PUNE OB-GYN SOCIETY ESTD. 1953

POGS·FOR·HER

स्त्रिया: हिताय प्रयतमान:
Striving For The Betterment Of Woman

POGS App

On the auspicious occasion of Gudi Padwa, we are thrilled to announce the launch of the brand-new POGS App, set to debut at our 40th POGS Installation CME!

For the very first time, POGS is bringing you a state-of-the-art mobile application available on both Android and iOS. This app is designed to centralize all POGS-related information, making it easier than ever to stay connected and engaged. Overview:

• Seamless New Member Registration: Join our community with just a few taps.

• Easy Conference Registration: Book your spots for upcoming events right at your fingertips.

• Monthly Quiz: Test your knowledge and win exciting prizes!

• Digital Library: Access monthly newsletters, a video library, and recordings of past conference lectures

Get ready to experience the convenience and innovation of the POGS App. Stay tuned and be prepared to take your POGS experience to the next level!

Dr Manish Machave
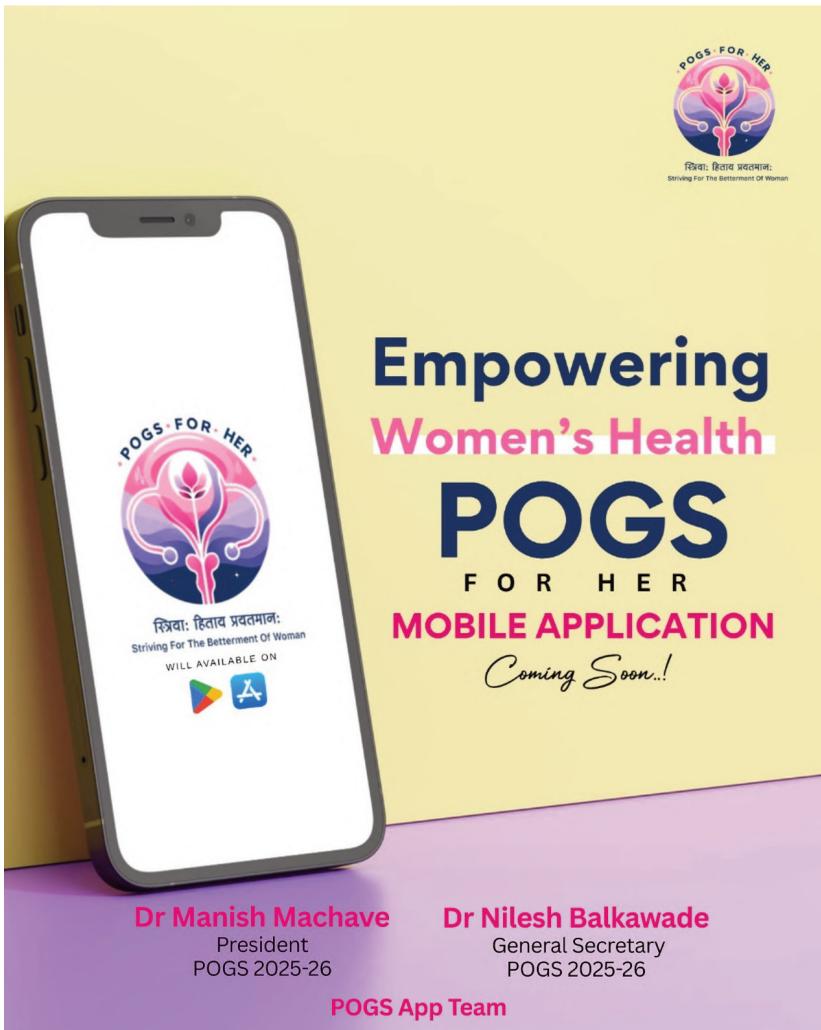President POGS 2025-26
Dr Nilesh Balkawade
General Secretary
POGS 2025-26
POGS App Team
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Presidential Address

Dear esteemed member of POGS,
Greetings from the team,

This our fifth, theme based, dedicated and all encompassing newsletter of POGS.
I begin with enriching words,
"May these Rich Blessings be your due, A wealth of friendships, old and new, Some service rendered, some solace given ,And gentle peace with God and Heaven"
I pray to the Almighty for the health, happiness and peace for all my POGS members
I pray that the spirit of festivities, the joy, cheer, mirth and merriment of this divine being, surrounds you
forever.
This month we concentrate on research methodology.
Research methodology is the structured process through which scientific inquiry is conducted. In medicine, it forms the foundation for understanding diseases, testing interventions, and improving patient outcomes. A rigorous methodology ensures that research findings are valid, reliable, and applicable to real-world clinical settings.
Clinical trials, especially randomized controlled trials (RCTs), are essential for evaluating the safety and efficacy of new treatments. They minimize bias and help establish causal relationships between interventions and outcomes. Without such trials, medical decisions would rely heavily on anecdotal evidence, potentially leading to ineffective or harmful practices.
Evidence-based medicine (EBM) uses the best available clinical research, combined with clinical expertise and patient values, to guide decision-making. It shifts medical practice from tradition and opinion to a more objective and systematic approach. Protocol-based care, which incorporates evidence into standardized guidelines, ensures consistency, safety, and quality across different healthcare settings.
Together, sound research methodology, robust clinical trials, and evidence-driven protocols form the backbone of modern medicine, enabling continuous improvement in patient care.
PUBLISH OR PERISH……we need to totally understand this.
Do take out time and post us a feedback.
Happy reading.
Looking forward to see you all soon.
Till Then, lea heuy, Namaskar.

Dr Manish Machave
President, POGS

Dr Manish Machave
President, POGS

Secretary's Address

Dr Nilesh Balkawade
Secretary, POGS

" We are like the monsoon clouds—gathering knowledge, showering care, and nourishing lives. As Obstetricians and Gynaecologists, every drop of our effort creates ripples of hope ."

Dear Esteemed Members,

It gives me immense pride to share the milestones achieved by POGS in the past month, a time when our society once again shone with academic brilliance, community engagement, and teamwork.

Highlights of July–August:
Our much-awaited PG Conference (26th–27th July), led by Dr. Vaishali Korde Nayak, successfully engaged postgraduates with enriching sessions covering exam strategies, clinical pearls, and interactive discussions.

On 1st August, the Amrutpan Programme on Breastfeeding, under the leadership of Dr. Vaishali Korde Nayak, created awareness about the importance of breastfeeding, echoing this year's World Breastfeeding Week theme.

The Infertility Masterclass (3rd August) was a stellar event coordinated by Dr. Manjiri Valsangkar, with contributions from Dr. Sandhya Meshram, Dr. Nilesh Balkawade, and Dr. Samidha Dalvi, bringing clinical depth to daily fertility practice.
• India's first Masterclass with One Day, One Hall, One Theme----Concept
• Excellent Focused crowd of more than 200 delegates
• Talk of the town
• Similar programs being organized all over India now
• Received excellent feedbacks from the delegates
• Received touching feedbacks from AMOGS President Dr Kiran Kurtkoti and President Elect Dr Amey Purandare.
Dr Jatin Shah was extremely happy and conveyed his heartfelt letter of thanks and gave his comments that it was one of its kind program which he has ever attended!!

POGS Outreach Program in Hadapsar (7th August) was efficiently led by Dr. Vaibhav Dangat, Dr. Mrinmayee Dharmadhikari, and Dr. Kalyani Ingale, expanding academic excellence to the community level.

The elegant POGS Pink Conclave (13th August), in collaboration with Abbott, was steered by Dr. Kalyani Ingale, focusing on vital women's health concerns with practical updates.
These programs are a reflection of POGS's mission: to blend knowledge with service, compassion with science.

Upcoming Programs – Let's Move Forward Together:Breastcon 360 at Lonavala (23rd–24th August) under the convenorship of Dr. Charulata Bapaye – a holistic breast health conference.

Fertility Carnival Goa – finalization of the scientific programme and faculty confirmations by Dr. Nilesh Balkawade, Dr. Samidha Dalvi, and Dr. Kundan Ingale promises a unique academic celebration.

I Evolve CME – structure and marketing led by Dr. Kalyani Ingale to strengthen clinical excellence.

POGS Dandiya (24th September) – a perfect blend of tradition, joy, and togetherness, led by Dr. Mahima Lalwani and Dr. Arati Nimkar.

FOGSI Presidential Conference (14–16th November 2025) – meticulous planning under Dr. Ashwini Kale and Dr. Pooja Lodha is underway for this landmark academic event.

Let's participate in all these programs and create events like never before!!

"Together we heal, together we learn,In every challenge, new skills we earn.With passion as deep as the ocean's tide,POGS stands tall—our members, our pride."

With gratitude for your energy, enthusiasm, and commitment, let us continue this journey of excellence in women's health.

Warm regards,
Dr. Nilesh Balkawade
Gen. Secretary, POGS

Editorial

Greetings from Pune Obstetrics & Gynaecological Society!

Hello once again,Warm Greetings !Here we are, with a very healthy, nurturing, informative, interesting chronicle of POGS for the month of August 2025. The theme chosen this month is Medical education.A truth is accepted by all that change is the only constant thing in this world. So is the method of learning, educating & updating has improvised.'A doctor is a student until he dies, once he considers himself not a student anymore, the doctor inside him dies.'We all love to adapt to what's new. Hence, we are proud to bring you such a newsletter that includes all that's round the corner, totally a different way of teaching, learning & educating. We all are students forever & bound to deliver the best to the community, as aptly said by Sigmund Freud that 'Do as much as possible for the patient & as little as possible to the patient.'Medicine is more than a career, it's a love for the humanity. To carve this on the tender minds, shaping up the future specialist, our teachers & mentors have taken immense efforts to thoughtfully pen down the rules & regulations, SOPs, algorithms, methods & materials to guide the aspiring medical practitioners in a simple, professional yet beautiful way by contributing their articles in this issue.One has to understand that the stethoscope is the most expensive jwellery for it costs you your youth... Hence, once you have chosen this path, you have to be very specific & precise in your future endeavours.POGS team urges you all to read & share this newsletter so as to help more of our medical fraternity aspirants.Have a wishful reading ahead..

Dr Kalyani Ingale,
Clinical Secretary,
POGS 2025 – 26

Dr Kalyani Ingale
Editor

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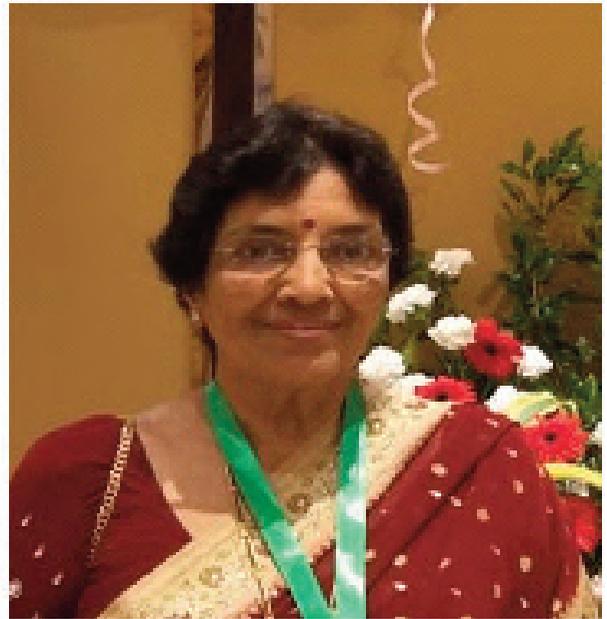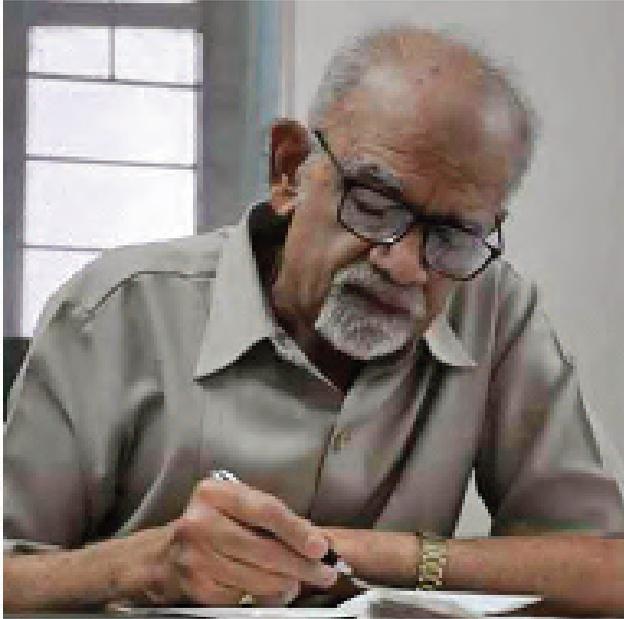
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Dr Pandurang Burute

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Dr Sanjay Sharma

Books by Late Dr. Aparna Shrotri

Dr. Nishikant Shrotri

Since I passed my MBBS examination, I had a desire to write a book on Surgical Aspects of Obstetrics and Gynaecology for the MBBS students to guide them in practical examination. I did that in 1987. Late Dr. Mrs. Aparna Shrotri helped me by instructing in writing the book 'Surgical Principles in Obstetrics and Gynaecology'. This book was well received by undergraduate students all over the country. Later, after the retirement of Shrotri Madam from B. J. Medical College, Pune, the Government service, I handed over the book to her for further modifications and editions, which she did very meticulously with high proficiency. . The book is now running in its 8th edition. This book gives the surgical steps of the common operations in Obstetrics and Gynaecology, Interventions in Obstetrics and Information of the instruments.

However, when madam was involved in rural training of the medical officers, Nurses and birth attendants, she realized that the modern Obstetrics principles should reach to the grass-root levet to these care givers, to give quality maternity care and reduce the maternal and child mortality and morbidity. Many of them could not understand English. Hence, she wrote a revolutionary book सुरक्षित प्रसूती which depicts the skills required in giving Safe Motherhood Services, along with the various National and International Guidelines. This book was well received by the Health Department and many OB-Gyn Societies; and reached the concerned people to help them. She updated the fifth edition of this book in her last few months of her life when she was on death-bed.

Another book she has written in Marathi with me is कुटुंबनियोजन आणि वैद्यकीय गर्भपात. This book is useful for Nurses, Health Care workers and even the common people. She wrote the fifth edition of this book also when she was facing imminent death on death bed, in last few days of her life.

Considering her dedication towards maternal health care, I received so many articles from various authorities in health care and education, her colleagues; and also from few of her relatives and friends. On suggestions of many of her colleagues, Dr. Purushottam Neurgaonkar took the lead to compile these articles in the form of a book ज्ञानसविता (Sun of Knowledge). This book has been published by Smita Publication, Pune. Kudos to the dedication of Late Aparna Shrotri towards Obstetric Care and the mothers throughout her life till her last breath.
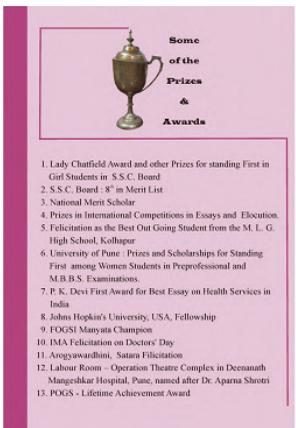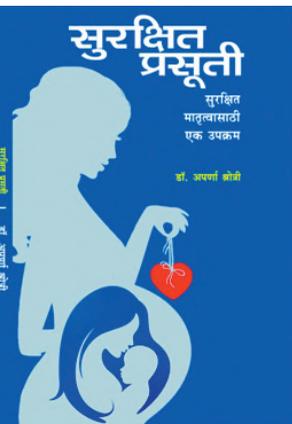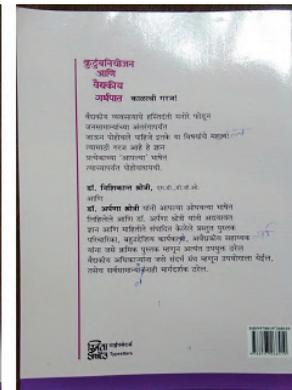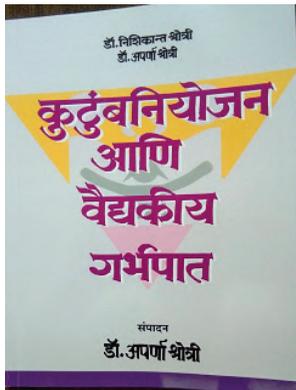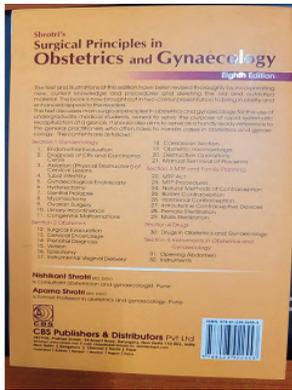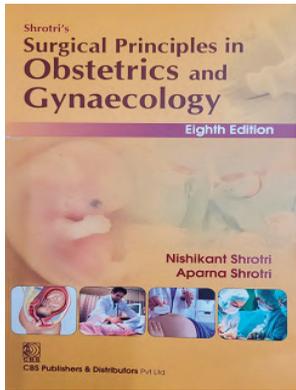
Dr. (Mrs.) Aparna Nishikant Shrotri (4/8/1945-10/12/2024)

Dr. Aparna Nishikant Shrotri served as a Retired Professor of Obstetrics & Gynaecology at B. J. Medical College, Pune. Madam exemplified leadership in medical education, clinical practice, and women's health promotion. Her career spanned rigorous academic research, impactful clinical work, and meaningful recognition—making her a respected name in India's medical community. And for her students, she was the embodiment of mother divine, friend, philosopher and guide.

Throughout her academic tenure, she authored or co-authored an impressive tally of 57 research papers, published in both national and international medical journals. She also served The Pune Obstetrics and Gynaecological society as President. As a teacher she planted the seeds of knowledge, nurturing minds to grow beyond boundaries.

It is said that **"In every successful person's story, there's a teacher who believed in them first." For Dr Shrotri madam, this count is infinite.We pay our homage to the lighthouse of knowledge and remember her through her teachings and books and dedicate this August newsletter to her memory.**

Her authored books are available with Dr Nishikant Shrotri sir. One may, for grabbing a piece if this, immensely popular and game changing wisdom , contact him. Salute to madam, your teachings and love shall warm all our hearts till, they STOP TO BEAT.

Dr Manish Machave
President POGS

Dr Manish Machave
President, POGS

10th and 11th July: MIMER Endoscopy program

The Department of Obstetrics & Gynecology at MIMER Medical College with Pune OBGY Society, successfully conducted the 5th Endoscopy Masterclass 2025 under the aegis of IAGE & FOGSI Eagle Project. A two-day academic and hands-on training event that welcomed over 110 enthusiastic delegates and faculty members.

Day 1 Highlights (July 10):
Day 1 offered a unique learning experience with a live surgical session of Gynaecological laparoscopic surgeries streamed in real-time to both the college auditorium (Sushrut) and an online audience on YouTube as well as Facebook live. These surgeries were performed by stalwarts of gynaec endoscopy like President POGS Dr. Manish Machave, Dr. Mahindra Borse, Dr. Ashish Kale, Dr. Kunal Shinde and MIMER Alumini Dr. Rohan Krishnakumar. This was followed by insightful lecture from eminent speaker Dr. Manish Machave, who shared his
expertise in gynecological endoscopy.
The inaugural session began with a traditional lamp-lighting ceremony led by the chief guest, Dr. Dilip Kamat & Guest of honor Dr. Vaijayanti Kamat. Executive Director of the institute, Dr Su-

chitra Nagare also graced the inauguration and appreciated organization of the workshop.
A hands-on training session with endotrainers and hysterotrainers was conducted in the afternoon under the expert supervision of Dr. Mahindra Borse and Dr. Manish Machave, providing participants with valuable practical experience.

Day 2 Highlights:
On the second day, live surgical demonstration of hysteroscopic surgeries were done and also broadcasted via YouTube and Facebook live. Renowned IAGE faculty, Past President Dr. S. Krishnakumar and President IAGE Dr Kalyan Barmade, performed and demonstrated various endoscopic procedures. The OBGY Faculty and Postgraduate students also had the opportunity to participate in the surgeries under their close guidance.
Later in the day, Dr. Krishnakumar delivered a highly engaging lecture titled "Hysteroscopy in Extremes of Ages", tailored to support and guide beginners in the field. This was followed by a very informative talk by IAGE President Dr. Kalyan Barmade "Hysteroscopy: A Fertility enhancing surgery"

26th and 27th July 2025: National Online PG conference, "The Bull's Eye "(Saand Ki Aankh)

POGS had organised a National Online PG conference, "The Bull's Eye "(Saand Ki Aankh), on July 26th and 27th, 2025. This conference was the brainchild of President POGS Dr Manish Machave, which was aptly planned & executed by Organising Chairperson, Exe Vice President Professor Dr Vaishali Korde Nayak. It was planned online to reach OBGY students at the national level.

POGS clinical secretary Dr Kalyani Ingale & assistant Clinical Secretary Dr Meghana & Chairperson tMedical Education Committee, POGS Col Sanjay Sharma played importantroles in organizing this one-of-a-kind online PG conference.

The main focus was to highlight uncommon yet significant topics which are important to learn & understand for the MS, DNB & CPS students. The invited faculty were the well-known teachers who made the topic simple with their teaching experience & explained to the students what the examiners want in the exam. On 26th July all obstetric topics and on 27th July Gynec topics were covered. Sufficient time of 25-30 minutes was allotted to the speakers & students shared their queries in the chatbox, which were taken by the respective teacher in the Q&A session.

POGS tried to bridge the gap between postgraduate medical students and esteemed educators by creating an online platform that fostered mentorship. This attempt was very well appreciated by one & all as this will be a guiding light for their exam preparations.

PREPARING FOR MS OBGYN EXAMS IN INDIA

Dr. Sushma Sharma
Professor and former
Head, Department of
ObGyn
MIMER Medical
College, Pune

All universities in the country are governed by the National Medical Council (NMC) of India. As per the guidelines of the NMC (GUIDELINES FOR COMPETENCY BASED POSTGRADUATE TRAINING PROGRAMME FOR MS IN OBSTETRICS AND GYNAECOLOGY), the final examination at the end of the MS/DNB course in this country is in the following format:

There are four theory papers, as given below:
Paper I: Applied Basic Sciences.
Paper II: Obstetrics, including social obstetrics and Diseases of New Born
Paper III: Gynaecology including fertility regulation
Paper IV: Recent Advances in Obstetrics & Gynaecology

3. Clinical/Practical & oral/viva voce Examination: follows the pattern as given below:
a) Obstetrics:

Clinical
Long Case: 1 case
2 cases with different problems
(Short Case/ Spot Case: 1 case)

Viva voce including:
17
♣ Instruments
♣ Pathology specimens
♣ Drugs and X-rays, Sonography etc.
Additionally, most universities in the final exams have spots (usually 10) in Obstetrics And 1 ward round case in Obstetrics.

b) Gynaecology:
Clinical
Long Case: 1 case

2 cases with different problems
(Short Case/ Spot Case: 1 case)

Viva including:
♣ Instruments

♣ Pathology specimens
♣ Drugs and X-rays, Sonography etc.
♣ Family planning

Additionally, most universities in the final exams have spots (usually 10) in Gynaecology
And one ward round case in Gynacelogy.

Coming to how to prepare for these theory and practical exams, I would start by saying that this preparation starts the moment you join you residency programme! Astounded? The clinical work place and the patients are the best teachers of this subject. So start preparing for the final assessment right on joining the MS/DNB course and keep learning and preparing all through. Participate wholeheartedly in any structured PG academic programme that your Institute offers.
Preparation can be pursued along with the residency work and alongside the thesis work by following few broad principles . As a PG teacher for over 2 decades , some suggestions on the same would be
1. Read something EVERYDAY – this could preferably include the clinical cases you are coming across in OPD and the wards, operatives that you are assisting/ performing .
2. Preparing before presenting rounds on a daily basis
3. Revisiting basic Sciences related to Ob Gyn from time to time
4. Paying close attention to the case discussions by the seniors and by the allied departments like Anaesthesia, Medicine, Neonatology
5. Participating in poster/paper presentations/PG quiz in conferences
6. Teaching juniors – the best way of learning
7. Be sincere in the PG programme of your department – cases presentations, journal club, seminar etc.
8. Participating in mock exams whenever the opportunity presents
In summary, I would like to say, have the basic sciences knowledge rock solid, work sincerely in the hospital with a keen observant mind , absorbing every piece of knowledge that comes across your way and boost it all by regular reading.

Recommended Reading: (As per the document published by the NMC)
Books (latest edition)
Obstetrics
1. William Textbook of Obstetrics
2. High risk Obstetrics - James
3. High risk pregnancy - Ian Donal

4. Text book of Operative Obstetrics - Munro Kerr.
5. Medical disorder in pregnancy - De Sweit
6. High risk pregnancy - Arias
7. A text book of Obstetrics - Thrnbull
8. Text book of Obstetrics - Holland & Brews.
9. Manual of Obstetrics - Daftary & Chakravarty

Gynaecology
1. Text book of Gynaecology - Novak
2. Text book of Operative Gynaecology - Te-lindes
3. Text book of operative gynaecology - Shaws
4. Text book of Gynaecology and Reproductive Endocrinology - Speroff
5. Text book of Obstetrics & Gynaecology - Dewhurst
6. Manual of Gynaecological Oncology - Disai
7. Text book of Gynaecology – Jaeffcot

Journals
03-05 international Journals and 02 national (all indexed) journals

Changes to gestational diabetes screening and diagnostic guidelines in Australia. Is it time for India to reconsider its diagnostic criteria?

Dr Nisha Khot (MBBS, MD, FRCOG, FRANZ-COG, AFRACMA)
President Elect, Royal Australia and New Zealand College of Obstetricians and Gynaecologists
Clinical Director of Obstetrics and Gynaecology, Peninsula Health

Gestational diabetes mellitus (GDM) is one of the commonest disorders of pregnancy (1). Hyperglycemia in pregnancy increases the risk of adverse pregnancy outcomes like pre-eclampsia, fetal macrosomia and shoulder dystocia (1,2). Women who develop GDM are at higher risk of future Type 2 diabetes as well as renal and cardiovascular disease [3,4,5,6].

The Australasian Diabetes in Pregnancy Society (ADIPS) has historically developed and published clinical guidance in relation to diabetes in pregnancy in Australia [7,8,9]. The evidence for GDM diagnostic criteria around the world, is derived from the international Hyperglycaemia and Adverse Pregnancy Outcomes (HAPO) study (2). HAPO showed a continuous positive association between increasing maternal glucose concentrations following the one-step 75 g two-hour pregnancy oral glucose tolerance test (OGTT) at 24–32 weeks' gestation and perinatal complications [2].

The WHO criteria for diagnosing Gestational Diabetes Mellitus (GDM) were published in 2013 [10]. WHO recommended a 75g oral glucose tolerance test (OGTT). Diagnosis of GDM was made if at least one of the following criteria were met [10]:

Fasting plasma glucose of 5.1 mmol/L (92 mg/dL) or higher
1-hour post-load plasma glucose of 10.0 mmol/L (180 mg/dL) or higher
2-hour post-load plasma glucose of 8.5 mmol/L (153 mg/dL) or higher.

ADIPS last updated its guidelines in 2014 to align with WHO recommendations, as follows [9]:

Fasting plasma glucose 5.1 - 6.9 mmol/L (92 – 124 mg/dL)
1-hour post-load plasma glucose >/= 10 mmol/L (>/= 180 mg/dL)
2-hour post-load plasma glucose 8.5 - 11.0 mmol/L (153 - 198 mg/dL)

Levels above the upper limits for fasting and 2-hours post glucose loading were considered diagnostic for overt diabetes.

ADIPS recommended 2-hour oral glucose tolerance test be used as the gold standard for testing and that testing be performed at 24-28 weeks for all pregnant women. It also recommended early testing with either oral GTT or Hba1c (between 14-16 weeks) only be performed for women at high risk of GDM (previous GDM, previous stillbirth, BMI >30, maternal age 40yr or more, previous macrosomia, ethnicity etc).

India currently follows "One Nation, One Test" diagnostic criteria recommended by the Ministry of Health and Family Welfare 2018, Government of India, which is the Diabetes in Pregnancy Study Group of India (DIPSI) criteria (11). DIPSI recommends screening for GDM in the early weeks of pregnancy, preferably at the first antenatal visit. If the first test is negative, it is recommended that testing for GDM should be repeated at 24-28 weeks of pregnancy and again at 32-34 weeks in high risk women, if the results are negative. Testing is recommended for all mothers using the single step procedure, 75gm non-fasting OGTT with a diagnosis of GDM made if the 2-hour blood glucose level is >/=140 mg/dL (7.8 mmol/L).

Review of evidence:

The Australian-led Treatment of Booking Gestational Diabetes Mellitus (TOBOGM) randomised controlled trial tested diagnosis and treatment for early gestational diabetes mellitus in 802 women with risk factors for hyperglycaemia in pregnancy. Immediate treatment of gestational diabetes mellitus (75 g two-hour oral glucose tolerance test WHO 2013 criteria) diagnosed before 20 weeks' gestation modestly reduced the risk of the perinatal composite outcome [12]. No differences were observed in the other primary outcomes of pregnancy-related hypertension or neonatal lean body mass. Subgroup analysis showed that early treatment for gestational diabetes mellitus was cost-effective among high-risk women in the higher glycaemic band when diagnosed before 14 weeks' gestation [12].

The New Zealand Gestational Diabetes Mellitus Study of Detection Thresholds (GEMS) randomised controlled trial evaluated the use of lower (WHO 2013) or higher existing New Zealand fasting plasma glucose ≥ 5.5 mmol/L (99 mg/dL) and or 2-hour post load plasma glucose ≥ 9.0 mmol/L (162mg/dL) glycaemic thresholds for the 75 g two-hour OGTT at 24–32 weeks' gestation in 4061 women. In the overall population, the WHO criteria more than doubled the prevalence of gestational diabetes mellitus compared with the New Zealand guidelines (15.3% v 6.1%), with no difference in the primary outcome of large for gestational age offspring [13].

Other relevant trials have not shown benefit from early testing and treatment of gestational diabetes mellitus, including among women with obesity in the United States [14].

Two quasi-experimental studies of real-world data in Australia examined two-step gestational diabetes mellitus screening using an initial fasting plasma glucose (FPG). Only women with FPG 4.7–5.0 mmol/L (84 – 90 mg/dL) were recommended an OGTT. FPG < 4.7 mmol/L (84 mg/dL) at 24–28 weeks' gestation was associated with low absolute risk of hyperglycaemia in pregnancy-related complications, including large for gestational age babies, respiratory distress, and neonatal higher acuity care admission [15,16]. A reanalysis of HAPO data demonstrated that women with FPG < 4.7 mmol/L (84 mg/dL) had similar perinatal outcomes to women without gestational diabetes mellitus regardless of post-load values [17].

Updated recommendations:

ADIPS conducted a review of evidence and stakeholder consultation to publish its updated consensus recommendations in June 2025 [18].

Key recommendations include change in the diagnostic criteria for GDM, as follows:

Fasting plasma glucose >/= 5.3 – 6.9 mmol/L (95.5 – 124 mg/dL)

1-hour post-load plasma glucose >/=10.6 mmol/L (191mg/dL)

2-hour post-load plasma glucose >/= 9.0 – 11.0 mmol/L (162 – 198 mg/dL)

Levels above the upper limit for fasting and 2-hour post plasma glucose load are considered diagnostic of overt diabetes [18].

Early testing is recommended in the presence of risk factors using Hba1c to diagnose overt diabetes if levels are >/= 6.5% (48 mmol/mol). For women with previous GDM or Hba1c 6.0% to 6.4% (42-47 mmol/mol) on early testing, OGTT is recommended between 10-14 weeks. If early OGTT is negative, it is recommended that this be repeated at 24-28 weeks [18].

The case for change:

There have been a number of trials relevant to gestational diabetes screening and diagnosis. Despite this, there remains no single best evidence-based approach. Substantial variation in practice already exists locally and internationally. Given the continuum of risk between glycemia and adverse pregnancy outcomes, there will always be arguments for and against any

specific diagnostic thresholds.

It is important to consider the implications for women who receive a diagnosis of GDM. Whilst this diagnosis may be seen as beneficial and may improve overall health-related behaviour [19], for some women the diagnosis can be associated with shame and stigma, a feeling of having failed to provide a healthy start for their unborn child [20]. A diagnosis of GDM has associated cost challenges with the need to pay for additional specialists and extra appointments. Women may need to change their care provider because their pregnancy is now considered high risk. So, it is imperative that we diagnose GDM in those women where the benefits outweigh the potential costs to the woman as well as to the health system.

The changes to Australian recommendations for screening, diagnosis and classification of gestational diabetes will mean fewer women will be diagnosed with GDM [18] and resources can be reoriented to where they are most effective and needed. Is it time for India to reconsider its recommendations and move to higher thresholds for diagnosis of GDM to allow for optimum utilisation of healthcare spending?

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Dissertation Writing for MS Obstetrics and Gynaecology in India

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Writing a dissertation for the MS degree in Obstetrics and Gynaecology is a crucial academic requirement in India, serving as both an evaluation of a postgraduate student's research capabilities and a contribution to the body of knowledge in women's health. An effective dissertation not only meets regulatory guidelines set by the National Medical Commission (NMC) and the affiliated university but also demonstrates originality, methodological rigor, and relevance to clinical practice.

1. Understanding the Purpose of the Dissertation

The dissertation is more than an academic formality—it is an opportunity to explore a focused area of Obstetrics and Gynaecology in depth, develop research skills, and contribute data or analysis that may influence clinical protocols. The objectives include:
• Demonstrating the ability to identify a research problem.
• Designing a scientifically sound study with ethical integrity.
• Applying statistical methods to interpret findings.
• Presenting results in a clear, structured, and evidence-based manner.

2. Choosing a Relevant and Feasible Topic

The first and most critical step is topic selection. In the Indian postgraduate medical setting, the topic must:
• Address a local or national health priority—e.g., maternal mortality reduction, high prevalence conditions like anaemia in pregnancy, hypertensive disorders, or reproductive tract infections.
• Be feasible within time and resources—a two-to-three-year time frame demands careful consideration of patient load, diagnostic facilities, and support staff.
• Offer scope for meaningful conclusions—avoid topics that are too broad or too narrow to yield significant results.
• Be ethically acceptable—topics involving pregnant women, foetuses, or sensitive reproductive health issues require strict adherence to ethical protocols.

3. Structuring the Dissertation

A well-structured dissertation usually follows the standard format outlined by universities and the NMC:

a. Title Page and Certification
Include the full title, author details, and institutional certification signed by the head of department and guide.

b. Introduction
Provide background, highlight the knowledge gap, and state the rationale for the study. This section sets the tone for the entire dissertation.

c. Review of Literature
A critical appraisal of published studies, preferably from peer-reviewed journals, with emphasis on both international and Indian data. The literature review should identify where your research fits in the existing evidence landscape.

d. Aims and Objectives
State the primary and secondary objectives clearly, ensuring they are specific, measurable, achievable, relevant, and time-bound (SMART).

e. Materials and Methods
Detail the study design (prospective, retrospective, randomized trial, etc.), setting, inclusion and exclusion criteria, sample size calculation, tools and techniques, interventions, and outcome measures. Clearly state the statistical methods to be used.

f. Ethical Considerations
Mention Institutional Ethics Committee approval, informed consent process, and patient confidentiality measures.

g. Results
Present data systematically—tables, charts, and graphs should be clear, correctly labeled, and accompanied by explanatory text. Avoid overcrowding tables and focus on meaningful patterns.

h. Discussion
Interpret the results in light of existing literature, highlighting similarities, differences, and

possible explanations. Discuss clinical relevance, strengths, and limitations.

i. Conclusion and Recommendations
Summarize key findings without introducing new data. Offer practical recommendations where applicable.

j. References
Follow the prescribed style (e.g., Vancouver) strictly. Ensure all in-text citations match the reference list.

k. Annexures
Include proformas, questionnaires, consent forms, and ethical approval letters.

4. Research Methodology and Statistical Analysis
Many postgraduate students struggle with research design and statistics. Early collaboration with a biostatistician is essential to:
• Determine adequate sample size to ensure statistical power.
• Select the correct statistical tests (Chi-square, t-test, ANOVA, regression analysis, etc.).
•   Avoid errors in data interpretation.
In addition, maintaining a well-organized data collection sheet during the study will simplify analysis later.

5. Time Management and Workflow
Given the dual demands of clinical duties and academic work, time management is vital:
• First 6 months: Topic finalization, protocol submission, and ethics approval.
• Next 12–18 months: Data collection and interim analysis.
• Final 6–9 months: Data analysis, writing, and submission.
Working consistently, rather than rushing near deadlines, ensures higher quality.

6. Writing Style and Presentation
The dissertation should be clear, concise, and free of grammatical errors. Medical writing should avoid unnecessary jargon while maintaining scientific precision. Key points:
• Use simple, direct sentences.
• Maintain consistency in units, abbreviations, and terminology.
• Ensure figures and tables are self-explanatory.
• Avoid plagiarism by paraphrasing and properly citing all sources.

7. Common Pitfalls to Avoid
• Poorly defined objectives leading to ambiguous results.
• Inadequate sample size making results statistically insignificant.
• Incomplete literature review that fails to justify the study.
• Last-minute writing leading to errors in formatting and referencing.
• Ignoring ethical protocols which can lead to disqualification.

8. Post-Submission Considerations
After submission, be prepared for:
• University viva voce where examiners will question the methodology, interpretation, and relevance of your study.
• Possible publication—transforming your dissertation into a journal article can enhance your academic profile.

Conclusion
An effective MS Obstetrics and Gynaecology dissertation in India requires early planning, strong mentorship, sound research methodology, meticulous documentation, and clear writing. Balancing clinical responsibilities with research demands can be challenging, but with systematic effort, the dissertation can become a significant academic achievement and a valuable contribution to women's health care.

Preparing for the "Recent Advances" Paper in MS Obstetrics & Gynaecology in India

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In the MS Obstetrics and Gynaecology theory exam in India, the "Recent Advances" paper is often the most anxiety inducing and unpredictable component. It is usually designated as – "Paper IV"

Unlike traditional topics that remain relatively stable, this paper tests the student's ability to stay updated with rapidly evolving clinical practices, diagnostic tools, and therapeutic innovations in women's health.

The purpose of this paper is to evaluate the ability of the candidates to combine textbook knowledge with awareness of current guidelines, research breakthroughs, and newer technologies.

1. Understanding the Scope of the Recent Advances Paper

The paper usually includes:
• Updates in Diagnostic Methods – New imaging modalities, biomarkers, screening protocols.
• Innovations in Surgical Techniques – Laparoscopic, robotic, and minimally invasive gynaecological surgery.
• Emerging Therapies – Novel drugs, biologics, and fertility interventions.
• Updated Guidelines – WHO, FIGO, ACOG, RCOG, and FOGSI recommendations.
• Public Health and Policy Changes – National health programmes, maternal mortality initiatives, and legal changes affecting practice.
The challenge is that the syllabus is not fixed— anything new in the last 5–10 years may appear.

2. Sources for Staying Updated
a. Standard Journals
• The Lancet (Obstetrics & Gynaecology section)
• BJOG – An International Journal of Obstetrics and Gynaecology
• American Journal of Obstetrics and Gynecology (AJOG)
• International Journal of Gynecology & Obstetrics (IJGO)
• Journal of Obstetrics and Gynaecology of India (JOGI)

b. Guideline Portals
• FOGSI – National consensus statements.
• ACOG Practice Bulletins – Updated protocols for US-based practice.
• RCOG Green-top Guidelines – Evidence-based UK recommendations.
• WHO Reproductive Health Library – Global health updates.
c. Textbook Updates
• New editions of DC Dutta's Textbook of Obstetrics and Shaw's Textbook of Gynaecology often include a "Recent Advances" section—this is an exam favourite.
d. CME and Conferences
• FOGSI, ISAR (Indian Society for Assisted Reproduction), and ISOPARB (Indian Society of Perinatology and Reproductive Biology) often present cutting-edge research and practice updates.

3. Core Topics That Frequently Appear in Recent Advances Papers
In Obstetrics
• Non-invasive prenatal testing (NIPT) and cell-free DNA screening.
• Advances in fetal therapy (intrauterine transfusion, fetal surgery).
• New strategies for preeclampsia prevention (aspirin, calcium, angiogenic markers).
• Latest in labour monitoring – EFM updates, partograph modifications.
• Postpartum haemorrhage control innovations (Balloon tamponade, Tranexamic acid trials).
In Gynaecology
• Advances in infertility treatment – Preimplantation genetic testing (PGT), time-lapse embryo imaging.
• Novel endometriosis management strategies.
• Urogynaecology – New slings and meshes, laser therapy.
• Robotic-assisted hysterectomy and myomectomy outcomes.
• Targeted therapies in gynaecologic cancers (PARP inhibitors, immunotherapy).
In Public Health & Policy
• Updates to the MTP Act and PC-PNDT regula-

tions in India.
• National health programmes for maternal and reproductive health (LaQshya, PMSMA).

4. Study Strategy for the Recent Advances Paper
a. Build a "Recent Advances Notebook"
Maintain a dedicated notebook or digital file where you summarise new developments under fixed headings—Obstetrics, Gynaecology, Oncology, Infertility, Public Health. Update it monthly.
b. Learn to Write Concise but Impactful Answers
• Define the innovation.
• Mention the principle or mechanism.
• Summarise key evidence or trials.
• State clinical relevance and advantages over older methods.
• Mention limitations and cost factors (important for India-specific practice).
c. Integrate with Older Knowledge
Many questions are hybrid—e.g., "Recent advances in management of ectopic pregnancy" expects you to cover both standard and new protocols.
d. Use Flowcharts and Tables
Examiners appreciate structured presentation—comparison tables between old and new techniques make answers visually appealing and easy to evaluate.

5. Common Pitfalls to Avoid
• Over-reliance on online blogs without verifying from peer-reviewed sources.
• Outdated references—ensure all advances are truly recent (within the last decade unless a landmark older discovery is still evolving).
• Ignoring India-specific applicability—some global advances are not widely available or cost-effective in Indian practice; acknowledge this in your answers.

6. Example of How to Write a "Recent Advances" Answer
Q: Recent advances in the management of postpartum haemorrhage
• Newer Drugs – Carbetocin (heat-stable form for low-resource settings).
• Non-Surgical Interventions – Uterine balloon tamponade, non-pneumatic anti-shock garment.
• Guidelines Update – WHO 2022 recommends early tranexamic acid within 3 hours.
• Innovative Devices – ESM-UBT kits in rural India.
• Surgical Advances – Modified compression sutures, vascular ligation improvements.

Some suggested topics , category wise which can be used to have a thorough preparation for the IVth MS

ObGyn Paper

A. Obstetrics – 20 Topics
1. Non-Invasive Prenatal Testing (NIPT)
o Cell-free fetal DNA analysis from maternal blood for aneuploidy screening. High sensitivity for trisomy 21, 18, 13. Reduces need for invasive procedures.
2. First-Trimester Screening Advances
o Combined test (NT scan + PAPP-A + β-hCG) and newer markers like PlGF for early preeclampsia prediction.
3. Preeclampsia Prevention
o Low-dose aspirin (75–150 mg) and calcium supplementation for high-risk women, as per NICE & WHO guidelines.
4. Angiogenic Biomarkers in Preeclampsia
o sFlt-1/PlGF ratio for diagnosis and prognosis; allows better risk stratification.
5. Fetal Growth Restriction (FGR) Monitoring
o Use of ductus venosus Doppler and cerebroplacental ratio for timing of delivery.
6. Fetal Surgery
o In-utero interventions for myelomeningocele, twin-twin transfusion syndrome (TTTS) via fetoscopic laser ablation.
7. Tranexamic Acid in Postpartum Haemorrhage (PPH)
o WHO recommendation for early administration (within 3 hrs). Reduces maternal mortality.
8. Heat-Stable Carbetocin
o Uterotonic stable at room temperature, ideal for low-resource settings.
9. Non-Pneumatic Anti-Shock Garment (NASG)
o Prevents hypovolemic shock in obstetric haemorrhage, especially in rural areas.
10. Balloon Tamponade Devices
o Bakri balloon, ESM-UBT for refractory PPH.
11. Induction of Labour – Recent Agents
o Use of misoprostol in low doses, mechanical methods like Foley catheter combined with oxytocin.
12. Labour Monitoring – WHO 2018 Update
o Modified partograph, delayed pushing in second stage, respectful maternity care emphasis.
13. Intrapartum Fetal Monitoring
o ST segment analysis (STAN) with CTG for hypoxia detection.
14. Magnesium Sulphate for Neuroprotection
o Antenatal $MgSO_4$ reduces cerebral palsy risk in preterm births <32 weeks.
15. Delayed Cord Clamping
o Improves neonatal iron stores, recommended unless immediate resuscitation needed.
16. Antenatal Corticosteroid Regimens
o Use in late preterm (34–36+6 weeks) for reducing respiratory morbidity.

17. Group B Streptococcus Screening
o Risk-based vs universal screening debate; India adopting selective prophylaxis approach.
18. COVID-19 in Pregnancy – Protocols
o Vaccination recommendations, modified antenatal schedules, and delivery protocols.
19. Obstetric Near-Miss Audits
o WHO criteria to identify and improve maternal care in critical cases.
20. LaQshya Programme
o National quality improvement initiative for labour rooms and maternity OTs in India.

B. Gynaecology – 20 Topics

21. Robotic Surgery in Gynaecology
o da Vinci system for hysterectomy, myomectomy; improved precision but high cost.
22. 3D and 4D Laparoscopy
o Enhanced depth perception, faster learning curve in minimally invasive surgery.
23. Single-Incision Laparoscopic Surgery (SILS)
o Cosmetic advantage, fewer ports; used for ovarian cystectomy, ectopic pregnancy.
24. Advances in Endometriosis Management
o Elagolix (oral GnRH antagonist) for pain control, conservative fertility-sparing surgeries.
25. New Contraceptive Technologies
o Drospirenone-only pill, LNG-IUS newer versions (LNG 19.5 mg for nulliparous).
26. HPV Vaccination Updates
o Nonavalent vaccine; now part of national immunisation programme for adolescents.
27. AI in Cytology Screening
o AI-assisted liquid-based cytology for cervical cancer screening.
28. Screen-and-Treat Approach for Cervical Cancer
o VIA/HPV testing followed by immediate cryotherapy in low-resource settings.
29. Sentinel Lymph Node Biopsy in Gynaecologic Cancers
o Indocyanine green dye improves mapping accuracy in endometrial and cervical cancer.
30. Targeted Therapies in Ovarian Cancer
o PARP inhibitors (Olaparib, Niraparib) for BRCA-mutated cases.
31. Immunotherapy in Gynaecologic Oncology
o Pembrolizumab for MSI-H or PD-L1 positive tumours.
32. HIPEC in Ovarian Cancer
o Hyperthermic intraperitoneal chemotherapy after cytoreductive surgery.
33. Minimal Access Surgery in Oncogynaecology
o Debate after LACC trial regarding laparoscopy in early cervical cancer.

34. MRI-Guided Focused Ultrasound Surgery (MRgFUS)
o Non-invasive fibroid treatment preserving fertility.
35. Newer Hormonal Therapies for Fibroids
o Ulipristal acetate, Relugolix combination therapy.
36. Laser Therapy in Urogynaecology
o Vaginal laser for stress incontinence, GSM (genitourinary syndrome of menopause).
37. 3D Printing in Gynaecologic Surgery
o Custom anatomical models for complex pelvic surgeries.
38. Hysteroscopic Morcellation
o Faster removal of intrauterine polyps/fibroids without thermal injury.
39. Ovarian Tissue Cryopreservation
o Fertility preservation in young cancer patients.
40. Preimplantation Genetic Testing (PGT)
o PGT-A for aneuploidy screening, PGT-M for monogenic disorders.

C. Cross-cutting & Public Health – 10 Topics

41. WHO 2022 Abortion Care Guideline
o Updated recommendations on medical abortion up to 12 weeks and self-management protocols.
42. Medical Termination of Pregnancy (Amendment) Act, 2021
o Extended gestational limit to 24 weeks in certain categories; inclusion of unmarried women.
43. Telemedicine in Reproductive Health
o Virtual consultations for contraception, infertility, and antenatal care post-COVID.
44. Artificial Intelligence in Ultrasound
o Automated anomaly detection, growth estimation, and risk scoring.
45. Point-of-Care Ultrasound (POCUS)
o Rapid obstetric and gynaecological assessments in emergency and rural settings.
46. Wearable Pregnancy Monitoring Devices
o Continuous fetal heart rate and contraction tracking for remote care.
47. Simulation-Based Training in OBGYN
o High-fidelity mannequins for PPH, shoulder dystocia drills, laparoscopic skills labs.
48. Global Maternal Mortality Trends (SDG Targets)
o India's progress towards reducing MMR to <70 by 2030; focus on haemorrhage and sepsis prevention.
49. Enhanced Recovery After Surgery (ERAS) Protocols
o Early mobilisation, minimal opioid use; applied in C-section and gynae-oncology surgeries.
50. Digital Health Records in Maternal Care
o Mother and Child Tracking System (MCTS) and e-RCH portals for continuity of care.

Selecting the dissertation topic – a short guideline

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Choosing a dissertation topic for the course of MS Obstetrics & Gynaecology in India is a strategic decision — it needs to be academically sound, feasible within one's resources & timeframe, and relevant for exams, conferences, and possible publications.

Both the student and the PG guide need to brainstorm before selecting a dissertation topic.

Here's a structured guide which can be used to help in deciding the topic

1. Key Principles While Choosing

1. Relevance to Current Practice
o Select topics that align with recent advances, guidelines, or high-burden conditions in India.
2. Feasibility
o Ensure you have adequate patient load, diagnostic tools, and follow-up possibilities in your department.
3. Research Gap
o Avoid topics that are overdone unless you have a new angle.
4. Time & Resources
o A 2–3 year MS course requires a topic that can yield results within 18–20 months of data collection.
5. Scope for Publication
o Choose something that can be published in indexed journals or presented at AICOG/FIGO.
6. Interest & Guidance
o Your own interest + your guide's expertise = smoother journey.

2. Popular & High-Yield Areas in India

A. Obstetrics

• Prediction & prevention of preterm birth (cervical length, progesterone, biomarkers)
• Early detection of preeclampsia (angiogenic factors, uterine artery Doppler)
• Role of low-dose aspirin in high-risk pregnancies
• Gestational Diabetes — screening strategies & pregnancy outcomes
• Maternal outcomes in COVID-19 pregnancy (if patient data available)

• Active vs expectant management in PPROM before 34 weeks
• Effectiveness of delayed cord clamping in term and preterm neonates
• Outcomes after induction of labour with novel agents (e.g., Foley + misoprostol)
• Risk factors & management outcomes in severe anaemia in pregnancy

B. Gynaecology

• Efficacy of LNG-IUS in abnormal uterine bleeding
• Comparison of laparoscopic vs open myomectomy outcomes
• Role of hysteroscopy in recurrent implantation failure
• Genetic profiling in PCOS or endometriosis
• Post-operative pain & recovery after minimally invasive hysterectomy
• Ovarian reserve markers after cystectomy for endometriomas

C. Oncology

• HPV genotyping patterns in Indian women with CIN
• Visual inspection with acetic acid (VIA) vs HPV DNA testing in screening
• Early detection biomarkers for ovarian cancer
• Fertility-sparing surgery outcomes in early-stage cervical cancer

D. Reproductive Medicine

• AMH and antral follicle count as predictors of IVF outcome
• Impact of Vitamin D status on fertility treatment outcomes
• Freeze-all vs fresh embryo transfer outcomes

3. How to Frame a Researchable Topic

Instead of broad: "Preeclampsia in pregnancy"
Better: "Predictive value of first trimester serum PAPP-A and uterine artery Doppler in early-onset preeclampsia — a prospective cohort study"

4. Steps to Finalize

1. List 5 topics you are genuinely interested in
2. Check patient load — will you get adequate cases in 1 year?
3. Discuss with your guide — they'll know what's logistically possible
4. Review recent 5-year literature — pick something with a research gap
5. Run a pilot for feasibility before final registration

Here's a shortlist of 20 MS (Ob-Gyn) dissertation topics — grouped into Obstetrics, Gynaecology, Oncology, and Infertility.
These align with NMC/PGMER requirements (thesis mandatory; aim for ethical, feasible, and locally relevant questions). (NMC, Indian Council of Medical Research)

Obstetrics (5)

1. Predictive value of first-trimester uterine artery Doppler and maternal serum PAPP-A for early-onset preeclampsia — prospective cohort.
Why: Early detection is exam-relevant and many centres have Doppler + biochemistry.
Feasibility: Recruit antenatal women at booking; follow until delivery.
2. Low-dose aspirin started before 16 weeks vs after 16 weeks in high-risk women — randomized controlled trial (open label).
Why: Clinically important question with clear outcomes (severe preeclampsia, preterm delivery).
Feasibility: Large antenatal clinics usually have enough high-risk patients.
3. Outcomes of active management vs expectant management in PPROM between 28–34 weeks — prospective comparative study.
Why: Controversial management window and directly impacts practise and exams.
Feasibility: Use standardised protocols and neonatal outcome measures.
4. Antenatal screening strategy for GDM: 2-step (GCT + OGTT) vs universal one-step (75 g OGTT) — diagnostic accuracy + pregnancy outcomes (prospective).
Why: Screening strategy debate continues; good publication potential.
Feasibility: Routine antenatal testing makes recruitment straightforward.
5. Maternal and perinatal outcomes in placenta accreta spectrum with different planned delivery strategies — retrospective cohort with propensity matching.
Why: Rising CS rates → more accreta; high clinical & publication value.

Feasibility: Tertiary centres usually have case series for retrospective analysis.

Gynaecology (5)

6. Efficacy of levonorgestrel-IUS vs oral progesterone in management of heavy menstrual bleeding in perimenopausal women — randomized trial.
Why: Patient-centered, high-impact for conservative management.
Feasibility: Outpatient recruitment; PROMs and PBAC scoring as outcomes.
7. Impact of laparoscopic cystectomy vs cyst drainage on ovarian reserve (AMH changes) in endometrioma patients — prospective cohort.
Why: Fertility implications + measurable lab outcome (AMH).
Feasibility: Pre/post AMH testing and surgery scheduling in specialty clinics.
8. Diagnostic accuracy of office hysteroscopy vs transvaginal ultrasound for AUB in women with normal ultrasound — cross-sectional diagnostic study.
Why: Practical, resource-sensitive question with clear endpoints.
Feasibility: Most departments can perform both investigations.
9. Prevalence and determinants of pelvic organ prolapse (POP) awareness and help-seeking behavior in rural vs urban women — mixed-methods (cross-section + qualitative).
Why: Public-health relevance and novel local data; exam-friendly public health angle.
Feasibility: Community outreach + in-clinic interviews.
10. Enhanced recovery after surgery (ERAS) protocol vs conventional care for minimally invasive hysterectomy — randomized/controlled implementation study.
Why: ERAS improves outcomes and is attractive for publication.
Feasibility: Implementable as protocolized perioperative care.

Oncology (5)

11. HPV genotype distribution and correlation with histologic grade in women with CIN/cervical cancer — cross-sectional analytic study.
Why: High relevance for screening and vaccination policy; good journal interest.
Feasibility: Requires HPV testing; many labs enable genotyping or referral.
12. Comparative performance of VIA vs HPV DNA testing for community cervical screening in low-resource settings — cluster-randomized implementation study.

Why: Policy-relevant, programmatic outcomes (cost, detection rates).
Feasibility: Link with community health centers; public-health supervisors help.
13. Diagnostic accuracy of transvaginal ultrasound + CA-125 vs MRI for preoperative staging of adnexal masses — prospective diagnostic cohort.
Why: Cost-benefit/practical staging question with clear HPE endpoints.
Feasibility: Most centres have TVS and CA-125; MRI can be subset.
14. Fertility-sparing surgery outcomes in early-stage cervical cancer — multicentre retrospective cohort.
Why: Fertility preservation is a hot topic with strong patient impact.
Feasibility: Use pooled cases from tertiary centres to increase power.
15. Time-to-treatment intervals and their impact on survival in epithelial ovarian cancer — retrospective cohort.
Why: Delays in diagnosis/treatment are common in India; strong public health and policy implications.
Feasibility: Hospital records often contain dates needed.

Infertility / Reproductive Medicine (5)
16. AMH and antral follicle count as predictors of live birth after IVF in Indian women — prospective cohort.
Why: Directly applicable to counselling and publications; measurable endpoints.
Feasibility: IVF centres routinely collect these markers.
17. Effect of Vitamin D supplementation on endometrial thickness and implantation rates in women undergoing embryo transfer — randomized placebo-controlled pilot trial.
Why: Low-cost intervention with plausible biology and high publishability if positive.
Feasibility: Small pilot doable before scaling.
18. Freeze-all vs fresh embryo transfer in normo-responders: cumulative live birth rate — retrospective comparative cohort.
Why: Active debate in ART literature; useful for IVF practice.
Feasibility: Use existing IVF cycle databases.
19. Prevalence and metabolic profile of Indian women with PCOS presenting with infertility — cross-sectional analytic study.
Why: High prevalence, exam-relevant endocrine correlation (IR, lipid profile).
Feasibility: Routine clinic tests + ultrasound data available.

20. Utility of hysteroscopic assessment prior to first IVF cycle in women with recurrent implantation failure risk factors — prospective intervention study.
Why: Directly actionable for improving IVF outcomes; good for publication.
Feasibility: Hysteroscopy performed in many ART units; define clear inclusion criteria.

Quick notes on NMC / applicability / exam scoring
• Make sure your final protocol follows NMC PGMER 2023 requirements for thesis conduct, ethics, and submission timelines (thesis is mandatory and must follow institutional and NMC rules). (NMC, PMC)
• ICMR/NMC have published recommended thesis topics and examples — use them to cross-check study type and public health relevance when drafting your protocol. (Indian Council of Medical Research)

How to pick one from this list (3 quick rules)
1. Patient load check: choose a topic for which your centre sees ≥ the sample needed in the planned recruitment window.
2. Resource check: confirm availability of required tests (HPV genotyping, AMH, MRI) or plan a reliable referral pathway.
3. Supervisor fit: pick one aligned with your guide's expertise/publications — that raises chances of publication and smoother execution.

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The Art and Science of Communication in Healthcare -
Lessons learnt over 35 years of practice

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Introduction

When I look back over the last 35+ years, I see two parallel journeys. One was the journey of my professional career, from running a small five-bedded nursing home to building and managing a hundred-bedded private limited corporate hospital. The other was a subtler, but perhaps more important journey; learning the language of trust.

When I began practice, communication was simple. There were no EMRs, no WhatsApp groups, no video consultations. Conversations happened face to face, with a firm handshake, a handwritten prescription, and a clear explanation. Over the decades, healthcare has changed because of advances in technology, increase in strict regulations and increase in expectations of the stakeholders. However, despite this, the central truth has not changed: our ability to heal depends as much on our ability to connect as on our clinical skills.

In my years as a clinician, administrator, Pune ObGyn society president, and chairman of the Ethics and Medicolegal Committee of FOGSI, I have seen communication make the difference between trust and distrust, between cooperation and conflict, and sometimes even between a safe discharge and a legal notice.

This article is not a textbook lesson. It is a mentor's reflection on what works, what doesn't, and why in healthcare, the words we choose are as important as the medicine we prescribe

Why Communication is the Lifeline of Healthcare?

In healthcare, communication is not just an accessory to clinical work. It is the bloodstream through which trust flows.

It operates at multiple levels:
1. Doctor ↔ Patient & Relatives – The emotional heart of our profession.
2. Doctor ⇓◊ Doctor: Within specialities and across disciplines
3. Doctor ↔ Stakeholders – Administrators, insurers, regulators, police, and even the media.

A patient does not judge us solely by the correctness of our diagnosis or the sophistication of our surgery. Most cannot even evaluate our technical competence properly; but they can and do judge our clarity, empathy, and willingness to listen.

From a medicolegal perspective, I have seen time and again that most litigation is triggered not by actual negligence but by perceived neglect; a feeling that the patient or their family was kept in the dark, that no one explained, that no one cared. Poor communication can turn a minor, explainable complication into a major complaint.

Good communication is, therefore, not a "soft skill". It is in fact a core clinical competency, a preventive medicine for mistrust.

Communicating with Patients and Families Before Treatment

The consultation is where trust begins. Setting realistic expectations is the most powerful protective measure we have, both for the patient's mental preparedness and for our medicolegal safety.

• Avoid overpromising. Instead of "This surgery will fix everything," say "This surgery gives us the best chance, but there are known risks we will watch for."
• Treat the "informed consent" as a tool for conversation and counselling, and not just a form. A patient who feels heard is more likely to forgive a complication than one who feels hurried or ignored.

During Treatment: Keeping the Connection Alive

In emergencies, relatives are anxious, sometimes aggressive. They are less likely to be difficult to manage if they are kept informed.

• Breaking bad news: Sit down. Speak slowly. Avoid medical jargon. Let them absorb one point before moving to the next. It's a good idea to participate actively in simulation of sce-

narios of breaking bad news; so that when such a situation actually arise we follow the set protocol of breaking bad news, namely the SPIKES protocol. Association such as FOGSI and local societies should organise such simulations

• **Sharing uncertainty:** It is better to say, "We are still running tests to confirm" than to give premature reassurance that may later need correction.

In my practice, I have noticed that relatives who are regularly updated, even if it's just "No progress yet, we are still monitoring" tend to trust the team more. Silence is almost always interpreted as indifference.

After Treatment: Explaining Complications and Failures

This is the hardest test of communication. The temptation to use vague language is high, but honesty, delivered with empathy is the safest and most ethical path. One case from early in my career still stays with me. My staff nurse inadvertently gave a hot water bag over the thighs of a post LSCS patient who had not yet recovered from the effects of spinal anaesthesia. The patient developed burns on her thighs and was in pain after the spinal anaesthesia wore off. I explained the situation in simple terms, accepted the inadvertent fault of my staff nurse, empathised with the patient and offered to treat the burns as my personal responsibility. The patient and the relatives not only accepted the complication without anger but later referred another patient to me. That day, I learned that honesty does not erode trust; hiding the truth does.

Communication with the Medical Team

Colleagues form the second pillar of our communication web. A lapse here can directly impact patient safety.

• Documentation: "If it's not written, it never happened" is not just a medicolegal mantra, but it also ensures

continuity of care.

• Handover: Whether in the ward or the OT, never assume "They must know." Always state the facts aloud and if possible, in writing.

• Disagreements: Healthy debates should happen privately, not in front of patients or juniors. Professional courtesy preserves team morale.

When mentoring juniors, I have found that correcting mistakes is an art. Healthy criticism should guide, not humiliate. The tone you use will decide whether they learn or shut down. Its always better to point out what is wrong and not who is wrong

Communicating with Stakeholders

In a modern hospital, doctors are not the only decision-makers. We must communicate effectively with:

• Hospital Administrators: They balance patient care with financial sustainability. Speak their language when discussing costs and resource use. Show concern about hospital revenue; but be firm about ethical clinical practices

• Insurance Companies / TPAs: Provide complete documentation to avoid claim delays. Avoid emotional arguments and stick to facts.

• Media: Never speculate, never breach confidentiality, and preferably route communication through an authorized spokesperson.

• Police and Legal Authorities: Be factual, avoid medical jargon, and keep a written record of any interaction.

Barriers to Good Communication

Despite best intentions, several obstacles exist:

• Time pressure: In a busy OPD, spending even two extra minutes per patient feels impossible; yet those minutes can save hours of conflict later.

• Language barriers: India's multilingual reality means we must sometimes use translators or visual aids.

• Burnout: Emotional fatigue makes patience harder. Recognizing this is the first step to correcting it. Take breaks, spend time with family and give time to yourself is the advice that I always pass on to my mentees in practice

• Over-reliance on digital tools: A WhatsApp message cannot replace the warmth of a personal explanation.

The Medicolegal Angle

From the medicolegal files I have studied, one pattern is clear: most disputes are not about what happened but about how it was conveyed.

A patient is more likely to accept an adverse outcome if they feel they were:

1. Warned of the possibility beforehand.

2. Updated promptly when it happened.
3. Involved in decisions about what to do next.
If one Studies the Kunal Saha vs Amri hospital case succinctly; it will be clear that despite a mishap what can save a hospital (in this case the Breach Candy hospital) is not only the clinical notes but also the daily notes of communication with the family. The court however was not impressed with the indoor notes of Amri hospital and hence one of the reasons for awarding compensation against Amri hospital was improper documentation.

The Future of Doctor–Patient–Stakeholder Communication

The healthcare of tomorrow will be more digital, more regulated, and more interconnected.
• Telemedicine will make remote care easier but will also remove non-verbal cues that build trust.
• AI tools will provide faster information but cannot replace human reassurance.
• Electronic records will streamline communication but may depersonalize it if used mechanically.
In this environment, the "human touch" will become even more valuable but unfortunately rarer. Those who master it will stand out.

Conclusion: A Personal Note to My Colleagues

After decades in practice, I can say this with certainty: patients rarely remember the exact drug you prescribed or the suture you used, but they will remember your tone of voice, your patience in answering their questions, and whether they felt respected.
As I phase out of active clinical work and devote more time to mentoring, I see communication not as an optional art but as a professional duty. It protects the patient, protects the doctor, and strengthens the profession's bond with society.
In the words often attributed to Maya Angelou: "People will forget what you said, people will forget what you did; but people will never forget how you made them feel".
Let us make them feel heard.
I have no references to quote for this article. It has come straight from my heart and from the wisdom I have gathered over so many years of practice.

The Evolution of Medical Education System in India

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The medical education system in India has evolved through complex historical trajectories, from ancient gurukul-based Ayurvedic traditions to a modern, highly regulated biomedical framework. For educators and researchers, understanding this evolution is essential to address persistent challenges in pedagogy, faculty development, curriculum design, and educational equity.

1. Introduction

Medical education in India is among the largest and most diverse, globally producing over 100,000 graduates annually. The system's evolution has been shaped by historical, cultural, political, and global influences, and continues to be a subject of academic inquiry and policy reform. A brief review of the historical progression of Indian medical education will help us identify areas that warrant further research and innovation, particularly in light of the current regulatory and pedagogical paradigm under the National Medical Commission (NMC).

2. Pre-Colonial Foundations: Ayurveda and Indigenous Pedagogy

India's earliest formal medical training systems emerged within the Ayurvedic tradition, with canonical texts like the Charaka Samhita and Sushruta Samhita forming the basis of instruction. Training followed the gurukul model—personalized, immersive, and ethics-oriented. While empirical and competency-based in many ways, the system lacked standardization and universal access.
These pre-modern institutions of knowledge were marked by:
• Integration of philosophy, preventive care, and clinical medicine;
• Surgical innovations such as rhinoplasty and cataract surgery;
• Ethical codes of practice, emphasizing character and community responsibility.

Although underrepresented in contemporary curricula, these frameworks offer early examples of holistic and value based medical education, paralleling aspects of modern CBME.

3. Colonial Transformations and the Biomedical Turn

The British colonial administration institutionalized Western medical education beginning with the establishment of Calcutta Medical College in 1835. This shift marked a fundamental epistemic rupture:
• Medical education was formalized around British biomedical models, excluding indigenous systems.
• Didactic lectures, anatomical dissections, and hospital-based clinical rotations became the norm.
• Degrees, licensing, and standard examinations were introduced.
While these changes modernized and professionalized healthcare, they also entrenched a hierarchy between allopathy and traditional systems, a divide that persists in the form of dual educational tracks (MBBS vs. AYUSH).

4. Post-Independence Expansion and Systemic Gaps

Following independence in 1947, India expanded its medical infrastructure:
• AIIMS Delhi was established in 1956 as a center of excellence.
• State and private colleges proliferated in response to healthcare workforce demands.
The Medical Council of India (MCI) was tasked with regulation, but critics noted:
• Variability in educational quality, particularly in rural and private colleges;
• Faculty shortages and lack of pedagogical training;
• Overemphasis on memorization over critical thinking or community health.
Despite increased access, this expansion led to a stratified system lacking consistency in both inputs and outcomes.

5. Recent Reforms: The National Medical Commission and CBME

The National Medical Commission Act of 2019 replaced the MCI, ushering in key reforms:
• Centralized regulation through four autonomous boards (UGME, PGME, Ethics, and Assessment).
• Implementation of Competency-Based Medical Education (CBME) starting in 2019.
• Plans for the National Exit Test (NEXT) to unify licensure and postgraduate entrance.
CBME emphasizes:
• Early clinical exposure (ECE);
• Attitude, ethics, and communication (AETCOM) modules;
• Elective learning;
• Simulation-based skill acquisition.
Challenges to CBME include:
• Faculty readiness and training gaps;
• Infrastructural disparities;
• Resistance to pedagogical innovation.

6. Faculty Development and Pedagogical Constraints

The success of CBME is contingent on competent faculty. However, several barriers persist:
• Limited formal training in adult learning and assessment design;
• Variable quality and functionality of Medical Education Units (MEUs);
• Faculty overburdened with service delivery and administrative tasks.
Research shows inconsistent implementation of faculty development initiatives, and the need for national frameworks for continuous professional development is urgent.

7. Research, Innovation, and Global Alignment

India's contribution to global medical education research remains modest:
• Undergraduate curricula lack robust research methodology components.
• Faculty and student research outputs are often limited to mandatory requirements.
• Interdisciplinary and interprofessional education (IPE) is rare.
To align with global standards (e.g., WFME, WHO), Indian institutions must:
• Embed global health, digital health, and evidence-based medicine in UG and PG curricula;
• Expand access to simulation centers and digital platforms;
• Encourage international academic collaboration.

8. Conclusion

India's medical education system reflects a rich but complex trajectory—from indigenous holistic practices to colonial biomedical models and modern reforms under the NMC. For researchers and educators, this history is more than a backdrop; it is essential context for shaping effective, equitable, and evidence-informed

medical training.

Future reforms must:

• Prioritize faculty development as a strategic investment;

• Use implementation science to evaluate CBME outcomes;

• Foster research skills and academic inquiry among students;

• Ensure equity and quality across rural, public, and private institutions.

The way forward must be interdisciplinary, context-sensitive, and rooted in a commitment to producing not only competent doctors but ethically grounded, socially responsive healthcare leaders.

⬚ Summary of Key Milestones

Year	Milestone/Event	Significance
~600 BCE	Charaka & Sushruta Samhitas	Foundational Ayurvedic texts; early formal medical training
1835	Calcutta Medical College established	First modern allopathic medical college in India
1956	AIIMS Delhi inaugurated	National model of advanced medical education and research
2019	CBME curriculum implemented	Shift to outcome-based, student-centered learning
2020	NMC replaces MCI	Major governance and regulatory overhaul
TBD (expected 2025–2026)	National Exit Test (NEXT) to be introduced	Unified licensure and PG entrance exam across India

⚖ Principles for Thoughtful Reincorporation

Historical Value	Modern Relevance	Integration Approach
Ethics & Holism	Humanized care	AETCOM, case-based ethics
Mentorship	Faculty–student relationships	Longitudinal mentoring
Lifestyle focus	NCD prevention	Preventive care curriculum
Herbal wisdom	Drug discovery	Integrative pharmacology
Ecology focus	Planetary health	Public health education
Regional roots	Health equity	Multilingual training

Cautions

• Avoid pseudoscience: Integrate only elements supported by empirical or translational research.

• Cultural relevance over dogma: Focus on principles (e.g., balance, ethics, prevention), not unverified therapies.

• Training faculty: Educators must be trained in cultural humility, integrative pedagogy, and evidence-based evaluation.

Final Takeaway

Reincorporating elements from India's rich medical heritage should not be nostalgic or symbolic. It must be contextualized, evidence-informed, and aligned with public health needs. Doing so will help build a medical education system that is scientifically rigorous, culturally rooted, and socially responsive.

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Guidelines for Preparing Professional Presentations

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This guide highlights best practices for preparing clinical or scientific presentations. It includes visual do's and don'ts with examples.
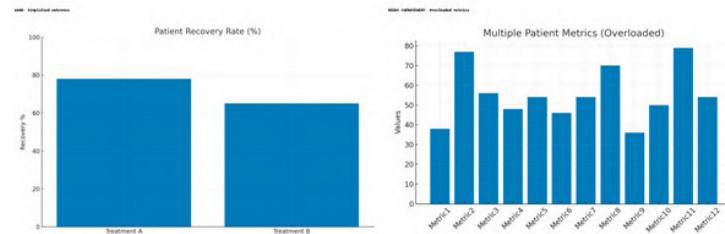
1. Content & Structure
• Limit slides to one key idea per slide.
• Use case-based examples instead of textbook paragraphs.
• Structure: Patient case → Diagnosis → Treatment → Outcome.
• Highlight only clinical takeaways, not full guidelines.
• Summarize patient outcome or recommendations at the end.
Example: Clear case points vs. overloaded clinical guideline:

Good - Concise case points	Needs Improvement – Text heavy guidelines
• Symptoms and Diagnostics (Concise)	• Clinical guidelines (overloaded)
• Key Symptoms – Fever, Cough, Fatigue	• E.g. - The diagnostics of influenza should be based on the presence of fever, cough, sore throat etc.
• Symptoms confirmed via PCR test	• Overloaded text with references pasted directly from WHO guidelines
• Treatment protocol : A or B	• No spacing, paragraph copied from textbook
• Max 5 clinical points per slide	• Tiny font size, unreadable in auditorium
• Use Visuals for guidelines	• More than 5 bullet points in 1 slide

2. Design & Visuals
• Use simple templates (white background, blue/green headers).
• Fonts: Calibri, Arial, or Segoe UI; avoid decorative fonts.
• Font size: Titles 28–32pt, Body 20–24pt minimum.
• Max 6 bullet points per slide, 6 words per line.
• Replace text with diagrams, X-rays, or clinical flowcharts.
Example: Clear contrast vs. poor readability:

Good - Navy text on White	Needs Improvement - Pale Blue on White
• Dark Navy text on White background	• Pale blue text on white background
• Clinical outcomes shown clearly	• Unreadable in conferences

3. Charts & Data
• Show simplified patient outcomes (e.g., survival %, recovery rate).
• Limit to 2–3 key parameters per chart.
• Use consistent scales and units.
• Highlight differences that matter (e.g., Treatment A vs. B).
• Avoid clutter with too many metrics in one graph.
Example: Patient outcomes chart vs. overloaded metrics:

4. Delivery & Engagement
• Rehearse with colleagues for timing and clarity.
• Use speaker notes, not text-heavy slides.
• Engage with audience using short case studies or polls.
• Emphasize impact on patient care rather than raw data.

5. Fonts, Colors, and Branding
• Font: Calibri/Arial/Segoe UI, professional and readable.
• Font size: ≥20pt body text, ≥28pt titles.
• Colors: Blue/green for trust and clarity; red only for risks/adverse events.
• Keep backgrounds light with dark text.
• Limit palette to 2–3 professional colors.

6. Essential traits for effective and memorable presentation
• Know your audience
• Clear and organized structure
• Strong opening and purposeful ending
• Relevant and focused content
• Supportive visuals and design and clear delivery
• Practice and preparation
• Storytelling is good

Simulation-Based Medical Education

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Introduction

Simulation is a technique that artificially replicates real world experiences in an interactive manner to achieve a stated goal. Recently its application is rapidly evolving in the field of healthcare.

Simulation-based medical education (SBME) revolutionizes traditional learning methods by immersing healthcare professionals in realistic scenarios that replicate clinical settings. This innovative approach originated in aviation and has rapidly expanded across healthcare disciplines, offering unparalleled opportunities for teaching, practicing, and assessing skills in a controlled and safe environment.

In fields like obstetrics and gynecology, where clinical situations often involve high acuity, low-frequency events and time-critical decision-making, SBME offers unique advantages. It provides a platform not just for skills enhancement but also for leadership development, communication training, and patient safety.

Evolution and Application

Originally used in flight training, simulation in healthcare has gained traction over the past two decades. It addresses challenges in traditional bedside teaching, where logistical constraints often limit direct patient interactions for learners. SBME fills this gap by allowing healthcare providers to engage in deliberate practice, mastering skills and applying theoretical knowledge before patient contact. This not only enhances competence but also improves confidence and performance in real clinical settings.

Simulation in Healthcare: Shaping the Future of Medical Education

Simulation has become a transformative force in clinical training, especially as traditional "see one, do one" approaches struggle to keep pace with the complexities of modern healthcare.

It provides

1. Structured and Repeatable Learning

Simulation provides carefully designed, reproducible scenarios that allow learners to practice repeatedly in a controlled, risk-free environment.

2. A Safe Space to Learn from Mistakes

It creates a judgment-free zone where learners can make errors, analyze them, and refine their skills—without putting patients at risk.

3. Configurable to Every Level

From novices to seasoned practitioners, simulation can be adapted to match the learner's skill level and educational goals.

4. Feedback-Driven Growth

Post-scenario debriefings offer timely, targeted feedback and encourage meaningful reflection—driving continuous improvement.

5. Immersive, Hands-On Experience

Simulation scenarios replicate real clinical situations to achieve defined learning objectives. Through immersive role-play, guided facilitation, effective debriefing, learners engage deeply in experiential learning that bridges theory and practice.

Components of Simulation session

A typical simulation session consists of three phases: prebriefing, scenario execution and debriefing. Prebriefing prepares participants by outlining objectives, familiarizing them with the simulated environment, and establishing psychological safety. During scenarios, participants manage simulated patients, responding to evolving clinical situations as a team. Debriefing is a critical phase where participants reflect on their actions, receive feedback, and identify areas for improvement. Various models for debriefing essentially follow a framework that includes reactions, description of events, and analysis of critical actions and summary. This structured approach promotes continuous learning and skill refinement.

The Rationale for SBME in Obstetrics and Gynaecology

Obstetrics and gynecology presents a wide spectrum of clinical scenarios—ranging from routine antenatal care to obstetric emergencies such as eclampsia, postpartum hemorrhage (PPH), shoulder dystocia, and uterine rupture. These situations demand rapid recognition, coordinated team responses, and high procedural competence.

SBME provides a safe, repeatable, and controlled environment to rehearse both routine and rare clinical events.

Regular, protocol-based drills for managing common emergencies—such as fetal bradycardia or obstetric hemorrhage—can enhance a healthcare unit's readiness to respond and reduce the risk of adverse outcomes. These exercises can take place in either a high-fidelity simulation environment or the routine clinical workspace, provided the setting realistically reflects actual resources and conditions. Consistent practice also helps team members refine their crisis communication skills

Simulation Modalities in ObGy Education

SBME is a versatile methodology encompassing a range of modalities:

- Task Trainers: Pelvic exams, IUD insertion, and episiotomy repair.
- High-Fidelity Mannequins: For delivery simulations like PPH, shoulder dystocia.
- Hybrid Simulation: Combines task trainers with actors.
- Virtual Reality: For laparoscopic and hysteroscopic procedures.

Simulation-Based Training Themes for ObGy education

A. Emergency Obstetric Drills: Eclampsia, hemorrhage, uterine rupture.
B. Surgical Skills Workshops: to learn cognitive skills in laparoscopy, pelvic floor repair.
C. Communication and Ethics Scenarios: Consent, breaking bad news.
D. Leadership in Crisis Management: Running emergency teams.

Multidisciplinary simulation in ObGy

Multidisciplinary simulation provides a safe environment for teams of healthcare professionals from various disciplines, such as ObGy, Emergency Medicine, Anesthesia, and Nursing to practice together, improve communication, and develop effective strategies for managing critical situations. This approach aims to improve team coordination and overall patient care in high-acuity, low-occurrence events.

Effective teamwork requires a team leader to coordinate the response, but it also empowers all members of the team to contribute and share information. Regular practice together not only sharpens skills but also

breaks down the communication barriers that can stand in the way of seamless collaboration—turning a group of individuals into a truly cohesive team. The Practical Obstetric Multi-Professional Training (PROMPT) course is a team-based training program established to improve the ability of healthcare professionals from various disciplines to train for, manage, and respond to acute obstetric emergencies. This program has been shown to reduce adverse patient outcomes and improve clinical outcomes

Advantages of SBME

The advantages of SBME extend beyond skill acquisition. It enhances patient safety by allowing practitioners to refine techniques without risk to patients. Psychological safety is also fostered, as participants can make mistakes and learn from them without fear of adverse outcomes. SBME offers flexible scheduling, allowing healthcare providers to train at convenient times and locations, and optimizing learning efficiency. Moreover, it fosters team dynamics, improving communication and coordination among multidisciplinary teams.

Apart from its main purpose of medical education, simulation is also helpful in Simulation-based Assessment of clinical competence. Simulation has a huge potential in assessment of competence of medical undergraduate students, postgraduate students and practicing physicians. It will be more meaningful to actually demonstrate competency through simulation instead of the traditional way of assessment by viva-vice.

Future Directions

The future of SBME is promising, driven by advancements in simulation technology and increased recognition of its effectiveness. Virtual reality (VR) and augmented reality (AR) are increasingly integrated into simulations, offering more immersive and realistic training experiences. As healthcare systems prioritize patient safety and quality improvement, SBME will play a pivotal role in ensuring that healthcare professionals are well-prepared to deliver optimal care.

Conclusion

Simulation-based medical education represents a transformative shift in how healthcare professionals are trained. By providing realistic, risk-free environments for learning and assessment, SBME enhances competence, confidence, and patient outcomes. As it continues to evolve and expand across medical specialties, SBME will remain at the forefront of medical education, preparing the next generation of healthcare providers to navigate complex clinical challenges with skill and proficiency leading to safer medical practice and better patient outcome.

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What's new in CBME?

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Progress is impossible without change. So why would Medical Education be exception to this ? The last reform in the graduate medical education regulations was more than two decades back, in 1997. Amongst the strengths of the traditional curriculum were, it being time-tested and withstanding for past two decades, focussed on a strong foundation of the basic sciences' knowledge base, established teacher centred approaches to pedagogies and assessment methodologies that were built upon for years, and support received from peers for the learners during the graduation years.

The traditional curricula when evaluated against the global standards in medical education laid by the World Federation of Medical Education (WFME), observed the following – lack of integration of core basic sciences to the clinical subjects, with teaching occurring only in silos of the departments, over teaching and cognitive overloading in various subjects leading to repetition of topics throughout the curriculum , inadequate practical skills of graduates at the end of curriculum, despite strong knowledge base from post-graduation entrance oriented approach to graduate medical education, and graduates having poor self-directed and lifelong learning skills for continuing professional development in their fields. Hence, when the weakness outweighed the strengths, came the

recommendations by an expert group commissioned by the WHO. [1,2]

The traditional Indian medical education focused on imparting instructional strategies irrespective of how the product i.e. the learner turned out at the end 5 and half years of education. The need of the hour was an outcome based approach where the outcome/ product is the guiding force behind curricular decisions, and the processes to attain these become secondary. Hence, competency based curriculum can be seen as an appropriate outcome based approach introduced in the Indian medical curriculum. [3]

The goal of CBME is to produce an Indian Medical Graduate (IMG) who is envisaged as a doctor fulfilling the roles of clinician, leader, communicator, professional and lifelong learner[4]

Newer components in new curriculum [5]:

1) Foundation course: dedicated one month exclusive "Foundation Course", at the beginning of the MBBS course, to orient and sensitize the student to the various identified areas including orientation module, pandemic module, bio waste management, time management, sports & extracurricular activities, financial management, computer skill training, language skill training, and communication training. The goal of the Foundation Course is to prepare a learner to study Medicine effectively. It will be of one-month duration after admission.

2) Early clinical exposure – The ECE program in the MBBS curriculum tries to create an opportunity for students to correlate learning in first year MBBS subjects with their clinical application. Learning of basic sciences with respect to a clinical context can improve student's motivation to learn and also improve retention. Elements are Basic sciences correlation (18 hours) , Clinical skills (experience and human context-12 hours) & Humanities.

3) Integrated teaching learning – Facilitates horizontal and vertical integration between and among disciplines and helps to bridge gap between theory and practice, hospital based medicine and community medicine. Horizontal integration is more than 1 department of same year teaching the topic (for e.g. Physiology and

Biochemistry teaching together) while Vertical integration is when more than one department of different phases coming together for teaching (for e.g. Dept of Physiology explaining physiology of menstrual cycle and Dept of Obgyn teaching AUB)

4) Skill development and learning throughout curriculum – As the new curriculum focuses on higher levels of miller's pyramid – Shows how and performs under supervision. Development of psychomotor, affective and communication skill is the most important purpose of new curriculum .List of mandatory and desirable skills to be procured throughout the curriculum has been planned. For Obstetrics, Obstetric Examination , Normal labour & episiotomy while for Gynae , Per speculum & per vaginal examination , IUCD insertion & removal , PAP smear collection and interpretation are the core competencies for undergraduate students.

5) Electives – Learning options for students as per the interest and feasibility to enhance self directed learning and critical thinking. It also helps the students to receive personal guides to enhance their research abilities. After Third first exam , students visit to pre/paraclinical dept of their choice with special interest on particular topic (for e.g. Hematology) for 15 days followed by 15 days in clinical or superspeciality dept (for e.g. Oncogynae)

6) AETCOM – AETCOM stands for Attitude , Ethics & Communication. AETCOM module has been prepared as a guide to facilitate institutions and faculty in implementing a longitudinal program that will help students acquire necessary competence in the attitudinal, ethical and communication domains. It offers framework of competencies that students must achieve. It also offers approaches to teaching learning methods

7) Structured assessment – It helps to reduce subjectivity in assessment. The student is also clear of what is expected of him. Blueprinting helps to prepare a layout of the paper and prevents ambiguity. Weightage to be given to various domains and topics can be fixed depending on the desirability of the competence to be

achieved. Popular structured assessment used in Obgyn is OSCE i.e. Objective Structured Clinical Examination.

8) Formative assessment – It is a form of "assessment for learning" which enables to generate a feedback for learning. Formative assessment provides opportunities for improvement .

9) Maintenance of log book – A record of activities completed and competencies acquired is necessary to ensure that the learner has acquired the key competencies. The logbook forms an integral part of the formative / continuous assessment program. This document outlines the means and processes to create and record such activities in the form of a unified logbook.

10) Medical humanities - Inclusion of language, arts, political science etc that deal with human values too make doctors efficient in treating the patient holistically with reference to the human behaviour.

11) Self directed learning – Encourages students to acquire knowledge and learning experience and skill Acquisition at their own pace. This shared responsibility makes the student more responsible. Resource / study material in the form of books or journals or video links etc is shared with students to allow them to explore by themselves. SDL is an active learning approach with the teacher acting as a facilitator of learning. SDL promotes attitude of being 'Life long learner'.

12) Family adoption Program - The Community Medicine Department of every college may allot about five families (minimum three) in a village not covered under Rural health training centres, to each of the first MBBS students under the 'Family Adoption Program'. The student will be responsible for overseeing the health and well-being of the assigned families for three consecutive years. Through this process, the students will gain first-hand exposure to the living conditions, cultural beliefs, lifestyle practices, and common health challenges faced by marginalized communities. This immersive experience will help them develop a deep understanding of the determinants of health in these populations and equip them with the skills to address health issues more effectively when they become practicing doctors.

Perception of faculty and students towards the newer components :
The new curriculum focuses on learner centric, patient centric and outcome oriented approach. Skill acquisition is an integral part of this curriculum. Development of right ethics, attitude and Communication skill in students are also highlighted in this curriculum.

The paradigm shift in the curriculum needed the training of faculty and most of the faculty members have undergone various training workshops to acquire the skills in implementation of the new curriculum- CISP workshops i.e. Curriculum Implementation Support Program workshops. Preparing for all of these new components and implementing it in an effective manner requires lot of manpower, time, infrastructure and technology support. But the faculties are trying hard to do it the best way in the available resources. Of course, as mentioned earlier the advantages of each newer component is the driving force for the faculty members to do their best to get a better outcome in the form of a competent IMG.

Since it is a student centric and patient centric approach and blending of various T-L (Teaching Learning) methods the students are more than satisfied with the newer curriculum. Structured, non-ambiguous assessment helps them to perform better. Formative assessments helps to generate feedback of their learning from time to time so that they can rectify their errors and approach.

This curriculum has focused on development of right ethical values, attitude and communication skill which brings about the holistic development of the student as a competent IMG. The students more confident when in community .

First step towards change is awareness ! So lets be aware about changing trend in medical education in India .

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AETCOM in Medical Education: Will it change patient care?

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xxxxx

The National Medical Commission (NMC) introduced the Attitude, Ethics and Communication Module (AETCOM) module which aims to understand and apply principles of bioethics and law to medical practice and research. AETCOM stands for Attitude, Ethics, and Communication and AETCOM module introduced by NMC aims to equip medical students with the necessary skills and understanding of patient interaction, ethical conduct, and effective communication, going beyond traditional medical knowledge.The AETCOM is a longitudinal programme in the MBBS programme including internships. Teaching Learning methods include small group discussions, patient care scenarios, self-directed learning, workshops, seminars, role plays, large/small group teaching etc. It is proposed to be hybrid problem-based learning.

The main emphasis is on application-based and subject-oriented cases which should be used as additional resources. The best examples are real-life case studies and community-based case studies.This can improve communication aspects of health education, informed consent and counselling the patients. One of the objectives also is to understand and apply empathy and other human values to the care of the patient which is the challenging task. The doctor should communicate effectively with patients, families, colleagues and other healthcare professionals. It is essential for doctors to uphold the highest standards of medical ethics, compassion, and professionalism. The doctors must prioritize the health and well-being of their patients while being mindful of the legal and ethical complexities when a minor seeks a medical termination of pregnancy. Such cases must be approached with empathy, ensuring that the minor feels safe and supported throughout the process. Additionally, doctors must maintain confidentiality and privacy to protect the patient's dignity and safeguard them from potential harm or coercion. Doctors also have a duty to communicate effectively with such minor patients.

AETCOM module describes this complex situation by using case scenario which will help the medical graduate to understand the case in better way and plan strategy accordingly. Developing a positive and professional attitude towards patients, colleagues, and the medical profession is essential for doctor. Similarly ethical principles in medical practice, patient autonomy, confidentiality, informed consent, and professional conduct need to be practiced by doctor. The mainstay is effective communication with patients, their families, and other healthcare professionals. If we practice the skills of active listening and demonstrating empathy in communication, the students will learn better.

The main idea is to develop a positive and professional attitude towards patients, colleagues, and the medical profession as a whole. The ethical principles in medical practice, including patient autonomy, confidentiality, informed consent, and professional conduct which are critical to practice medicine in a holistic to deliver the best quality care. This also includes effective communication with patients, their families, and other healthcare professionals. The medical student should have active listening, clear explanation of medical information, and empathy in communication.

The AETCOM module a combination of theory and practical exercises which include like role-playing and assessments to produce well-rounded medical professionals.

There is an urgent need to integrate these soft skills into medical education. Traditional medical curricula lack are ethical dilemma resolution. The early clinical exposure and the development of soft skills like communication, ethics, and the appropriate attitude for medical practitioners are very much needed for competent medical graduate.

Through AETCOM modules, students are expected to learn important aspects of empathy. It is vital for strong doctor-patient relationships and enhancing patient management effectiveness.

The AETCOM module helped the students with history taking, as they experienced all of these in their clinical postings. The most students have realized the importance of empathy for building a good doctor-patient relationship and its role in effective patient management.They also realized the importance of empathy for building a good doctor-patient relationship and its role in effective patient management through the AETCOM modules,

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Challenges in CBME

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Competency-Based Medical Education (CBME) is a shift in medical education from a traditional time-based, knowledge-focused model to an outcomes-based approach. The traditional, time-based medical curriculum, which has been in place for decades, is no longer sufficient to meet the demands of modern healthcare. This has created a compelling need for the implementation of a Competency-Based Medical Education (CBME) curriculum. The shift is driven by a desire to produce more competent, well-rounded, and accountable physicians better equipped to serve a complex evolving society and also clinicians who promises to be a life long learner and researcher as well.
The new CBME curriculum is designed around a set of competencies, or desired abilities, that a under graduate must be able to demonstrate during completion of their training. These competencies go beyond just medical knowledge and includes various facets like communication skills, professionalism, leadership skill , teamwork spirit. But Implementation of the Competency-Based Medical Education (CBME)   has several key challenges at various level. Some of the main challenges are as follows:

Faculty-Related Challenges
● **Resistance to Change:** Many faculty members, having been trained and teaching in a traditional system, are resistant to adopt new pedagogical methods. They feel that the new curriculum overcomplicates medical training, is not practical, or requires a complete overhaul of their teaching style. Few old Professors may still advocate to black board teaching than teaching on wifi enabled Smart boards.
● **Deficiency of Staff :** Many upcoming new medical colleges lack senior teaching staffs especially in clinical departments and colleges at remote places. Due to Shortage of trained teaching staff it is difficult to conduct small group teaching and skill teaching sessions for the students thus compelling to stick to traditional method of teaching.
● **Inadequate Training and Skills:** Faculty often lack sufficient training in CBME principles, including how to design a curriculum based on competencies, use new assessment tools like OSCEs (Objective Structured Clinical Examinations) and portfolios, and provide effective, continuous feedback. This lack of knowledge can lead to inconsistent grading, poor student evaluation, and an overall reduction in the effectiveness of the curriculum.
● **Increased Workload:** CBME requires faculty to provide more frequent, one-on-one formative assessments and feedback to students. This is a significant increase in workload, which can be particularly challenging for clinical faculty who already have heavy patient care and administrative duties.
● **"Failure to Fail" Phenomenon:** Faculty members may be hesitant to fail a student, especially in subjective clinical assessments, due to emotional, cultural, or institutional pressures. Students in private colleges are paying big bucks for the MBBS courses .Teaching faculties in such Private colleges and Deemed universities are under pressure not to showcase poor performances of the students. This can compromise academic integrity and patient safety by allowing under-competent students to progress.

Student-Related Challenges
● **Adaptation Difficulties:** Students accustomed to a traditional, time-based curriculum at times find it difficult to adapt to a new model that requires more self-directed learning and continuous, low-stakes assessments.
● **Overburden :** Some students may feel a sense of chaos or lack of clear direction if the new system is not properly explained .Some students may feel early clinical exposure, continuous internal assessments as an extra pressure and may not be able to cope up with vast studies of too many subjects at a time.
● **Focus on Milestones:** While CBME aims to be holistic, there is a risk that students may focus solely on achieving specific, pre-determined milestones rather than striving for a deeper, more comprehensive understanding of the material.
● **Overuse of technology:** The new genera-

tion is more techno savvy. Technology has now encroached medical education field like any other areas. Students are gradually loosing interest in lectures and bedside teaching. They rely more on YouTube videos and other online platforms for medical lectures and tutorials . This is leading to poor attendance in the clinical department teaching schedule and has failed to achieve the crux of CBME curriculum.

● **Focus on Post graduate Entrance Preparation:** NMC has made changes to Postgraduate medical education and exams and has implemented National Exit Test (NExT). The National Exit test has been divided into two parts . NExT 1 is a theory exam which includes 540 MCQs (multiple choise questions) covering 19 medical subjects. Students who pass NExT 1 are eligible to start their internship. NExT 2 is a practical exam which will be conducted after the internship. Most of the undergraduate students during MBBS prefers joining online classes and focuses more on PG entrance test preparation rather than focusing on medical education and acquisition of clinical skills.

Institutional and Administrative Challenges
● **Curriculum and Assessment Overhaul:** Transition from old to new CBME curriculum requires a complete redesign of the curriculum to align with specific learning outcomes and competencies. This includes developing new assessment methods that are reliable and valid for measuring observable abilities.
● **Inadequate Resources:** Successful implementation of CBME requires significant resources, including an increase in trained faculty, upgraded infrastructure like skills labs, and robust IT support for learning management systems and data analytics to track student progress.
● **Lack of Stakeholder Alignment:** The implementation of CBME requires coordination among various stakeholders, including regulatory bodies, academic leadership, faculty, and students. Without this alignment, the reform can lead to inconsistencies and logistical chaos.
● **Financial Constraints :** Developing and validating new assessment models, providing extensive faculty training, and building the necessary technological and physical infrastructure for CBME can be a substantial financial burden for institutions, particularly in low-resource settings.
● **Faculty Development Programme:** Organizing CME or sending faculties for training new CBME curriculum without hampering the routine functioning of the college or hospital may be a great challenge for the insti-

tution.
It is well said ,The Most useless are those who never change through the years". New Changes should always be welcomed and new challenges should always be overcome for the improvement and betterment of any system. Hence the changes in traditional teaching methods and implementation of CBME is essential for modern medical education to remain relevant, effective, and accountable to the patients and communities it serves.

The Transformative Role of Artificial Intelligence in Medical Education

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Introduction

Artificial Intelligence (AI) is revolutionizing medical education, offering innovative opportunities to enhance teaching-learning. Incorporation of AI marks a paradigm shift in how we teach, assess and design medical education. With rapidly evolving technology, AI is a powerful tool with a multifaceted impact on healthcare education. Applications of AI in medical education range over a wide spectrum of activities, including teaching-learning, simulation, assessment and research.

Applications of AI in Medical Education
1. Personalized, Adaptive Learning Environments

AI-based analytics can detect learning style, pace, strengths and weaknesses with utmost precision. By adapting to each student's evolving profile, AI supports active, effective and efficient learning. This marks a shift from the conventional standard curriculum for all to personalized education.

• **Adaptive Learning Platforms:** AI platforms can assess learner responses and adjust both content and difficulty in real time. It allows customization of teaching-learning material to each student's progress. It offers the necessary explanations, resources, or practice when required. It can also pose advanced challenges for advanced learners for in-depth understanding.

• **Personalized Feedback and Remediation:** A detailed AI-based analysis is beyond the routine right-or-wrong grading. It can identify error patterns, predict areas of likely struggle, and recommend targeted interventions, which can lead to improved competence and confidence.

• **Optimized Learning Schedules:** AI analytics can detect when and how a student learns best which allows recommendation of study timings and methods that can boost comprehension and retention while minimizing cognitive overload.

• **Personalized Smart Tutoring Systems:**

Using natural language processing and knowledge graphs, AI can deliver context-sensitive explanations, case discussions and quizzes that are tailored to the learner's needs.

AI could tailor ultrasound learning modules to focus on areas where a learner frequently errs, such as differentiating benign from malignant adnexal masses.

2. Simulation and Virtual Clinical Experiences

AI is instrumental in enhancing the simulation experiences, making them highly immersive, adaptive and realistic.

• Intelligent Virtual Patients: AI-powered, language model-based avatars can converse easily with students. These virtual patients can exhibit realistic behaviors, respond dynamically to student interactions and even simulate emotional responses. They can provide experience in history taking, physical examination, diagnosis, and treatment planning in a variety of clinical scenarios including rare and complex conditions.

AI-powered avatars can simulate patients in labour with complications such as shoulder dystocia, eclampsia, or postpartum haemorrhage, requiring learners to make rapid, evidence-based decisions.

• **Augmented and Virtual Reality (AR/VR):** AR and VR platforms mark a major advancement in simulation-based training. Incorporation into medical education exposes learners to a variety of activities ranging over practising procedures, rehearsing teamwork and managing rare emergencies. Along with an immersive, risk-free environment, AR/VR allow self-directed learning, offer flexibility and are independent of consumables.

For gynaecologic surgery training, AI-driven simulators could be used for training in instrument handling, economy of motion and procedural sequencing with instant feedback.

• **Automated Performance Assessment:** AI

helps in both formative and summative assessments. By virtue of analysing student performance during simulations, AI provides detailed feedback on psychomotor skills, decision-making and communication skills. This automated assessment can free up faculty time and provide timely, objective and consistent assessments. The faculty can access the performance and improvement among students by accessing the dashboard, allowing flexibility.

• **Dynamic Scenario Generation:** AI algorithms can be used to create diverse and complex clinical scenarios ensuring a broader spectrum exposure to students. Furthermore, AI can adapt the scenarios based on student actions in real time, creating a more engaging, challenging and contextually relevant learning experience.

3. AI for Content Curation and Knowledge Management

AI can serve as a tool for curating and managing the expanding vast volume of knowledge base. It allows an efficient access to information and supports lifelong learning.

• **AI-Driven Literature Review:** AI algorithms rapidly analyse medical literature and synthesize information. This helps students as well as faculty in identify the relevant research and update themselves.
e.g. AI-curated alerts could summarise recent changes in WHO recommendations for hypertensive disorders in pregnancy or updates on antenatal corticosteroid use.

• **Intelligent Search and Knowledge Retrieval:** AI-powered search tools respond to the medical queries by accurate analysis and provide relevant results compared to traditional keyword-based searches, enhancing the efficiency of research.
e.g. AI could synthesize research comparing surgical versus medical management of early pregnancy loss, saving faculty time in updating teaching resources.

• **Automated Content Generation:** AI can assist in creating educational material, such as summaries of complex topics or generation of practice questions. However, it is extremely important to maintain human oversight.

4. AI in Assessment and Evaluation

AI has potential to reshape the assessments in medical education by automating the repetitive assessment tasks, allowing the educators to devote time to clinical responsibilities, mentorship, professional growth.

• Automated grading: AI can efficiently score certain types of assessments such as MCQs, OSCEs as well as short-answer and essay-based assessments using natural language processing. It offers speed, consistency and objectivity.

• Real-Time Feedback: AI algorithms allow a timely, immediate, targeted feedback during psychomotor and communication skill-based sessions. This formative feedback allows a prompt refinement.

• Predictive Analytics: AI can analyse the assessment data over time and identify students needing remediation, anticipate areas of difficulty and also recommend timely interventions.

• Curriculum Improvement: AI algorithms can analyse large volumes of the assessment data and identify trends with patterns of student difficulty. This in turn can aid in curriculum revision, thus serving an important aspect of program evaluation.

• Detection of Plagiarism: AI tools can detect plagiarism and other forms of academic dishonesty, thus helping in fair and transparent assessment and maintaining academic integrity.
e.g. AI could score simulated pelvic examination stations, assessing not only technique but also communication skills and patient comfort strategies. AI could also be used to assess a learner's ability to interpret cardiotocographs, identify atypical patterns, and recommend appropriate interventions.

Challenges and Ethical Considerations

The key challenges of integration of AI in medical education need to be addressed to ensure safety.

• Data Privacy and Security: AI often requires sensitive learner and patient data and ensuring privacy and security is of utmost importance. Compliance with privacy and confidentiality regulations and transparency in processes are essential.

• Algorithmic Bias: Models trained on biased or unrepresentative datasets can result in disparities in assessment and unfair learning opportunities. It is critical to choose diverse data sourcing and detect bias.

• Black Box Problem: Some AI systems lack transparency, lacking transparency about the process of arriving at conclusions. This may be problematic especially if used for assessment and feedback. Explainable AI (XAI) may help to overcome this challenge.

• Humanistic Skills and Over-reliance: Excessive dependence on AI may result in loss of the human dimension; such as empathy, communication and critical thinking.

• Faculty Training: Faculty development to enable them to use, interpret and critically appraise AI tools is essential for successful implementation.

• Cost and Accessibility: High costs of development and infrastructure can widen the gap between high and low resource settings.

• Adoption Resistance: Resistance and lack of trust among both faculty and students can hinder effective adoption of AI.

• Regulatory and Standardization Gaps: Policies and guidelines for safe and ethical use of AI in education are still evolving. Consensus on adoption of AI in medical education is lacking, hampering standardization.

The Future of AI in Medical Education

In near future, the scope of AI will be expanding with many more applications.

• AI-powered diagnostic and prognostic tools integrated into learning: Students could learn with AI tools in simulated environment, in turn helping to understand their capabilities and limitations.

• Personalized mentorship and career guidance: A customized advice on career paths and residency applications through AI driven analysis of student performance and interests. e.g. AI could analyse a resident's operative logbook and performance metrics to suggest targeted surgical exposure.

• Interprofessional education: AI could facilitate collaborative learning experiences involving students from different healthcare professions.

• Expanding Global Reach: AI platforms with virtual education will increase the reach of training, promising high-quality training all over the world, even in places lacking local expertise or resources. It will also support global collaborations and peer learning. e.g. AI-enabled tele-simulation could allow trainees in low-resource settings to participate in remote, real-time obstetric emergency drills with expert facilitators from high-resource centres.

• Continuous Professional Development: AI-driven learning modules, micro-credentialing and targeted refresher courses will help physicians to stay updated with recent advances.

• Research Partnership: AI will play a massive role in research by assisting learners and professionals with generating novel research questions. literature synthesis, evidence grading in a timely manner.

Conclusion

Artificial intelligence has the potential to revolutionize medical education through personalized learning, enhanced simulation, organized knowledge management and efficient assessment. Integration of AI can augment competency-based training and equip the budding doctors for a complex healthcare landscape, ultimately leading to better patient outcomes. AI is an evolving educational partner, helping physicians to be skilled, adaptable and globally connected. Educators must show adaptability and commitment with a focus on responsible and ethical implementation of newer technologies. AI is not intended to replace human educators but rather to augment their capabilities and enhance the learning experience for students.

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Career Options After MS Obstetrics and Gynaecology in India

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Completing an MS in Obstetrics and Gynaecology in India opens a diverse range of career opportunities, both in clinical practice and academic fields. This postgraduate qualification equips doctors with the skills to manage a wide spectrum of women's health issues—from antenatal and intrapartum care to infertility management and gynaecological oncology—making it one of the most versatile and in-demand specialities in the country. Career choices can be tailored to personal interests, lifestyle preferences, and long-term goals.

1. Clinical Practice in Hospitals
a. Government Sector
Many graduates choose to join state-run hospitals, central government institutions, or public health missions. Benefits include job stability, pension schemes, and exposure to a high patient volume. Common options include:
• Medical Officer or Specialist Posts in district hospitals, civil hospitals, and government medical colleges.
• Reproductive and Child Health (RCH) Programmes under the National Health Mission.
• Armed Forces Medical Services for those willing to serve in defence health establishments.
b. Private Sector
Private hospitals and corporate healthcare chains offer competitive salaries and advanced facilities. Career pathways include:
• Consultant Obstetrician and Gynaecologist in tertiary care hospitals.
• Senior Resident or Associate Consultant roles for fresh postgraduates before moving into full consultant positions.
c. Independent Practice
Opening a private clinic or maternity home is a common route. This offers flexibility and autonomy but requires strong business acumen, networking, and investment.

2. Super-Specialisation and Fellowship Training
MS graduates can further refine their skills through fellowships or DM/MCh programmes in sub-specialties:
• Gynaecologic Oncology – For advanced cancer management.
• Reproductive Medicine & IVF – In high demand due to rising infertility rates.
• Fetal Medicine – Specialising in high-resolution prenatal diagnostics and interventions.
• Urogynaecology – Focusing on pelvic floor disorders and incontinence.
• Maternal-Fetal Medicine – For complex, high-risk pregnancies.
• Minimal Access Surgery (Laparoscopy and Hysteroscopy) – Increasingly vital for both benign and malignant gynaecological conditions.
These can be pursued through recognised fellowship programmes in India (e.g., FOGSI, ICMR, IMA) or abroad.

3. Academic and Teaching Careers
Joining a medical college as a faculty member is an attractive option for those inclined towards teaching and research. Typical progression:
• Senior Resident → Assistant Professor → Associate Professor → Professor.
Advantages include stable working hours compared to private practice, involvement in postgraduate training, and opportunities for funded research.

4. Research and Public Health Roles
Those with a passion for epidemiology, policymaking, or global health can work in:
• Research Institutions such as ICMR, AIIMS, NIMHANS (for mental health aspects in maternal care), or WHO-funded projects.
• Public Health NGOs focusing on maternal and child health, safe motherhood initiatives, and reproductive health advocacy.
• International Agencies like UNICEF, UNFPA, and WHO, which often recruit specialists for programme implementation and evaluation.

5. Opportunities Abroad
MS in Obstetrics and Gynaecology from India is recognised in many countries, although ad-

ditional licensing exams may be required:
• United Kingdom – MRCOG pathway.
• United States – USMLE followed by residency equivalence in OBGYN.
• Australia & New Zealand – AMC exams and specialist recognition process.
• Middle East – High demand in countries like UAE, Qatar, and Saudi Arabia for experienced consultants.

6. Medico-Legal and Administrative Roles
Some specialists branch into hospital administration, medico-legal consultancy, or healthcare management. These roles often require additional qualifications such as MBA in Hospital Management or Health Administration.

7. Medical Writing, Journalism, and Health Communication
With expertise in women's health, doctors can contribute to:
• Medical textbooks and guidelines.
• Public awareness campaigns on maternal and reproductive health.
• Health columns in newspapers, digital health platforms, or television.

8. Entrepreneurship in Women's Health
Beyond conventional practice, there are opportunities to create healthcare startups focusing on:
• Fertility centres.
• Telemedicine platforms for antenatal care.
• Mobile clinics in underserved rural areas.
• Health-tech innovations in pregnancy monitoring and menstrual health.

9. Continuing Professional Development
Whichever path is chosen, continuous learning is essential. Attending conferences, publishing research, upgrading surgical skills, and participating in workshops ensures that practitioners stay current with rapidly evolving medical practices.

Conclusion
After an MS in Obstetrics and Gynaecology in India, career options are vast and diverse—ranging from high-intensity surgical work to academic, research, and public health roles. The choice depends on whether one prefers direct patient care, specialised procedures, teaching, policy-making, or even healthcare entrepreneurship. With rising healthcare demands and expanding sub-specialties, the future scope for MS Obstetrics

and Gynaecology graduates remains strong, both within India and internationally.

The Role of Artificial Intelligence in Medical Education: A Perspective from Obstetrics and Gynaecology

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Introduction

Medical education has always evolved in response to societal needs, scientific discovery, and technological advancement. India's National Medical council has adopted competency-based medical education,(CBME) this transformation has sought to improve the quality of future physicians. Today, Artificial Intelligence (AI) represents the next frontier.

AI refers to computer systems capable of performing tasks that traditionally require human intelligence—learning, reasoning, pattern recognition, and decision-making. Techniques such as machine learning (ML), natural language processing (NLP), and computer vision are already widely used in clinical medicine for diagnostics, decision support, and predictive analytics. The educational sphere is now experiencing parallel disruption.

For educators in Obstetrics and Gynecology (OBGY), where training involves complex decision-making, sensitive communication, and high-stakes technical skills, AI offers transformative opportunities. By aligning innovations with core principles of medical pedagogy—such as Bloom's taxonomy, Miller's pyramid of clinical competence, and assessment validity frameworks—AI can enrich every aspect of medical education.

This article explores the role of AI in curriculum planning, teaching–learning, skills acquisition, assessment, and research, highlighting examples from OBGY.

AI in Curriculum Planning

Curriculum planning in medical education requires alignment with learning outcomes, Miller's pyramid of competence, Bloom's taxonomy of learning domains, and NMC defined roles . Traditionally, curriculum design has relied heavily on faculty experience and consensus-building. AI introduces new dimensions:
1. Data-driven curriculum design – AI can analyze performance metrics of cohorts to identify curriculum gaps. For example, if residents consistently underperform in managing postpartum hemorrhage during OSCEs, AI-driven analytics can highlight this deficiency, prompting inclusion of more structured simulation-based training.
2. Predictive analytics – AI can forecast workforce needs by integrating epidemiological, demographic, and service delivery data. In OBGY, rising cesarean section rates or increasing infertility clinic loads may prompt greater curricular emphasis on surgical techniques or reproductive endocrinology.
3. Adaptive curriculum delivery – AI-enabled platforms can personalize learning trajectories. A resident adept at obstetric ultrasound but struggling with gynecologic oncology decision-making can receive tailored content.
By embedding real-time learning analytics, AI ensures curricula remain dynamic, relevant, and responsive to evolving patient and learner needs.

AI in Teaching–Learning

The teaching–learning process is at the core of medical education. AI enhances it in several ways:

1. Personalized Learning

AI-powered platforms can adapt learning material to individual student needs. For instance, an OBGY resident interpreting cardiotocography (CTG) may receive graduated difficulty levels—from normal patterns to complex decelerations—based on their performance. This aligns with constructivist pedagogy, where learning is scaffolded to the learner's level.

2. Virtual Patients and Intelligent Tutoring Systems

AI-driven virtual patients simulate complex obstetric emergencies such as shoulder dystocia or eclampsia. These platforms provide immediate, evidence-based feedback, enabling learners to practice without risk to real patients. Intelligent tutoring systems also support

counseling skills, for example, simulating discussions about trial of labor after cesarean (TOLAC).

3. Augmenting Faculty Roles

A critical perspective comes from Supe and Shah (2025), who emphasize that AI should be seen as a tool that augments, not replaces, educators. They argue that while AI personalizes content delivery and improves efficiency, the humanistic aspects of teaching—empathy, mentorship, role modeling—remain irreplaceable [1]. This is particularly relevant in OBGY, where sensitive issues such as reproductive rights and perinatal loss require nuanced faculty guidance.

Thus, AI enables a hybrid pedagogy, blending technological precision with human compassion.

AI in Skills Acquisition

Procedural competence is a cornerstone of OBGY training. Traditionally, learning occurs in the clinical setting, which presents ethical challenges, variability in case exposure, and risks to patient safety. AI-based simulators provide a safer, standardized alternative.

1. Simulation-Based Training

AI-enhanced simulators allow residents to repeatedly practice obstetric procedures such as vacuum extraction, cesarean section, and laparoscopic cystectomy. Metrics like hand motion, instrument trajectory, and time efficiency are captured and analyzed.

• Ultrasound simulation: A study by Powalkar et al. (2024) demonstrated that AI-driven ultrasound simulators significantly improved residents' ability to detect obstetric pathologies [2]. These simulators provide standardized images and adaptive feedback, ensuring competency before clinical practice.

• Surgical training: AI algorithms applied to laparoscopic video can differentiate between expert and novice surgeons. By identifying inefficient instrument handling or unsafe movements, these systems generate individualized, objective feedback, which is superior to subjective faculty evaluations [3].

2. Democratizing Skills Training

AI also extends access to procedural training in low-resource settings. An AI-based "blind sweep" ultrasound system has shown non-inferiority to expert sonography in fetal biometry, enabling midwives to perform basic scans where specialists are scarce [4]. For OBGY education, this democratization ensures broader training and earlier diagnosis of complications like intrauterine growth restriction.

Thus, AI in skills acquisition not only improves safety and efficiency but also promotes equity in training opportunities.

AI in Assessment

Assessment drives learning, and AI offers transformative potential across knowledge, skills, and attitudes.

1. Knowledge Assessment

AI-based adaptive testing tailors question difficulty based on learner responses, ensuring robust evaluation across Bloom's taxonomy. AI tools can be used for creating MCQ, SAQ, Case based LAQ. Automated essay scoring using natural language processing also provides immediate feedback on clinical reasoning assignments.

2. Clinical Skills Assessment

AI-enabled systems can objectively evaluate OSCE performance. For example, Rameh et al. (2024) integrated AI as a virtual assessor in ISUOG's Basic Training programs, finding strong agreement with human faculty scoring of ultrasound images [5]. This reduces faculty workload and improves standardization.

3. Longitudinal Performance Tracking

Learning analytics create performance dashboards for each trainee, identifying patterns of strengths and weaknesses. A resident consistently underperforming in instrumental delivery OSCEs can be flagged early, allowing timely remediation.

4. Affective Domain Assessment

AI-driven voice and facial expression analysis can evaluate communication and empathy during simulated counseling sessions, such as breaking bad news about intrauterine fetal demise.

Through objective, data-rich feedback, AI enhances both formative and summative assessment, ensuring validity and fairness.

AI in Educational Research

AI empowers educators to conduct robust research that advances medical education.

1. Large-scale data analysis – In Countries like USA, Australia AI is used to identify predictors of success in residency, such as correlating early simulation performance with clinical outcomes in labor ward practice.

2. Natural language processing – Useful for analyzing qualitative data from reflective essays, revealing common learning themes.

3. Curriculum evaluation – AI enables rapid systematic reviews of literature to inform curricular reforms.

4. Simulation research – Systems like GynSim use AI to measure fine motor performance, demonstrating measurable learning gains that validate simulation cur-

ricula [2,3].

Moreover, AI enhances research equity. Tools validated in low-resource settings, like AI ultrasound, show that rigorous educational research need not be confined to high-income countries [6].

Advantages of AI in Medical Education
• Standardization: Minimizes faculty-related variability.
• Scalability: Supports large cohorts efficiently.
• Objectivity: Provides unbiased assessment.
• Safety: Enables error without patient harm.
• Equity: Extends training opportunities across diverse contexts.

Ethical, Equity, and Implementation Considerations
Despite its promise, AI integration is not without challenges.
• Ethics: Issues of data privacy, consent, and algorithmic bias must be addressed. For instance, AI trained predominantly on Western ultrasound datasets may underperform in Indian populations, necessitating contextual validation.
• Equity: Infrastructure disparities may widen gaps between resource-rich and resource-limited institutions, particularly relevant in low- and middle-income countries.
• Faculty development: Educators require AI literacy to effectively use these tools in curriculum design and supervision.

Conclusion
AI is poised to transform medical education across the continuum—from curriculum planning to teaching–learning, skills acquisition, assessment, and research. In Obstetrics and Gynecology, its applications are particularly promising, offering safe, standardized, and equitable training solutions.

However, AI must be seen as a partner, not a replacement. The educator's role in fostering empathy, professionalism, and ethical judgment remains irreplaceable. By leveraging AI wisely, medical educators can prepare future OBGY specialists who are not only technically competent but also compassionate, reflective, and adaptive to the evolving needs of society.

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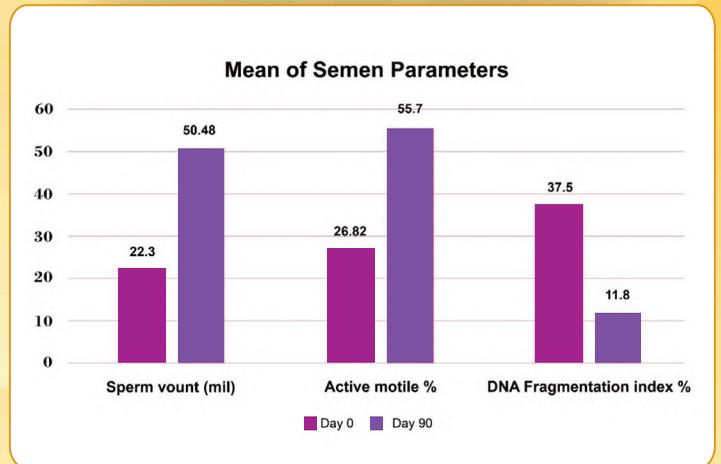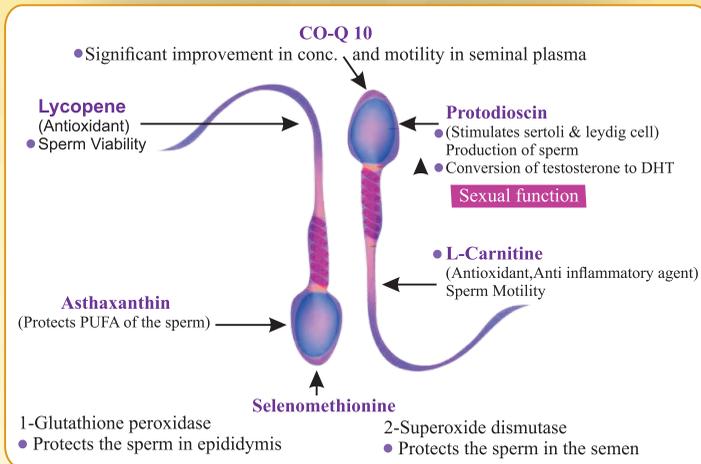
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Rx

Zoafrag

L-Carnitine 500mg + COQ10 100mg, Protodioscin 40mg + Astaxanthin 10mg + Lycopene 1250mcg + Selenomethionine 40mcg Tablets

Role of adjuvants (Zoafrag) in male infertility

Original Research

Clinical Trial

CO-Q 10
- Significant improvement in conc. and motility in seminal plasma

Lycopene
(Antioxidant)
- Sperm Viability

Protodioscin
- (Stimulates sertoli & leydig cell) Production of sperm
▲ Conversion of testosterone to DHT
Sexual function

L-Carnitine
- (Antioxidant, Anti inflammatory agent) Sperm Motility

Asthaxanthin
(Protects PUFA of the sperm)

Selenomethionine

1-Glutathione peroxidase
- Protects the sperm in epididymis

2-Superoxide dismutase
- Protects the sperm in the semen

Mean of Semen Parameters

	Day 0	Day 90
Sperm vount (mil)	22.3	50.48
Active motile %	26.82	55.7
DNA Fragmentation index %	37.5	11.8

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