15 Annexure 2F

Publications by faculty attached as **annexure 1**

Professor & HOD
Department of Pharmacology
Kodagu Institute of Medical Sciences
Madikeri - 571201

Faculty Publications
Annexure 1

Dr Eesha B R

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4. Wound healing activity of aqueous extract of Crotalaria Verrucosain Wistar albino rats. MeenaKumari, **Eesha BR,** MohanbabuAmberkar, Sarathbabu, Rajshekar, Neelesh Kumar. Asian Pacific Journal of Tropical Medicine (2010)783-787.

5. Nanotechnology and cancer. MeenaKumari K, Satish Kumar MC, **Eesha BR,** AmberkarMohanbabuVittalrao, Bairy KL, Udupa AL. Pharmacologyonline 2: 267-276 (2010).

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7. Students' attitudes towards the use of audio visual aids during didactic lectures in pharmacology. Lalit Mohan, Ravi Shankar P, AshwinKamath, Manish MS, **Eesha BR.** Journal of Clinical and Diagnostic Research. December 2010; (4): 3363-3368

8. **Wound healing property of topical application of ethanolic extract of** *Michelia champaca* **flowers in diabetic rats.** Amoolya Gowda, Venkatesh Shanbhag, Smita Shenoy, **Eesha Rao Bangalore**, Krishnananda Prabhu, Raghu Murthy, Nelluri Venumadhav, Prashanthkumar Goudapalla, Mukunda Narayanareddy, Tara Shanbhag

Dr Sharan B H

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3. Hiremath SB, Priya G. Evaluation of zinc as anti-asthma agent: a preclinical study on guinea pigs. Int J Basic Clin Pharmacol 2017;6:1943-7.

4. Hiremath SB, Srinivas LD. Carvedilol versus beta-1 blockers as antihypertensive drugs in type-2 diabetes mellitus and pre-diabetic patients with features of metabolic syndrome: a meta-analysis. Int J Basic Clin Pharmacol 2016;5:1380-8.

5. Hiremath SB, Srinivas LD. Carvedilol as nephroprotective agent: a metaanalysis of randomized controlled trials. Int J Basic Clin Pharmacol 2016;5:769-74.

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7. Hiremath SB, Priya G. Effects of selective imidazolin-1 receptor agonists' vs Dihydropyridine calcium channel blockers on insulin resistance in patients of hypertension with metabolic syndrome: a meta-analysis of randomized controlled trials. Int J Basic Clin Pharmacol. 2016; 5(2): 394-401

8. Hiremath SB, Kamdod MA. Effect of various drugs used in conservative therapy of hepatorenal syndrome: A retrospective drug utilization study. Indian J Pharmacol 2014;46:538-42.

9. Hiremath SB, Srinivas LD. Survival benefits of terlipressin and non-responder state in hepatorenal syndrome: A Meta-analysis. Indian J Pharmacol 2013;45:54-60.

Dr Rohith V

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3. Natarajan A, Rohith V, Topno I. Prescription errors in the department of obstetrics and gynaecology: a cross-sectional, observational study. Asian Journal of Pharmaceutical and Clinical Research. 2016 Mar 1:233-5.

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6. Rohith V. Prescription pattern of fixed dose drug combinations in obstetrics and gynecology department of a tertiary care hospital in Puducherry, India: an observational study. International Journal of Basic & Clinical Pharmacology. 2018 Nov;7(11):2122.

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Dr Pramod S G

1. Pramod SG, Jayanthi MK, Mruthunjaya K, Manjula SN. A study to evaluate the in-vivo anticancer activity of ethanolic extract of Holoptelea integrifolia leaves against Ehrlich ascites carcinoma model using Swiss albino mice. Int J Basic Clin Pharmacol. 2016 Sep; 5:1739-45.

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4. Pramod SG, Rohith V. Pattern of preanesthetic medication used in various surgical specialties in a tertiary care hospital in Madikeri: A retrospective cross-sectional study. National Journal of Physiology, Pharmacy and Pharmacology. 2021;11(8):864-7.

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Mr Sukesh

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Mr Savin

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2. Ganapathi SC, Holla R, Shankara S, Shankara S, Narayana SK, Mundugaru R. Microscopical Evaluation, Phytochemical Analysis and HPTLC Fingerprinting of Tuber of Actinoscirpus grossus (L.F)Goetgh. & D.A.Simpson. Pharmacog J. 2017;9(5):657-62. (Scopus, Pubmed)

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Dr Eesha B R lectures (annexure 2A)

	TOPIC
1	PH 1.25 Describé the mechanism/ s of action, types, doses, side effects, indications and contraindications of the drugs acting on blood, like . anticoagulants
2	PH 1.24 Describe the mechanism/ s of action, types, doses, side effects, indications and contraindications of the drugs affecting renal systems including antidiuretic s- vasopressin and analogues
3	PH 1.25 Describe the mechanism/ s of action, types, doses, side effects, indications and contraindications of the drugs acting on blood, like antiplatelets
4	PH 1.25 Describe the mechanism/ s of action, types, doses, side effects, indications and contraindications of the drugs acting on blood, like fibrinolytics
5	PH 1.35 - Describe the mechanism/ s of action, types, doses, side effects, indications and contraindications of drugs used in hematological disorders like: 1. Drugs used in anemias
6	PH- 1.34- Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of the drugs used as below: 1. Acid- peptic disease and GERD
7	PH- 1.34- Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of the drugs used as below: 1. Antiemetics and prokinetics
8	PH 1.36 - Describe the mechanism of action, types, doses, side effects indications and contraindications of drugs used in endocrine disorders (Thyroid hormones)
9	PH 3.3 Perform a critical evaluation of the drug promotional Literature - Brainstorming followed by demonstration – 3 no.s (integration with General medicine)
10	PH 1.17 Describe the mechanism/ s of action, types, doses, side effects, indications and contraindications of local anesthetics
11	PH 1.18 Describe the mechanism/ s of action, types, doses, side effects, indications and contraindications of general anesthetics, and pre- anesthetic medications 1
12	PH 1.18 Describe the mechanism/ s of action, types, doses, side effects, indications and contraindications of general anesthetics, and pre- anesthetic medications 2
13	PH1.2 Describe the basis of evidence-based medicine and therapeutic drug monitoring (SGD)

14	PH1.6 Describe principles of pharmacovigilance and adverse drug reaction reporting system (SGD)
15	PH1.14 Describe the MOA, types, doses, side effects, indication and contraindications of cholinergic agonists 1 (SGD)
16	PH1.14 Describe the MOA, types, doses, side effects, indication and contraindications of cholinergic agonists 2 (SGD)
17	PH1.14 Describe the MOA, types, doses, side effects, indication and contraindications of anticholinergic drugs
18	PH1.13 Describe the MOA, types, doses, side effects, indication and contraindications of adrenergic drugs
19	PH1.13 Describe the MOA, types, doses, side effects, indication and contraindications of antiadrenergic drugs 1
20	PH1.13 Describe the MOA, types, doses, side effects, indication and contraindications of antiadrenergic drugs 2
21	PH1.20 Describe the effects of acute and chronic ethanol intake (SGD)
22	PH1.21 Describe the symptoms and management of methanol and ethanol poisonings (SGD)
23	Empathy and ethics
24	Anticancer drugs 1
25	Anticancer drugs 1

Dr Sharan B H lectures (annexure 2B)

1. PH1.16 Describe the MOA, types, doses, side effects, indication and contraindications of antihistaminics
2. PH1.16 Describe the MOA, types, doses, side effects, indication and contraindications of serotonin modulating drugs and drugs for migraine
3. PH 1.16 Describe mechanism/ s of action, types, doses, side effects, indications and contraindications of the drugs which act by modulating autacoids: NSAIDs, drugs for gout, anti-rheumatic drugs
4. PH 1.19 Describe the mechanism/ s of action, types, doses, side effects, indications and contraindications of the drugs which act on CNS (Anti- depressants) 1
5. PH 1.19 Describe the mechanism/ s of action, types, doses, side effects, indications and contraindications of the drugs which act on CNS (Anti- depressants) 2
6. PH1.2 Describe the basis of evidence-based medicine and therapeutic drug monitoring (SGD)
7. PH1.6 Describe principles of pharmacovigilance and adverse drug reaction reporting system (SGD)
8. PH1.14 Describe the MOA, types, doses, side effects, indication and contraindications of cholinergic agonists 1 (SGD)
9. PH1.14 Describe the MOA, types, doses, side effects, indication and contraindications of cholinergic agonists 2 (SGD)
10. PH1.14 Describe the MOA, types, doses, side effects, indication and contraindications of anticholinergic drugs
11. PH1.13 Describe the MOA, types, doses, side effects, indication and contraindications of adrenergic drugs
12. PH1.13 Describe the MOA, types, doses, side effects, indication and contraindications of antiadrenergic drugs 1
13. PH1.13 Describe the MOA, types, doses, side effects, indication and contraindications of antiadrenergic drugs 2
14. PH1.20 Describe the effects of acute and chronic ethanol intake (SGD)
15. PH1.21 Describe the symptoms and management of methanol and ethanol poisonings (SGD)
16. Aminoglycosides, tetracyclines and macrolides
17. Antitubercular drugs 1
18. Antitubercular drugs 2
19. Antileprotic drugs
20. Empathy and ethics
21. PH 1.35 - Describe the mechanism/ s of action, types, doses, side effects, indications and contraindications of drugs used in hematological disorders like: 1. Colony Stimulating factors
22. PH 1.26 Describe mechanism of action, types, doses, side effects, indications and contraindications of the drugs modulating the renin- angiotensin and aldosterone system
23. PH 1.27 Describe the mechanism s of action, types, doses, side effects, indications and contraindications of antihypertensive drugs 1
24. PH 1.27 Describe the mechanism s of action, types, doses, side effects, indications and contraindications of antihypertensive drugs 2
25. PH- 1.34- Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of the drugs used as below: 1. Antidiarrheals
26. PH- 1.34- Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of the drugs used as below: 1. Laxatives

Dr Rohith lectures (annexure 2C)

1. PH1.1 Define and describe the principles of pharmacology and pharmacotherapeutics
2. PH1.4 Describe absorption, distribution, metabolism and excretion of drugs 1
3. PH1.5 Describe general principles of mechanism of drug action 1
4. PH1.5 Describe general principles of mechanism of drug action 2
5. PH1.5 Describe general principles of mechanism of drug action 3
6. PH1.2 Describe the basis of evidence-based medicine and therapeutic drug monitoring (SGD)
7. PH1.6 Describe principles of pharmacovigilance and adverse drug reaction reporting system (SGD)
8. PH1.14 Describe the MOA, types, doses, side effects, indication and contraindications of cholinergic agonists 1 (SGD)
9. PH1.14 Describe the MOA, types, doses, side effects, indication and contraindications of cholinergic agonists 2 (SGD)
10. PH1.14 Describe the MOA, types, doses, side effects, indication and contraindications of anticholinergic drugs
11. PH1.13 Describe the MOA, types, doses, side effects, indication and contraindications of adrenergic drugs
12. PH1.13 Describe the MOA, types, doses, side effects, indication and contraindications of antiadrenergic drugs 1
13. PH1.13 Describe the MOA, types, doses, side effects, indication and contraindications of antiadrenergic drugs 2
14. PH1.20 Describe the effects of acute and chronic ethanol intake (SGD)
15. PH1.21 Describe the symptoms and management of methanol and ethanol poisonings (SGD)
16. PH 1.28 Describe the mechanism s of action, types, doses, side effects, indications and contraindications of the drugs used in ischemic heart disease (stable, unstable angina and myocardial infarction and PVD)
17. PH 1.29 Describe the mechanism s of action, types, doses, side effects, indications and contraindications of the drugs used in congestive heart failure
18. PH 1.30 Describe the mechanism s of action, types, doses, side effects, indications and contraindications of the antiarrhythmics
19. PH- 1.34- Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of the drugs used as below: 1. Inflammatory Bowel Disease 2. Irritable Bowel disorders, Biliary and Pancreatic disorders
20. PH 1.37 Describe the mechanism s of action, types, doses, side effects, indications and contraindications of the drugs used as anterior Pituitary hormones
21. PH 1.37 Describe the mechanism s of action, types, doses, side effects, indications and contraindications of the drugs used as sex hormones, their analogues 1
22. PH 1.37 Describe the mechanism s of action, types, doses, side effects, indications and contraindications of the drugs used as sex hormones, their analogues 2
23. PH 1.37 Describe the mechanism s of action, types, doses, side effects, indications and contraindications of the drugs used as sex hormones, their analogues 3

24. Immunomodulators
25. Geriatric and pediatric pharmacology
26. P – drug, essential drugs and rational drug therapy

Dr Pramod lectures (annexure 2D)

1. PH1.4 Describe absorption, distribution, metabolism and excretion of drugs 2
2. PH1.4 Describe absorption, distribution, metabolism and excretion of drugs 3
3. PH1.4 Describe absorption, distribution, metabolism and excretion of drugs 4
4. PH 1.19 Describe the mechanism/ s of action, types, doses, side effects, indications and contraindications of the drugs which act on CNS (Sedative-hypnotics)
5. PH 1.19 Describe the mechanism/ s of action, types, doses, side effects, indications and contraindications of the drugs which act on CNS (Anti- psychotic)
6. PH1.2 Describe the basis of evidence-based medicine and therapeutic drug monitoring (SGD)
7. PH1.6 Describe principles of pharmacovigilance and adverse drug reaction reporting system (SGD)
8. PH1.14 Describe the MOA, types, doses, side effects, indication and contraindications of cholinergic agonists 1 (SGD)
9. PH1.14 Describe the MOA, types, doses, side effects, indication and contraindications of cholinergic agonists 2 (SGD)
10. PH1.14 Describe the MOA, types, doses, side effects, indication and contraindications of anticholinergic drugs
11. PH1.13 Describe the MOA, types, doses, side effects, indication and contraindications of adrenergic drugs
12. PH1.13 Describe the MOA, types, doses, side effects, indication and contraindications of antiadrenergic drugs 1
13. PH1.13 Describe the MOA, types, doses, side effects, indication and contraindications of antiadrenergic drugs 2
14. PH1.20 Describe the effects of acute and chronic ethanol intake (SGD)
15. PH1.21 Describe the symptoms and management of methanol and ethanol poisonings (SGD)
16. PH 1.33 Drugs for Cough
17. PH 1.31 Describe the mechanism s of action, types, doses, side effects, indications and contraindications of the drugs used in the management of dyslipidemias
18. PH- 1.32 Describe the mechanism/ s of action, types, doses, side effects, indications and contraindications of drugs used in bronchial asthma and COPD 1
19. PH- 1.32 Describe the mechanism/ s of action, types, doses, side effects, indications and contraindications of drugs used in bronchial asthma and COPD 2
20. PH 1.36 - Describe the mechanism of action, types, doses, side effects indications and contraindications of drugs used in endocrine disorders (diabetes mellitus 1)
21. PH 1.36 - Describe the mechanism of action, types, doses, side effects indications and contraindications of drugs used in endocrine disorders (diabetes mellitus 2)
22. Antiviral drugs
23. Antiretroviral drugs
24. Antifungal drugs
25. Anthelminthic drugs
26. drug counselling

Mr Sukesh lectures (annexure 2E)

1. PH1.2 Describe the basis of evidence-based medicine and therapeutic drug monitoring (SGD)

2. PH1.6 Describe principles of pharmacovigilance and adverse drug reaction reporting system (SGD)

3. PH1.14 Describe the MOA, types, doses, side effects, indication and contraindications of cholinergic agonists 1 (SGD)

4. PH1.14 Describe the MOA, types, doses, side effects, indication and contraindications of cholinergic agonists 2 (SGD)

5. PH1.14 Describe the MOA, types, doses, side effects, indication and contraindications of anticholinergic drugs

6. PH1.13 Describe the MOA, types, doses, side effects, indication and contraindications of adrenergic drugs

7. PH1.13 Describe the MOA, types, doses, side effects, indication and contraindications of antiadrenergic drugs 1

8. PH1.13 Describe the MOA, types, doses, side effects, indication and contraindications of antiadrenergic drugs 2

9. PH1.20 Describe the effects of acute and chronic ethanol intake (SGD)

10. PH1.21 Describe the symptoms and management of methanol and ethanol poisonings (SGD)

11. PH 1.38 Describe the mechanism of action, types, doses, side effects, indications and contraindications of corticosteroids

12. PH 1.40 Describe mechanism of action, types, doses, side effects, indications and contraindications of 1. Drugs used in the treatment of infertility, and 2. Drugs used in erectile dysfunction

13. Heavy metal poisoning

Mr Savin (annexure 2F)

1. PH1.2 Describe the basis of evidence-based medicine and therapeutic drug monitoring (SGD)

2. PH1.6 Describe principles of pharmacovigilance and adverse drug reaction reporting system (SGD)

3. PH1.14 Describe the MOA, types, doses, side effects, indication and contraindications of cholinergic agonists 1 (SGD)

4. PH1.14 Describe the MOA, types, doses, side effects, indication and contraindications of cholinergic agonists 2 (SGD)

5. PH1.14 Describe the MOA, types, doses, side effects, indication and contraindications of anticholinergic drugs

6. PH1.13 Describe the MOA, types, doses, side effects, indication and contraindications of adrenergic drugs

7. PH1.13 Describe the MOA, types, doses, side effects, indication and contraindications of antiadrenergic drugs 1

8. PH1.13 Describe the MOA, types, doses, side effects, indication and contraindications of antiadrenergic drugs 2

9. PH1.20 Describe the effects of acute and chronic ethanol intake (SGD)

10. PH1.21 Describe the symptoms and management of methanol and ethanol poisonings (SGD)

11. PH 1.27 Describe the mechanism s of action, types, doses, side effects, indications and contraindications of drugs used in shock

12. PH 1.25 Describe the mechanism/ s of action, types, doses, side effects, indications and contraindications of the drugs acting on blood, like, plasma expanders

13. PH 1.36 - Describe the mechanism of action, types, doses, side effects indications and contraindications of drugs used in endocrine disorders (osteoporosis)

14. General principles of chemotherapy

15. Sulphonamides and quinolones

PHISIOLOGY

DEPARTMENT OF PHYSIOLOGY

Department wise list of Faculty Members

NO: KOIMS/PHY/44/2020-21

Department	Name ofthe faculty Qualification IMR Number	Current Designation on & Date of promotion	Nature of employment Regular/ permanent or contract/outsourced	Details of Service in the Last 5 years					Number of lectures taken/year. Topics covered
				1	2	3	4	5	
PHYSIOLOGY	Dr Narasimha Rai MBBS, MD(Physiology) KMC No: 62249	Professor 05.05.2014	Regular	KOIMS	KOIMS	KOIMS	KOIMS	KOIMS	**32 Classes.** General Physiology, Blood , Nerve muscle physiology, Gastro intestinal system, Respiratory system, Cardiovascular system, Renal System, Endocrine System, Reproductive System, CNS, Special Senses
	Dr Ravikiran Kisan MBBS, MD(Physiology) KMC No: 68489	Associate Professor 05.05.2014	Regular	KOIMS	KOIMS	KOIMS	KOIMS	KOIMS	**32 Classes.** General Physiology, Blood , Nerve muscle physiology, Gastro intestinal system, Respiratory system, Cardiovascular system, Renal System, Endocrine System, Reproductive System, CNS, Special Senses
	Dr Suhas Y Shirur MBBS, MD(Physiology) KMC No: 91617	Assistant professor 21.05.2014	Regular	KOIMS	KOIMS	KOIMS	KOIMS	KOIMS	**32 Classes.** General Physiology, Blood , Nerve muscle physiology, Gastro intestinal system, Respiratory system, Cardiovascular system, Renal System, Endocrine System, Reproductive System, CNS, Special Senses
	Dr Veena H C MBBS, MD(Physiology)	Assistant professor 23.03.2015	Regular	KOIMS	KOIMS	KOIMS	KOIMS	KOIMS	**32 Classes.** General Physiology, Blood , Nerve muscle physiology, Gastro intestinal system, Respiratory system, Cardiovascular system, Renal System, Endocrine System, Reproductive System, CNS, Special Senses

	Dr Sanjay Bhagoji MBBS, MD(Physiology) KMC No:74795	Assistant professor 06.05.2014	Regular	KOIMS	KOIMS	KOIMS	KOIMS	KOIMS	**32 Classes.** General Physiology, Blood , Nerve muscle physiology, Gastro intestinal system, Respiratory system, Cardiovascular system, Renal System, Endocrine System, Reproductive System, CNS, Special Senses
	Mrs Parani L MSc Medical Physiology	Tutor 12.03.2020	Contract				KOIMS	KOIMS	08 Classes/General Physiology, GIT, Special senses

Professor & HOD
Department of Physiology
Kodagu Institute of Medical Sciences
Madikeri

Department of Physiology

ANNEXURE

E-I

S.NO	Faculty name	Publication	Pubmed indexed (yes/no)	scopes
1.	Dr Narasimha Rai	Correlation of glycosylated hemoglobin and BMI in type 2 Diabetes Mellitus Patients, Journal of Evolution of Medical and Dental Sciences, Vol 4/Issue 92/1573915740, Nov.16.2015	No	No
	Dr Narasimha Rai	A Comparative study of Nutritional status, glycemic status and lipid profile in healthy and diabetic patients. International Journal Basic And Applied Physiology. 5(1).2016, 47-53	No	No
	Dr Narasimha Rai	Correlation of body mass index and waist – hip ratio in normal and type 2 diabetes mellitus patients with and without hypertension, Research journal of pharmaceutical , Biological and chemical sciences 1(3). 2010, 210	No	No
	Dr Narasimha Rai	Relation between waist – hip ratio and lipid profile in male type 2 DM, patient Research journal of pharmaceutical , Biological and chemical sciences, 1(3).954	No	No
	Dr Narasimha Rai	Correlation of lipid profile and BMI in type 2 Diabetes mellitus, Research journal of pharmaceutical , Biological and chemical sciences,1(4).912.	No	No
	Dr Narasimha Rai	The evaluation of micronutrient and oxidative stress and their relationship with the lipid profile in healthy adults, Journal of clinical and diagnostic research, 1(7).1314-1318	YES	No
	Dr Narasimha Rai	Relationship between waist – hip ratio and lipid profile in male type 2 DM Patient, Research journal of pharmaceutical , Biological and chemical sciences,1(4).1077.	No	No
	Dr Narasimha Rai	Correlation of glycosylated hemoglobin and BMI in type 2 DM patients, Journal of Evolution of Medical and Dental Sciences.1(4) 1573915740	No	No
	Dr Narasimha Rai	A comparative study of Nutritional status, Glycemic status and lipid profile in healthy and DM patient, International Journal Basic and Applied Physiology 1(5) 2016,47-53.	No	No
2.	Dr. Ravikiran Kissan	Anthropometric and Physiological Profile of elite wrestlers. Journal of sports and sports sciences 2010; 33(2):16-22	No	No

	Dr. Ravikiran Kissan	Effect of Menopause on Lipid Profile and Apolipoproteins. Al Ameen J Med Sci (2011) 4 (3): 221-28	No	No
	Dr. Ravikiran Kissan	Correlation of intraocular pressure and blood pressure in different age groups. Journal of Clinical and Diagnostic Research. 2012 May (Suppl 2), Vol 6(4): 581-585.	No	No
	Dr. Ravikiran Kissan	Treadmill and Bicycle Ergometer Exercise: Cardiovascular Response Comparison. Global Journal of Medical research. 2012 June; Volume 12 Issue 5 Version 1.0; 23-25	No	No
	Dr. Ravikiran Kissan	Influence of age and gender on autonomic regulation of heart. Journal of Clinical Monitoring and Computing; J Clin Monit Comput. 2013 Jan 8.	Yes	Yes
	Dr. Ravikiran Kissan	A Comparative Study of Oxidative Stress and Antioxidants Levels In Preterm and Term Infants and their Mothers. International Journal of Pharmacy and Biological Sciences. (2013); vol 3(2); 210-13	No	No
	Dr. Ravikiran Kissan	Variation of reaction time in different phases of menstrual cycle. Journal of Clinical and Diagnostic Research. Journal of Clinical and Diagnostic Research. 2013 August, Vol-7(8): 1606-8.	Yes	Yes
	Dr. Ravikiran Kissan	Effect of Yoga on Migraine: A Comprehensive study using Clinical profile and Cardiac Autonomic Functions. International Journal of Yoga. 2014 Jul-Dec; 7(2): 126-32.	Yes	Yes
	Dr. Ravikiran Kissan	Effect of Mobile use on Reaction Time. Indian Journal of Physiotherapy and Occupational Therapy.2015 January-March, Vol. 6(1): 16-9.	No	No
	Dr. Ravikiran Kissan	A Study of Influence of Menstrual Cycle on Cardiac Autonomic Function. International Journal of Physiology. International Journal of Physiology. January-June 2014; 2(1): 71-4.	No	No
	Dr. Ravikiran Kissan	Gender differences in stress and academic performance in medical students. Journal of Research in Medical Education & Ethics. 2014; March 4(1): 46-8.	No	No

	Dr. Ravikiran Kissan	Effect of stress on sleep quality in young adult medical students: a cross sectional study. Int J Res Med Sci 2015;3:3519-23.	No	No
	Dr. Ravikiran Kissan	Influence of hydrotherapy on clinical and cardiac autonomic function in migraine patients. J Neurosci Rural Pract. 2016;7:109-13.	Yes	Yes
	Dr. Ravikiran Kissan	Evaluation of cardiac autonomic functions of non diabetic offsprings of diabetic parents. Indian Journal of Clinical Anatomy and Physiology. 2018; 5(3): 389-93.	No	No
	Dr. Ravikiran Kissan	Heart Rate Variability as a Tool for Early Diagnosis of Autonomic Neuropathy in Non Diabetic off Springs of Diabetic Parents. International Journal of Physiology, October-December 2018; 6(4): 49-52.	No	No
3.	Dr Suhas Y Shirur	Study of relationship between cardio respiratory fitness and obesity in young individuals. International Journal of Recent Trends in Science and Technology. November 2014: 13(1):53-56	No	No
	Dr Suhas Y Shirur	Study of relationship between cardio respiratory fitness and blood pressure in young obese individuals. International Journal of Recent Trends in Science and Technology. November 2014: 13(1):57-60	No	No
	Dr Suhas Y Shirur	A comparative study of pulmonary function in chronic kidney disease patients pre and post hemodialysis. International Journal of Recent Trends in Science and Technology. November 2014: 13(1):67-69	No	No
	Dr Suhas Y Shirur	Effect of increased adiposity on cardio respiratory fitness of young Indian individuals. International Journal of Biomedical Research. 2014;05(11):662-664	No	No
	Dr Suhas Y Shirur	Study On Variations Of Anterior Division Of Renal Artery. Int J Anat Res. 2014:2(4):697-700	No	No
	Dr Suhas Y Shirur	Study of Variations In superior Segmental Branch Of Renal Artery. Int J Anat Res. 2014:2(4):701-704	No	No
	Dr Suhas Y Shirur	Study On Variations of Anterior Inferior Segmental Branch Of Renal Artery. Int J Anat Res. 2014:2(4):705-708	No	No

	Dr Suhas Y Shirur	Study On Variations Of Posterior Division Of Renal Artery. Int J Anat Res. 2014:2(4):709-711	No	No
	Dr Suhas Y Shirur	Study On Accessory Renal Artery. Int J Anat Res. 2014:2(4):712-715	No	No
	Dr Suhas Y Shirur	Study On Variations Of Inferior Segmental Branch Of Renal Artery. Int J Anat Res. 2014:2(4):716-719	No	No
	Dr Suhas Y Shirur	Comparison of anthropometric parameters between obese and non obese young individuals. International Journal of Recent Trends in Science and Technology. January 2015: 13(3) 497-499.	No	No
	Dr Suhas Y Shirur	Acute effects of formalin on Pulmonary function in medical students. International Journal of Recent Trends in Science and Technology. January 2015: 13(3) 504-506.	No	No
	Dr Suhas Y Shirur	Effect of Yoga (Pranayama and Suryanamaskar) on Cardio pulmonary functions among adults .International Journals of Physiology , October –December 2019, Vol. 7,Issue No.4. Page No 238-242.	No	No
4.	Dr Veena H C	Total dose infusion of fractioned iron dextran complex in management of anemia in antenatal cases. International journal of reproduction, contraception , obstetrics and gynecology. 2013 sep;2(3):355-358	No	No
	Dr Veena H C	Effect of PCOS on lopid profile, Scholars journal of applied medical sciences. Journal of applied medical sciences. 2014:23D:1153-1155	No	No
	Dr Veena H C	Effects of treadmill exercise on blood parameters of healthy population. International Journal of Physiology. 2014,vol.2,No.2:95-98.	No	No
	Dr Veena H C	Altered blood glucose levels in polycystic ovary syndrome. Scholars journal of applied medical sciences. 2014;2(5F):1942-1945	No	No
	Dr Veena H C	Association between ABO blood group and pregnancy induced hypertension. Scholars journal of applied medical sciences. 2014;2(6c):3054-3056	No	No
	Dr Veena H C	Haemostatic mechanism in PIH . Indian journal of applied basic medical science. January 2015 pg No752-754.	No	No
	Dr Veena H C	Evaluation of waist to hip ratio as a predictor of cardiovascular risk factors. International Journal of Recent Trends in Science and public health. 2015vol 4 issue 7	No	No

	Dr Veena H C	Oxytocin induced neonatal hyperbilirubinemia: Journal of evidence d based medicine and health care. Volume 2, issue 21,may 25 2015: page:3098-3103	No	No
	Dr Veena H C	QTC interval changes in clinically healthy subjects in relation to aged and sex, Journal of evidence d based medicine and health care. Volume 2, issue 21,may 25 2015: page:3127-3131	No	No
	Dr Veena H C	Age and sex related changes on RR interval and st height in electrocardiogram(ECG) of healthy individuals. Journal of evidence d based medicine and health care. Volume 2, issue 26,June 29 2015: page:3875-3879	No	No
	Dr Veena H C	Intra ocular pressure in normotensive and hypertensive subjects of some age group. International journal of Bioassays. 2015,4(8),4219-4222	No	No
	Dr Veena H C	Maternal thyroid profile in preeclampsia. International journal of medical science and public health. 2015,4(10): 1401-1403	No	No
	Dr Veena H C	Comparative study of handgrip strength and endurance time in vegetarian and mixed vegetarian. International journal of Physiology. Vol 4,2 July-Dec 2015, page no 62-66	No	No
	Dr Veena H C	Comparative study of body mass index, hand grip strength and handgrip endurance in healthy individual. National journal of Physiology, Pharmacy and Pharmacology. 2017/ vol 7/issue 5	No	No
	Dr Veena H C	A Study of awareness about human immunodeficiency virus/ acquired immunodeficiency Syndrome among first year MBBS students of KBNIMS, Gulbarga. National journal of Physiology, Pharmacy and Pharmacology. 2017/vol8/issue 1	No	No
	Dr Veena H C	Effect of Yoga (Pranayama and Suryanamaskar) on Cardio pulmonary functions among adults .International Journals of Physiology , October –December 2019, Vol. 7,Issue No.4. Page No 238-242.	No	No
	Dr Veena H C	Effect of yoga on peak expiratory flow rate, National Journal of Physiology and Pharmacology February 25, 2020	No	No
	Dr Veena H C	Peak flow meter and digital spirometer A Comparative study of peak expiratory flow rate values, Feb 17, 2020.	No	No

5.	Dr Sanjay Bhagoji	A Comparative Study On Lipid Profile And Comorbid Factors In Hypertensive Patients And Normal Subjects. International Journal Of Current Research, March 2014 6(3):5364_67	No	No
	Dr Sanjay Bhagoji	Left Ventricular Function Changes In Severe Anemia By Echocardiography: A Correlation Study. Journal Of Evolution Of Medical and Dental Sciences 3(..1):2879-2885.	No	No

17-12-21

Professor & HOD
Department of Physiology
Kasturba Institute of Medical Sciences
Madikeri

ANNEXURE

E-II

Medical Educator Training / Research methodology and Dates.

1. **Dr Narasimha Rai**
   Professor
   - Workshop on Research Methodology – 2018
   - Curriculum Support Program (MCI) – 2019
   - Revised basic Course workshop in Medical Education Technologies- 2019

2. **Dr. Ravikiran Kissan**
   Associate Professor
   - Advanced Course in Medical Education (MCI) - 2020
   - Basic Course in Biomedical Research (NMC) - 2020
   - Workshop on Assessment in CBME (RGUHS) – 2020
   - Clinical reasoning - 2020
   - Enhancing Medical Research and Writing skills and how to get published with reputed Journals - 2019
   - Workshop on Multi parametric non invasive assessment of vascular functions 2018
   - Workshop on Research Methodology - 2018
   - Revised basic Course workshop and AETCOM - 2018
   - Workshop on Educational Research Fundamentals, Translating the research into scholarship - 2016
   - Short Course in Educational Methodology (RGUHS) - 2015
   - Curriculum Support Program (MCI) – 2019

3. **Dr. Suhas Y Shirur**
   Assistant Professor
   - Basic Course in Biomedical Research (NMC) - 2020
   - Curriculum Support Program (MCI) – 2019

4. **Dr. Veena H C**
   Assistant Professor
   - Basic Course in Biomedical Research (NMC) – 2020
   - Curriculum Support Program (MCI) – 2019

5. **Dr. Sanjay Bhagoji**
   Assistant Professor
   - Basic Course in Biomedical Research (NMC) – 2020
   - Curriculum Support Program (MCI) – 2021

17-12-21

HOD
Physiology
Medical Sciences
Madikeri

PSYCHIATRY

Department of Psychiatry, KoIMS, Kodagu

Dept	Name of the Faculty Qualification IMR number	Current Designation and Date of Promotion	Nature of Employment Regular/Permanent or Contract/ Outsourced	Details of services in last 5 years					Number of Lectures taken/year Topics covered
				1 2017	2 2018	3 2019	4 2020	5 2021	
PSYCHIATRY	Dr.Roopesh Gopal N V MBBS, MD	Associate Professor 09-03-2019	Regular and Permanent	OPD, IPD services, UG theory and Clinical teaching, community awareness program, Departmental and Administrative work	OPD, IPD services, UG theory and Clinical teaching, community awareness program, Departmental and Administrative work Psychiatric services during natural disaster	OPD, IPD services, UG theory and Clinical teaching, community awareness program, Departmental and Administrative work Psychiatric services during natural disaster	OPD, IPD services, UG theory and Clinical teaching, community awareness program, Departmental and Administrative work. Covid-19 Related work Additional duty as RMO	OPD, IPD services, UG theory and Clinical teaching, community awareness program, Departmental and Administrative work. Covid-19 Related work Additional duty as RMO	7 theory Lectures/ year Regular Clinical teaching Psychiatry topics as per RGUHS
	Dr.Sathish Kumar S V	Assistant Professor 09-03-2019	Regular and Permanent	OPD, IPD services, UG theory and	OPD, IPD services, UG theory and	OPD, IPD services, UG theory and Clinical	OPD, IPD services, UG	OPD, IPD services, UG	7 theory Lectures/ year Regular

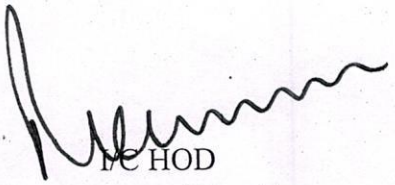
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	MBBS,DPM ,MD, DNB			UG theory and Clinical teaching, community awareness program, Department al work	Clinical teaching, community awareness program, Departmental work Psychiatric services during natural disaster	teaching, community awareness program, Department al work Psychiatric services during natural disaster	theory and Clinical teaching, community awareness program, Departmental work. Covid-19 Related work	theory and Clinical teaching, community awareness program, Departmental work. Covid-19 Related work	Clinical teaching Psychiatry topics as per RGUHS
	Goutham K MBBS, MD	Senior resident	Contract			OPD, IPD services, UG theory and Clinical teaching, community awareness program, Departmental work Psychiatric services during natural disaster	OPD, IPD services, UG theory and Clinical teaching, community awareness program, Departmental work. Covid-19 Related work	OPD, IPD services, UG theory and Clinical teaching, community awareness program, Departmental work. Covid-19 Related work	7 theory Lectures/ year Regular Clinical teaching Psychiatr per

ANNEXUR
E-1

Sl. No	Faculty Name	Publication in Vancouver referencing style	Pubmed IndexedYes/ No	Scopes
1	Dr.Roopesh Gopal N V	**2018** 1] Roopesh Gopal NV and Sathish Kumar SV et al., Assessment of Mental Disability using Indian Disability Evaluation Assessment Scale Journal of Clinical and Diagnostic Research. 2018 Oct, Vol-12(10): VC21-VC23. DOI: 10.7860/JCDR/2018/37374.12180. 2] Roopesh Gopal N.V., Sathish Kumar S.V., Ganesh Kumar S. et al. / Study of Association between Intimate Partner Violence with Depression and Suicide, Journal of Psychiatric Nursing 2018; 7(3): 85-90 DOI: http://dx.doi.org/10.21088/jpn.2277.9035.7318.3. **2020** 3] Roopesh Gopal NV, Sathish Kumar SV. Comparative Study of Minor Physical Anomalies in Late Onset Schizophrenia. J Psychiatr Nurs. 2020;9(1):33–36. DOI: http://dx.doi.org/10.21088/jpn.2277.9035.9120.6 **2021** 4] Gopal NVR, Kumar SVS, Bhat KS.Study of Association between Intimate Partner Violence with Quality of Life [Internet].2021 January[CitedJanuary4,2021];15(1):VC01-VC04.Availablefrom:http://www.jcdr.net//back_issues.asp?issn=0973709x&year=2021&month=January&volume=15&issue=1&page=VC01&id=14426 doi:10.7860/JCDR/2021/46088/14426 5] Gopal NVR, Kumar SVS.Study of Socio-demographic and Clinical Profile of Individuals with Deliberate Self-harm Attempt during COVID-19 Lockdown [Internet].2021 July [Cited July28, 2021];15(7):VC11-VC14. Available from:http://www.jcdr.net//back_issues.asp?issn=0973-709x&year=2021&month=July&volume=15&issue=7&page=VC11&id=15144 doi:10.7860/JCDR/2021/48380/15144 6] **Self injurious behavior in alcohol withdrawal state complicated by delirium – a case series. Accepted for Publication in ANNALS OF INDIAN PSYCHIATRY** Completed **" Basic Course in Biomedical research"** conducted by NPTEL, which is mandatory for Promotion in Medical Colleges.	No	No

2	Dr.sathish Kumar S V	**2018** 1] Roopesh Gopal NV and Sathish Kumar SV et al., Assessment of Mental Disability using Indian Disability Evaluation Assessment Scale Journal of Clinical and Diagnostic Research. 2018 Oct, Vol-12(10): VC21-VC23. DOI: 10.7860/JCDR/2018/37374.12180. 2] Roopesh Gopal N.V., Sathish Kumar S.V., Ganesh Kumar S. et al. / Study of Association between Intimate Partner Violence with Depression and Suicide, Journal of Psychiatric Nursing 2018; 7(3): 85-90 DOI: http://dx.doi.org/10.21088/jpn.2277.9035.7318.3. **2020** 3] Roopesh Gopal NV, Sathish Kumar SV. Comparative Study of Minor Physical Anomalies in Late Onset Schizophrenia. J Psychiatr Nurs. 2020;9(1):33–36. DOI: http://dx.doi.org/10.21088/jpn.2277.9035.9120.6 **2021** 4] Gopal NVR, Kumar SVS, Bhat KS.Study of Association between Intimate Partner Violence with Quality of Life [Internet].2021 January[CitedJanuary4,2021];15(1):VC01-VC04.Availablefrom:http://www.jcdr.net//back_issues.asp?issn=0973709x&year=2021&month=January&volume=15&issue=1&page=VC01&id=14426 doi:10.7860/JCDR/2021/46088/14426 5] Gopal NVR, Kumar SVS.Study of Socio-demographic and Clinical Profile of Individuals with Deliberate Self-harm Attempt during COVID-19 Lockdown [Internet].2021 July [Cited July28, 2021];15(7):VC11-VC14. Available from:http://www.jcdr.net//back_issues.asp?issn=0973-709x&year=2021&month=July&volume=15&issue=7&page=VC11&id=15144 doi:10.7860/JCDR/2021/48380/15144 6] **Self injurious behavior in alcohol withdrawal state complicated by delirium – a case series. Accepted for Publication in ANNALS OF INDIAN PSYCHIATRY** Completed **" Basic Course in Biomedical research"** conducted by NPTEL, which is mandatory for Promotion in Medical Colleges. Completed ''Emergency Care and Life Saving''[ECLS] training conducted by RGUHS and Jeeva Raksha Trust	No	No



I/C HOD
Department of Psychiatry
KoIMS, Teaching Hospital,
Madikeri.

RADIOLOGY

Department of Radiology, KoIMS, Kodagu

Department	Name of the Faculty Qualification IMR number	Current Designation and Date of Promotion	Nature of Employment Regular/Permanent or Contract/Outsourced	Details of services in last 5 years					Number of Lectures taken/year Topics covered
				1 2017	2 2018	3 2019	4 2020	5 2021	
Radiology	Dr.Sachin.L	Assistant Professor 27-04-2021	Regular and Permanent			Senior Resident in Banglore Medical College 4-02-2019 to 04-02-2020	OPD, services, Clinical teaching, ,Departmental work	OPD, services, Clinical teaching,Departmental work	04 Theory Lectures/ year Regular Clinical teaching Radiology topics as per RGUHS
	MBBS, MD, DNB								
	Dr.Ananda M	Senior Specialist Radiologist 01-10-2021	Regular and Permanent			Senior Resident in Mandya Medical College 11-03-2019 to 14-07-2020	OPD, services, Clinical teaching, ,Departmental work	OPD, services, Clinical teaching,Departmental work	03 Theory Lectures/ year Regular Clinical teaching Radiology topics as per RGUHS
	MBBS, MDRD								

I/C HOD,
Department of Radiology,
Kodagu Institute of medical Sciences,
Teaching Hospital, Madikeri.

Dr. Sachin L.
MBBS,MD(RD),DNB(RD)
Asst. Professor
Dept. of Radiodiagnosis,
Kodagu Institute of Medical Sciences
MADIKERI

TB & RESPIRATORY MEDICINE

Department of Respiratory Medicine, KoIMS, Kodagu

Department	Name of the Faculty Qualification IMR number	Current Designation and Date of Promotion	Nature of Employment Regular/Permanent or Contract/Outsourced	Details of services in last 5 years					Number o Lectures taken/yea Topics covered
				1 2017	2 2018	3 2019	4 2020	5 2021	
Respiratory Medicine	Dr.Amith A	Assistant Professor 24-04-2020	Regular and Permanent	-	August 2018 to January 2019 Senior resident in JSS	February 2019 to January 2020 Senior resident in Mysore medical college, Mmc 2019 feb to 2020 Jan	OPD, IPD services, Clinical teaching, ,Departmental work, Covid duty	OPD, IPD services, UG theory and Clinical teaching Covid duty	15 Theory Lectures/ year Regular Clinical teaching Respirator system topics as per RGUHS
	MBBS, MD								

ಕೊಡಗು ವೈದ್ಯಕೀಯ ವಿಜ್ಞಾನಗಳ ಸಂಸ್ಥೆ, ಮಡಿಕೇರಿ

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I/C HOD
Department of TB & Chest
KoIMS, Teaching Hospital,
Madikeri.