



2025, Volume 25, February, Issue 10

AOGD BULLETIN

Shared Decision Making - Enhancing Women Emancipation



Theme

Adolescent Health - Nurturing the Future

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**Department of Obstetrics & Gynaecology
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Message from the President



President

Dear AOGDians,

Namaskar,

As the saying goes, 'A healthy today leads to a healthy tomorrow,' this special issue on the vital topic of Adolescent Health, recognizes adolescents as the future of every nation.

Adolescence is a transformative phase of life, marked by rapid physical, emotional, and psychological changes. It is a period that lays the foundation for a healthy adulthood and family. From mental health to the impact of social media on adolescent well-being and complexities of adolescent healthcare demand a multidisciplinary approach.

Together, let us continue to champion the well-being of our adolescents, ensuring they receive the support and care they deserve for a healthier and brighter future.

With this, we invite our AOGD members to take advantage of the special package and early bird registration for AICOG 2026, Delhi at Yashobhoomi, Dwarka from 14 to 18 January 2026.

Dr. Ashok Kumar MD, PhD, FICMCH, FICOG, FAMS

President, AOGD

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Vice Chairperson, ICOG, an Academic Wing of FOGSI

National Corresponding Editor, Journal of Obstetrics & Gynaecology of India

Director Professor & Head

Department of Obstetrics & Gynecology,

Atal Bihari Vajpayee Institute of Medical Sciences &

Dr. Ram Manohar Lohia Hospital, New Delhi

Message from the Hon. Secretary



Hon. Secretary

Dear AOGD members,

Warm greetings to all from AOGD secretariat at ABVIMS & Dr RML Hospital

We pray the new year gets lots of hopes and happiness for everyone.

Last month was the cancer awareness month. AOGD has been quite active in spreading knowledge and awareness through various methods. Along with our active subcommittees we have tried to involve all sectors of women in our activities.

This month's theme is "Adolescent Health- Nurturing the future". As the youth is future of any country, the importance of taking care of adolescent health both physical and mental can not be underrated. I am sure this issue will present new perspectives and dimensions.

The annual AICOG conference 2025 was held in Mumbai. AOGD participated wholeheartedly. The preparations for AICOG 2026 were presented by our president Dr Ashok Kumar. The FOGSI Flag was also handed over to the the Delhi team. Let us now work towards making AICOG 2026 a grand success.

Lot of AOGD members won academic accolades and we congratulate them all wishing more success stories. Respected Dr Neerja Bhatla has been awarded the Padma Shri, making the entire fraternity proud.

On the occasion of Basant Panchami, we pray to Goddess Saraswati to guide us on the path of acquiring and spreading knowledge



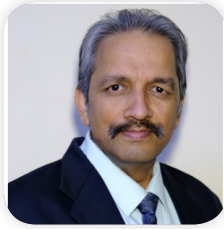
Left to Right: Dr Vandana Agarwal, Dr Neha Pruthi Tandon, Dr Kamna Datta, Dr Geetanjali Nabiyal



FOGSI Flag Handing Over Ceremony to AOGD



Installation Ceremony at AICOG 2025



Dr Ashok Kumar
Vice chairperson ICOG



Dr Abha Singh
Vice president FOGSI



Dr Saritha Shamsunder
Chairperson: Gynaecologic Oncology Committee 2025-27



Dr Neena Malhotra
Chairperson: Imaging Science Committee 2025-27

CONGRATULATIONS



Dr Neerja Bhatla

Dr Neerja Bhatla, the former head of obstetrics and gynaecology, AIIMS, Delhi, was awarded Padma Shri in the medicine (gynaecology) category for her exemplary work in the field of cervical cancer—the second most common cancer among women in India. She has worked immensely on cervical cancer detection, prevention and management—significantly contributing to women’s health. She played a key role in creating resource-based guidelines for cervical cancer screening, management and HPV vaccination. Under her leadership as the Chairperson, the International Federation of Gynaecology and Obstetrics (FIGO), developed the FIGO Gynaecologic Cancer Management App. Her work continues to impact both national and worldwide standards for cervical cancer prevention and management.

On behalf of the Association of Obstetricians and Gynaecologists of Delhi (AOGD), we congratulate you for your Padma Shri for cervical cancer crusade.

AOGD FAMILY

Result of FOGSI-Individual Awards & Prizes -2024

S.No	Awards	Winners
1	FOGSI- Dr Vasantben Shah Scholarship Prize for the year 2024	Dr Jyotsna Sharma
2	FOGSI-Dr R D Pandit Research Prize 2024	Dr Aditi Agarwal
3	FOGSI-Dr D C Dutta prize 2024 for best publication	Text book on OSCE in Obstetrics & Gynecology Editors: Dr Hrishikesh D Pai, Dr Laxmi Shrikhande, Dr Ashok Kumar, Dr Vandana Agarwal
4	FOGSI-Dr Kamini A. Rao orator for the year 2024	North: Dr Neha Pruthi Tandon
5	FOGSI Movicol awards 2024	Senior: Winner: Dr Alpana Singh 1st Runner up: Dr Neeta Singh Junior Winner: Dr. Kavita Khoiwal
6	FOGSI-Dr Shanti Yadav Award in Infertility 2024	Winner :- Dr Vandana Agarwal 2nd Runner Up :- Dr Akshita Jakhar
7	FOGSI - Dr Rajat Ray Award in Fetal Medicine 2024	1st Runner Up: Dr Avantika Gupta,
8	Winner of the best paper published in FOGSI Journal during the year 2023 in Senior Category	(First Prize): Dr Arpita De (Second Prize): Dr Manisha Kumari
SPRINGER AWARDS AND PRIZES OF THE Journal of Obstetrics and Gynaecology of India		
1.	Best peer reviewer 2021	Dr Ashok Kumar
2.	Best peer reviewer 2022	Dr Ashok Kumar



Forthcoming Events “for the month of February”

- 12th – Adolescent Subcommittee shall be doing a physical meeting in South Delhi.
- 28th – Monthly clinical meeting at GTB Hospital

From the Editors Desk



Chief Editor

As we welcome the spring season of colours, flowers and hope, the AOGD editorial board wishes all its members good health and happiness.

Adolescence represents a highly sensitive developmental window during which exposure to stressful events is known to affect adult behaviours. The type of social interactions especially with peers are critical in determining the smoothness of transition to adulthood. Exposure to adverse social experiences can lead to anxiety, depression, poor body image and substance abuse. Teens who have lost control over their screen time and are addicted to internet use start neglecting other social and academic activities can often lead to a reduction in self-esteem and in extreme cases, even suicidal tendencies. This is also the time when they become curious about sexuality and initiation of sexual activity with inadequate knowledge and skills for protection places adolescents at a higher risk of unwanted pregnancy, unsafe

abortion and sexually transmitted infections including HIV/AIDS. Even pregnancy during adolescence is associated with a higher risk of health problems like anaemia, postpartum haemorrhage, and deteriorated postnatal mental health.

The POSCO Act defines sexual offences against children vulnerable to exploitation and abuse and provides strict laws for the punishment of the offenders. However, there are certain challenges like victim blaming, social stigma, and delays in the judicial system to its implementation. Whatever phase the adolescent may be in, parents and teachers play a vital role in educating the child about good touch-bad touch, alleviating their insecurities, being available to allay their fears and most importantly guiding them about what is right and what is wrong.

In our current issue, we are going to discuss this unfamiliar territory of adolescent health.

We thank our esteemed authors for their invaluable contribution and welcome any kind of feedback.

Stay safe, stay healthy!

Dr. (Prof) Renuka Malik

Editor

Professor and Senior Consultant, ABVIMS & RML Hospital



Editorial Team: (Left To Right) Dr. Kanika, Dr. Preeti, Dr. Renuka, Dr. Kavita.
(Second Row Left To Right) Dr. Seema, Dr. Niharika

Thought for the month: When we are no longer able to change a situation, we are challenged to change ourselves.

Adolescent Health-The Foundation Stone for a Bright Nation

Dr. Pooja Meena¹, Dr. Lisley Konar²

Assistant professor¹, Senior resident²

Department of Obstetrics and Gynecology, All India Institute of Medical Sciences, Kalyani

INTRODUCTION

Adolescence refers to the period of physical and mental development that takes place between childhood and adulthood, typically from ages 10 to 19. This stage is crucial for setting the groundwork for long-term health and well-being (WHO). The word “adolescence” originates from the Latin word “adolescere,” which means “to grow up.” During this time, individuals undergo significant biological, social, and psychological changes.¹

Adolescents are typically categorized into three stages:

- **Early Adolescence (10-13 years):** Characterized by rapid growth and the development of secondary sexual characteristics.
- **Middle Adolescence (14-16 years):** This is marked by the formation of a separate identity from parents, the establishment of new relationships with peers, and an increased interest in experimentation.
- **Late Adolescence (17-19 years):** Involves the solidification of identity, with well-formed opinions and values.

In India, with a teenage population of 253 million, the nation has the largest youth demographic in the world, with one in every five Indians falling within this age group.²

The Rashtriya Kishor Swasthya Karyakram (RKSK) emphasizes the importance of enhancing Adolescent Friendly Health Clinics (AFHC) as part of its facility-based strategy. This initiative, launched in 2006 under RCH II, introduced the Adolescent Reproductive and Sexual Health (ARSH) Clinic, aimed at offering counseling on sexual and reproductive health matters.³

- **Equitable** – services are provided to all adolescents who need them.
- **Accessible** – ready accessibility to AFHCs by adolescents i.e. AFHC should be established where adolescents can go without hesitation for example: it should not be placed near labour rooms, integrated counselling and treatment centres, Sexual and Reproductive Transmitted Infections (STI/RTI) centers, etc.

- **Acceptable** – health providers meet the expectations of adolescents who use the services.
- **Appropriate** – the required care is provided and any unnecessary and harmful practices are avoided.
- **Effective** – healthcare produces positive change in the status of adolescents; services are efficient and have high quality. The right health services are provided in the right way, and make a positive contribution to their health.
- **Comprehensive** – care provision covers promotive, preventive, and curative aspects.

THE COMMON ADOLESCENT PROBLEMS

1. Menstrual abnormalities:
 - (a) Primary amenorrhoea
 - (b) Secondary amenorrhoea
 - (c) Heavy menstrual bleeding or puberty menorrhagia
 - (d) Oligomenorrhoea
 - (e) Premenstrual syndrome
2. Pelvic pain or dysmenorrhoea
3. Vaginal discharge or leucorrhoea
4. Teenage pregnancy and unwanted pregnancy
5. Hirsutism
6. Diet and nutritional problems: obesity, anemia
7. Precocious puberty
8. Congenital uterine anomalies and DSD
9. Sexually transmitted infections
10. Contraception
11. Sexual abuse

INDICATIONS OF GYNAECOLOGICAL EXAMINATION IN ADOLESCENT⁵

1. Vaginal bleeding

2. Delayed puberty
3. Persistent vaginal discharge
4. Primary amenorrhoea and cyclic pain (suspicious of imperforate hymen or transverse vaginal septum or vaginal agenesis)
5. Suspicion of vaginal neoplasm

MENSTRUAL ABNORMALITIES⁵

The National Institute for Health Care Excellence (NICE) defines HMB as excessive menstrual loss which impacts an individual's quality of life, or where sanitary products are changed 1 – 2 hourly or where menses last longer than 7 days

A typical adolescent period lasts between 2 – 7 days and occurs every 21 – 45 days.

In the first year following menarche, 50% of menstrual cycles are anovulatory, although by 2 – 3 years post menarche 75% of adolescents are ovulating regularly. Therefore, the most common cause of HMB in adolescence is anovulatory cycles resulting from hypothalamic-pituitary-ovarian (HPO) axis immaturity.

CAUSES

Bleeding disorders:

1. Hematologic
 - (a) Vwf deficiency is the most common bleeding disorder
 - (b) ITP is the most common platelet disorder in adolescence
 - (c) Inherited factor VIII and factor IX coagulation defects
 - (d) Hemophilia
 - (e) Rare factor II, V, VII, X, and XIII deficiency
 - (f) Patient of Ashkenazi Jewish descent
2. Endocrinopathy:
 - (a) Thyroid disorder: hypothyroidism
 - (b) PCOS
3. Connective tissue disorders: Ehlers-Danlos syndrome
4. Endometriosis: a chronic inflammatory condition associated mainly with dysmenorrhoea and chronic pelvic pain, HMB, dyspareunia, and intestinal symptoms.
5. Chronic systemic disease: Supraphysiological insulin treatment for type 1 dm or hyperinsulinemia secondary to ovarian insulin resistance in type 2 diabetes
6. Medications like antiepileptics, antipsychotics, Enzyme inducers decrease the potency of the oral coc, or oral progestogens leading to breakthrough bleeding and contraception failure.

VAGINAL DISCHARGE

LEUCORRHOEA DIAGNOSTIC CRITERIA

1. Gray-white or yellowish
2. Non purulent
3. Thick in nature, seen pasted with the undergarments
4. Irritations and erythema may be present
5. Subsides on its own and needs reassurance
6. Asymptomatic children often need frequent change of undergarments
7. Microscopic examination shows: sheets of vaginal epithelial cells

EXCESSIVE VAGINAL SECRETION

1. Relative hyperestrogenism
2. Malnutrition and ill health
3. Congenital ectopy(erosion)
4. Sexual excitement or masturbation

Vaginal adenosis(rare): present in 30-50% of the teenagers who had DES exposure in utero

COMMON CAUSES OF ABDOMINAL LUMP⁴

12-18 Years: Pregnancy

- Retention Of Urine
- Ovarian Tumor-Endometrioma/Neoplasm
- Uterine Tumor

Hematometra/Hematocolpos

TEENAGE PREGNANCY

RISKS FOR TEENAGE PREGNANCY

• Social deprivation • Lower socioeconomic group • Low educational achievement • Having had teenage parents • Being in the care of social services • Poor transition from school to work at 16 years of age • Sexual abuse • Mental health problems • Crime

RISKS ASSOCIATED ARE

Premature delivery • Small-for-gestational-age infants • Low birth weight • Increased neonatal mortality • Anaemia • Pregnancy-induced hypertension • Postnatal depression • Sexually transmitted infections • Offspring of adolescents have: • poorer cognitive development • lower educational attainment • more frequent criminal activity • higher risks of abuse, neglect, and behavioural problems during childhood

Prevention of teenage pregnancy: five main categories of teenage pregnancy prevention programs: education,

improving access to contraception, education for parents and their families, multicomponent prevention, and youth development. Primary prevention focuses on sexual education in schools.

MENSTRUAL HYGIENE⁷

The Ministry of Health and Family Welfare has implemented the Scheme for Promotion of Menstrual Hygiene among adolescent girls in the age group of 10-19 years since 2011. The scheme is supported by the National Health Mission through the State Programme Implementation Plan (PIP) route based on the proposals received from the States / UTs.

The major objectives of the scheme are (i) to increase awareness among adolescent girls on menstrual hygiene; (ii) to increase access to and use of high-quality sanitary napkins by adolescent girls, and (iii) to ensure the safe disposal of sanitary napkins in an environment-friendly manner. Under the scheme, a pack of sanitary napkins is provided to adolescent girls by the Accredited Social Health Activist (ASHA) at a subsidized rate of Rs. 6 per pack.

FOGSI FAQ FOR ADOLESCENT

1. Wearing sanitary pads or cloth after a shower with a fresh pair of cotton panties (avoid synthetic material)
2. Change the pads as soon as it is soaked towards the edges or completely or in 4 hours whichever is earlier.
3. Wash the private area thoroughly during shower and if possible, during every change with faucet
4. Use tissues or a designated soft towel to wipe off the excess water before putting a new pad on
5. Soak cloth pads in plain water until stain dissolves and then wash in warm soapy water, rinse and dry in bright sunlight until completely dry and moisture-free
6. Dispose of sanitary pads in an airtight plastic bag or in a newspaper and dispose in the designated air-tight bin
7. The use of reusable sanitary napkins is recommended to avoid the hazards of bio-medical waste.

ANAEMIA

Anaemia has both nutritional and non-nutritional causes, including deficiencies in micronutrients, genetic blood disorders such as hemoglobinopathies, inflammation, infections, and physiological conditions like menstruation and pregnancy.⁸

1. The Anaemia Free India programme, launched by the Government of India in 2018, aims to reduce anaemia among both boys and girls. It employs a multi-pronged approach that includes weekly Iron

and Folic Acid (IFA) supplementation, biannual deworming, nutrition and health education, food fortification, and annual checkups. Additionally, it organizes “anaemia test, treat, and talk” camps. The program also strengthens other existing initiatives addressing non-nutritional causes of anaemia, such as malaria prevention through bed nets, sickle cell anaemia management, and fluorosis control.

2. Complementary interventions are also essential for adolescents, such as providing mid-day meals. Currently, India’s Mid-Day Meal Scheme (PM-POSHAN) does not offer meals to adolescents aged 15 or older, which could be an important gap to address in tackling anaemia.
3. In 2013, the Ministry of Health and Family Welfare introduced the National Iron Plus Initiative, which is a comprehensive strategy to combat iron deficiency anaemia throughout the life cycle. It includes age-specific interventions like Iron and Folic Acid supplementation and deworming for different groups: children aged 6-59 months, children aged 5-10 years, adolescent girls and boys (11-19 years), pregnant and lactating women, and women in the reproductive age group (20-49 years). This initiative aims to improve hemoglobin levels and reduce anemia prevalence across these key populations.⁹



Figure 1: Anemia Mukt Bharat (6*6*6 strategy)

SEXUALLY TRANSMITTED INFECTIONS

Lack of sex education and absence of contraceptive knowledge and use has led to a surge of sexually transmitted infections in the adolescent age. The common organisms involved are: Chlamydia, Gonorrhoea, cervical precancerous lesions by HPV, HIV, other like T. vaginalis, Syphilis, Hepatitis B.

The following recommendations for primary prevention of STIs:

Box 4. Patient Health Questionnaire-9: Screening Instrument for Depression

Instructions: How often have you been bothered by each of the following symptoms during the past 2 weeks? For each symptom put an "X" in the box beneath the answer that best describes how you have been feeling.

	(0) Not at All	(1) Several Days	(2) More Than Half the Days	(3) Nearly Every Day
Little interest or pleasure in doing things*				
Feeling down, depressed, irritable, or hopeless*				
Trouble falling asleep, staying asleep, or sleeping too much				
Feeling tired or having little energy				
Poor appetite or overeating				
Feeling bad about yourself—or that you are a failure, or have let yourself or your family down				
Trouble concentrating on things, such as reading the newspaper or watching television				
Moving or speaking so slowly that other people could have noticed? Or the opposite—being so fidgety or restless that you have been moving around a lot more than usual				
Thoughts that you would be better off dead, or of hurting yourself in some way				

Total score Depression severity

0 to 4	Minimal
5 to 9	Mild
10 to 14	Moderate
15 to 19	Moderately severe
20 to 27	Severe

* The first two questions comprise the Patient Health Questionnaire (PHQ)-2. If the PHQ-2 is positive for depression, the PHQ-9 should be administered.

Adapted from patient health questionnaire (PHQ) screeners. <http://www.phqscreener.com>. Retrieved February 2, 2017.

Figure 2: School-based program model developed by the Centers for Disease Control and Prevention's Division of Adolescent and School Health for preventing HIV/STDs, unintended pregnancy, and related health risk behaviors and experiences among adolescents⁹

PUBERTY PROBLEMS/DGD⁴

The majority of the intersex get diagnosed at birth, and only a few cases present after puberty with primary amenorrhoea, precocious puberty. These are:

1. Mild degrees of CAH with late manifestations of postpubertal hyperandrogenism
2. Gonadal Dysgenesis
3. Androgen Insensitivity syndrome

Acne/hirsute

The main pathology is hyperandrogenism. The increase in androgen secretion from ovary (PCOS) girls or from the adrenal glands. Iatrogenic causes like androgenic steroids, corticosteroids, or synthetic progestins. Hyperandrogenism leads to increased inflammation, and excess sebum production leading to blockage of the follicular openings resulting in acne formation. Thereby the therapy is aimed to lower the serum androgen levels, by OCP, antiandrogens (spironolactone) or 5 alpha-reductase inhibitor.

OBESITY/DIET/EXERCISE

Proper nutrition is essential during adolescence to support healthy growth and development, as teenagers undergo significant physical and mental changes. A balanced diet is crucial to meet their evolving nutritional needs.

Several factors contribute to the risk of obesity in adolescent girls, including genetic predisposition, race, socioeconomic status, the built environment, access to healthy and affordable food, sleep patterns, and geographic location. Obesity in adolescence increases the likelihood of developing various gynaecological and metabolic issues, such as polycystic ovary syndrome (PCOS), type 2 diabetes, metabolic syndrome, cardiovascular diseases, and even endometrial cancer.

The Federation of Obstetric and Gynecological Societies of India (FOGSI) promotes healthy eating habits for adolescent girls. Recommendations include:

Say YES to:

Milk and dairy products (such as curd and paneer)

Green vegetables, fruits, and cereals

Soups and juices

Regular meals and a balanced diet

Reduce carbohydrate intake to 40% of total calories (approximately 130 grams per day), and aim for 3 main meals and 3 snacks, totalling about 1500-1600 calories per day.

Never skip meals, especially breakfast. Eat breakfast within two hours of waking up. Skipping meals can disrupt glucose and insulin metabolism, which may lead to weight gain.

Exercise for at least 30 minutes every day to maintain overall health and prevent obesity-related conditions.

Partnership for Women's, Children's and Adolescent Health (PMNCH)

In October 2022, PMNCH launched a campaign for adolescent health and well-being. Along with WHO and UN agencies, a definition of health and well-being was planned as a Global Forum for Adolescents (GFA). The conceptual framework for adolescent well-being has five domains: (1) Good health and optimum nutrition; (2) Connectedness, positive values, and contribution to society; (3) Safety and a supportive environment; (4) Learning, competence, education, skills and employability; and (5) Agency and resilience.

MENTAL HEALTH¹⁰

Common mental health issues in adolescents are:

1. Anxiety disorders:
2. Mood disorders
3. Attention deficit hyperactivity disorder
4. Disruptive behavior disorders

Risk Factors for Anxiety or Mood Disorders

- History of depression or other mental health disorder
- Parental history of anxiety or mood disorder or other mental health disorder
- Increased academic or social demands
- Stressful family environments (eg, poverty, harsh discipline, minimal support)
- Early or significant losses (parental death, divorce, termination of a relationship)
- Chronic illness
- History of being bullied, including cyber bullying
- History of neglect or physical, mental, or sexual abuse
- History of alcohol or other substance use
- History of conduct disorder, delinquency, or other antisocial behaviors

SUICIDAL THOUGHTS

Adolescents at risk include those who exhibit declining school grades, chronic sadness, family dysfunction, problems with sexual orientation, gender identity, physical or sexual abuse, alcohol or drug misuse, have a family history of suicide, or have made a previous suicide attempt.

The Patient Health Questionnaire (PHQ-9), validated for use with adolescents, is a useful screening tool. This can be self-completed by the patient or administered by the obstetrician-gynaecologist or office staff.

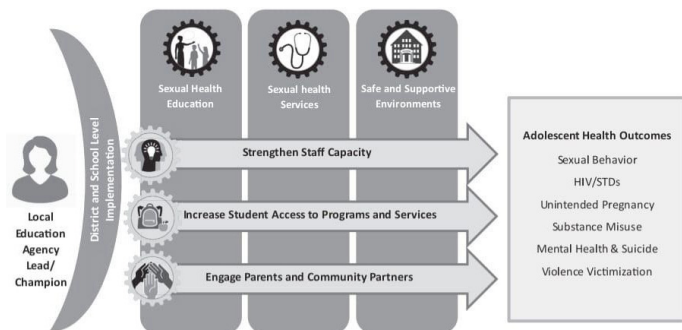


FIGURE 3: Patient Health Questionnaire (ACOG 2017)

The Helping Adolescents Thrive (HAT) Initiative is a joint WHO-UNICEF effort to strengthen policies and programmes for the mental health of adolescents.

SEXUAL EDUCATION¹¹

Comprehensive sexuality education - or a curriculum-based process of teaching and learning about the cognitive, emotional, physical and social aspects of sexuality. It aims to equip children and young people to realize their health, well-being and dignity; develop respectful social and sexual relationships; consider how their choices affect their well-being and that of others; and understand and ensure the protection of their rights throughout their lives.

ACOG also promotes CSE with support from guardians or parents in the reproductive development of their adolescent along with sexual education and HPV vaccination status and contraceptive measures.

School Health & Wellness Programme¹³

Schools play a critical role in helping students establish lifelong healthy behaviours. Thus, school-based health promotion activities have been incorporated as a part of the Health and Wellness component of the **Ayushman Bharat Programme**. School Health & Wellness Programme (launched in Feb 2020) is being implemented in government and government-aided schools in districts (including aspirational districts). **Two teachers**, preferably **one male and one female**, in every school, designated as “**Health and Wellness Ambassadors**” shall be trained to transact with school children, health promotion and disease prevention information on 11 thematic areas in the form of interesting joyful interactive activities for **one hour every week**.

KEY POINTS

1. Adolescence, spanning ages 10-19, is a crucial period of physical, mental and social development.
2. India, with the largest adolescent population (253 billion), emphasizes adolescent health through various initiatives like Rashtriya Kishor Swasthya Karyakram (RKSK) and Adolescent Friendly Health Clinics (AFHCs). Since they form a large part of society, adolescent well-being is reinforced through various national health programmes.
3. Common adolescent issues include menstrual abnormalities, pelvic pain, teenage pregnancy, STIs, obesity, and mental health disorders like anxiety and mood disorders. Teenage pregnancy poses risks such as low birth weight and developmental issues for children.
4. Preventive measures like iron supplementation and deworming combat anaemia, while proper diet and exercise prevent obesity-related complications like PCOS. Comprehensive sexuality education helps adolescents make informed health and relationship decisions.
5. A collaborative approach involving healthcare providers, families, and communities is vital for adolescent health and a healthier future.

CONCLUSION

Adolescent health is undeniably the cornerstone for building a healthier, more prosperous future. By maintaining privacy and confidentiality, we create an environment where adolescents feel safe and comfortable discussing sensitive issues such as sexual health, mental well-being, and risky behaviours. This trust is crucial for encouraging young people to seek care and address potential health concerns

early on. However, it is not only the responsibility of the treating gynaecologist but also of the healthcare staff, as well as parents, to be aware of these issues. Raising awareness among all parties helps ensure timely diagnosis, effective management, and ultimately, a healthier adolescent population.

REFERENCES

- Guidelines and standards for adolescent and youth friendly health services (eyfhs);pankh initiative; Fogsi June 2021.
- Unicef: children in India. [jan; 2023];<https://www.unicef.org/india/children-in-india> 2023 2023-10
- Adolescent friendly health clinics(afhcs):national health mission:ministry of Health and family welfare government of india
- D C Dutta textbook of gynaecology including contraception: 2024
- Walter S I., Channing, S. And Crouch, N S. (2024), heavy menstrual bleeding in adolescence: who to investigate and how to manage it. *Obstet gynecol*, 26: 8494. doi.org/10.1111/tog.12924
- Horgan R P. And Kenny C. (2007), Management of teenage pregnancy. *The obstetrician & gynaecologist*, 9:153-158 doi. org/10.1576/toag.9.3.153.27334
- Menstrual hygiene scheme:adolescent health:rmncah+n:national health mission components;ministry of health and family welfare government of india.
- Scott S, Lahiri A, Sethi V, et al. Anaemia in Indians aged 10-19 years: prevalence, burden and associated factors at national and regional levels. *Matern child nutr*. 2022 oct;18(4):e13391. Doi: 10.1111/mcn.13391. Epub 2022 jun 20.
- Weekly iron folic acid supplementation(eifs):adolescent health:rmncah+n:nhm components:ministry of health and family welfare government of india
- Wilkins N J, Rasberry C, Liddon N,et al. Addressing hiv/sexually transmitted diseases and pregnancy prevention through schools: an approach for strengthening education, health services, and school environments that promote adolescent sexual health and well-being. *J adolesc health*. 2022 apr;70(4):540-549. Doi: 10.1016/j.jadohealth.2021.05.017.
- Committee opinion no. 705: mental health disorders in adolescents. *Obstet gynecol*. 2017 july;130(1):e32-e41. Doi: 10.1097/aog.
- <https://www.unesco.org/en/health-education/cse>
- School health and wellness programme:adolescent health:rmncah+n:nhm components:ministry of health and family welfare government of India.

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Understanding the POCSO Act -Approaching Child Friendly Justice

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INTRODUCTION

The POCSO Act, 2012 is driven by human recognition of unique needs and vulnerabilities of young ones. It is indeed a very comprehensive law that protects children from various types of sexual assaults and pornography. It also shows the way to safeguard the interests of children at every stage of the judicial proceedings. This is important as we need to ensure that the judicial proceedings do not cause a mental tormenting status, instead, they remain child-friendly throughout. The Act has come into force with effect from November 14th, 2012 along with the rules framed there under. Its central idea is based on the necessity of creating a protective barrier around child victims taking care of their privacy, dignity and mental health.

Any person below eighteen years of age is defined as a child under this act. It defines different forms of sexual abuse, including penetrative and non-penetrative assault, as well as sexual harassment and pornography, and deems a sexual assault to be “aggravated” under certain circumstances, such as when the abused child is mentally ill or when the abuse is committed by a person in a position of trust or authority of the child, like a family member, police officer, teacher, or doctor.¹

Discussion

The salient features of the act are as follows:¹

- This act is gender-neutral. Hence, both boys and girls can be victims/survivors of rape and/ or sexual assault under it.
- The act is not just limited to rape but covers all sorts of sexual offences including assault, harassment and pornography. This further helps in ensuring justice for the children.
- Effective access to justice is ensured under this act. It mandates the establishment of special procedures for reporting cases, dedicated procedures for recording the statements of child victims, and the creation of Special Courts for the trial of such offences.
- The POCSO Act also makes abetment of, and even attempt to commit an offence punishable. This further

makes this act stringent and strong to safeguard the interests of child victims.

Who can file a complaint? (Sections 19 and 20):

The Act makes reporting of an offence mandatory. Any person, including the child, who fears that an offence is likely to be committed or has knowledge of a committed or impending offence, shall report it to the Special Juvenile Police Unit or the local police.

It is also to be noted that if someone lodges a false complaint to humiliate, extort, threaten or defame someone, the person is liable for punishment under the Act. However, a person who provides information about the occurrence of a sexual offence in good faith will not incur any liability. This is important to prevent the misuse of the provisions of the act and at the same time allay the fear and anxiety amongst the informants so that they could come up without any fears in the interest of our younger generations.

Against whom can a complaint be filed?

Both men and women can be offenders. But a case of penetrative sexual assault can be filed against only men.

What is Child sexual abuse?

Under the Act, sexual offences are divided into two types, specifically (i) Penetrative and (ii) Non-penetrative sexual offences.

- Penetrative abuse is defined as the penetration of the penis into any orifice of a child’s body, the insertion of an object into the child’s vagina, urethra, or anus, or manipulating the child’s body to cause penetration into these areas. It also includes applying the mouth to the child’s vagina, penis, anus, or urethra. Additionally, coercing a child to perform any of these acts on themselves or another person is also considered an offence.
- Non-penetrative sexual offences include sexual assault, sexual harassment, and the exploitation of a child for pornographic purposes. Sexual assault refers to any form of physical contact with a child, made with sexual intent, but without penetration.

Sexual harassment does not include physical contact- it constitutes verbal acts, showing pornography to a child, constantly following or watching a child, threatening to use the depiction of the child involved in a sexual Act, and enticing a child for pornographic purposes.

Using a child in any form of media for sexual gratification constitutes using a child for *pornographic purposes*.

Gradations of Child sexual abuse

Under the act, certain acts of penetrative sexual assault are listed as aggravated and stricter punishment is accorded to these offences.

- Aggravated penetrative sexual assault: For example, penetrative sexual assault by a police officer within the limits of the police station at which he is appointed, gang rape, or penetrative sexual assault leading to grievous hurt, or bodily harm and injury to the sexual organs of the child.
- Aggravated sexual assault: For example, sexual assault by a police officer within the limits of the police station at which he is appointed, gang sexual assault, or sexual assault leading to grievous hurt, bodily harm and injury to sexual organs of the child.^{1,2}

Provision of Special Courts for speedy trials:

- Special courts are provided for speedy trials under this act. It is also mandatory for these courts to set up a child-friendly environment during the proceedings.
- For POCSO Act a Special Public Prosecutor is to be appointed for every Special Court.
- During the trial, the child shall not be directly questioned by the Special Prosecutor or Counsel. Instead, the child shall be questioned by the special court.
- The trial under the Act shall be conducted in camera, meaning it will be held privately, and individuals not connected to the case, including the press, will not be permitted to enter the courtroom.
- The Special Court must ensure that the child does not come into visual contact with the accused at any point during the recording of their evidence.

These provisions ensure a child-friendly atmosphere to allay anxiety and safeguard their mental health.

The burden of Proof regarding the sexual offence is on the accused as per the provisions of the act. This is also a welcome step as a child (victim) is kept free from the burden of proving his cause.

Stipulated time framework for evidence recording and case disposal:

The following provisions of this Act further prevent delay in justice as very rightly said "Justice delayed is justice denied"

- The evidence of the child has to be recorded within 30 days of the Special Court taking cognizance of the case;
- Reasons for delay are to be recorded in writing

- The Special Court is expected to complete the trial within one year of taking cognizance of the case.

Role of Police to ensure child-friendly atmosphere:

1. A copy of the FIR should be given free of cost to the person making the complaint, and to the parents/ guardian of the child victim if they have made the complaint.
2. The Police should inform the child/ the parents or the person in whom the child has trust or confidence that the child is entitled to be assisted by a legal counsel of choice [R 4(2) (f)].
3. The Police should inform the parent, guardian or the person in whom the child has trust or confidence about the availability of support services such as counselling and help them access such services [R 4(2)].
4. The FIR should be recorded in simple language so that the child understands the contents. [S.19 (3)]
5. In case the report is recorded in a language not understood by the child an interpreter or a translator should be provided to explain the contents [S. 19(4)].
6. Where the child needs emergency medical care the police must arrange for medical care and treatment (take the child to the hospital) without waiting for the registration of the FIR [Sec. 19 (5)/rule 4(2)(b) (C)/rule 5]
7. Medical examination of the child must be conducted irrespective of FIR or complaint of the offence, according to Sec. 164 A of Cr P C. (Sec. 27(1)).
8. Child to be taken to the hospital for medical examination by Sec. 27. (Rule 4 (2) (C))
9. In case the victim is a girl child examination shall be conducted by a woman doctor. (Sec 27 (2))
10. A medical examination of the child must be done in the presence of the parents or the person in whom the child has trust or confidence. (Sec 27 (3))
11. The child's statement must be recorded at the child's residence, at a place where the child usually lives or at a place of choice. Recording the statement at the place of choice of the child will be applicable in cases of child sexual abuse within the home (Sec.24).
12. While recording the child's statement, the following information should be given by the Police Officer to the person making the report and to the child, the parents or the person in whom the child has trust and confidence (R. 4(1)): a. His/her name and designation b. The address and telephone number where he/she is reachable c. The name, address and contact details of the Officer who supervises him/her.
13. The statement as far as practicable is to be recorded by a woman police officer not below the rank of sub-inspector.

14. The statement of the child should be recorded in the presence of the parents of the child or any other person in whom the child has trust or confidence (Sec. 26(1)).
15. While the Police are recording the child's statement, he/she shall take the assistance of (Sec.19 (4),26(2),(3)):
 - (a) An interpreter or translator or an expert as per the child's need
 - (b) Special educator or any person familiar with the manner of communication in case the child has a special need.³

Medical Examination:

In case the victim is a GIRL CHILD, the medical examination shall be conducted by a woman doctor.

The medical examination shall be conducted in the presence of the parent of the child or any confidant of the child.

Where, in case the parent of the child or other person referred to cannot be present, for any reason, during the medical examination of the child, the medical examination shall be conducted in the presence of a woman nominated by the head of the medical institution

Victim Compensation: The Special Court can direct the State to pay the victim compensation out of a Victims Compensation Fund, established in the state for any physical or mental trauma that he/she has or is suffering from, and for their immediate rehabilitation. Compensation can be paid to them while the case is still pending at the interim stage as well as after the trial ends.⁴

The infrastructure needed/ suggested for proper implementation of the provisions of this Act:

1. The Special Court should be located outside regular court premises, especially away from the Sessions Court. If this is not feasible in all districts, an independent building or structure should be designated for the Special Court, at least in metropolitan areas or regions with a high caseload. If the Special Court must be housed within the Sessions Court or any other court premises, a separate entrance should be provided for the child, ensuring they do not use the same entry as the accused and other litigants.
2. The Special Court should be easily accessible by public transport.
3. Every Special Court should include 3 [three] rooms:
 - i. Courtroom - where the Judge sits;
 - ii. Children's room - from where the child deposes;
 - iii. Children's waiting room.
4. There should be video-conferencing or video-link facilities between the courtroom and the children's room.
5. The child shall identify the accused, by entering the courtroom for the limited purpose of identifying the accused or by observing the live image of the accused

on the video link. In the event of the child being required to enter the courtroom for identification purposes, such child shall be accompanied by a family member or a guardian or a friend or a relative in whom the child has trust or confidence, or by the support person appointed by the Child Welfare Committee or parent or guardian.

6. In addition to the standard court procedures for recording witness testimonies, the child's deposition shall be recorded and preserved using video tape, digital discs, or other similar electronic devices.
7. Children choosing to depose directly before the Special Court shall do so in the courtroom itself. In such case -
 - (a) A screen/curtain /one-way mirror or some such arrangement should be made in the courtroom whereby the child does not see the accused, whilst at the same time ensuring that the accused can hear the child and instruct her / his advocate;
 - (b) For the limited purpose of identifying the accused, the accused shall be shown to the child;
 - (c) The child may be allowed to depose from a place other than the witness box.
8. Testimonial aids, including dolls, anatomically correct dolls, puppets, drawings, mannequins, or other suitable demonstrative devices, should be available in the Special Court to assist the child during their deposition. These aids should be kept in the children's room for easy access.

CONCLUSION

The first step towards dealing with the problem of child sexual abuse is recognition and acceptance that boys and girls are abused and need assistance and support. We need to create awareness about the problem. This will help in prevention as well as encourage victims to come forward. We should also create forums where children can be given information and support within the village with the help of the schoolteacher, the Anganwadi worker and the ANM. The most important thing that we can do is listen to the child. We must maintain the confidentiality of the child and ensure that a complaint and FIR are filed in the nearest police station timely. We should work together to create a system that not only penalizes offenders but also, perhaps more crucially, gives special attention to the protection and rehabilitation of the young people impacted by these horrible acts.

KEY POINTS

1. Gender-neutral law: It offers the accepted definition of a child, which is everyone under eighteen and covers children of all genders. The definition of

sexual offences is broad and not restricted to rape, which is limited to penetration of the penis into the vagina

2. The Act provides for the establishment of special procedures for Maintaining confidentiality of the victim's identity: Section 23 of POCSO Legislation forbids the defendant's identity from being revealed in just about any means of communication unless the special court system formed by the act allows it.
3. Not reporting abuse is an offence and there is no time limit for reporting the case

REFERENCES

1. POCSO made simple; Information booklet; State Commission for Protection of Child Rights Bihar.
2. Model Guidelines under Section 39 of The Protection of Children from Sexual Offences Act, 2012 Guidelines for the Use of Professionals and Experts under the POCSO Act,2012; September 2013.
3. Model Guidelines With respect to Support Persons Under Section 39 of The Protection of Children from Sexual Offences Act 2012; National Commission for Protection of Child Rights;2024.
4. Guidelines and protocols; Medico-legal care for survivors/ victims of sexual violence, Ministry of H&FW, Central Government of India;2014.

AOGD Risk Management Support (ARMS) Group

One of the ways to ensure stress-free work environment and optimal patient care is mutual support among professional colleagues. An advisory group was set up last year so that they can be contacted if any of us is caught in a complex clinical dilemma/dealing with aggressive clients or is apprehensive about how to document or effectively troubleshoot a potential problem. The same group will continue to provide timely advice and is led by

Convener – Dr. Vijay Zutshi – 9818319110

Co-convener – Dr. Aruna Nigam – 9868656051

We invite suggestions from all members regarding functioning of this cell which will guide us forming the SOPs. Please mail to aogd.ucmsgtbh2023@gmail.com

Sexual Health in Adolescents

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INTRODUCTION

Adolescence may be defined as ages 10 to 19 years old, and adolescents make up about 20% of the world's population. It is a time of risk-taking behaviour, particularly sexual risks. Adolescents differ from adults in the way they behave, solve problems, and make decisions. Studies have shown that brains continue to mature and develop throughout childhood and adolescence, and well into early adulthood.

DISCUSSION

Although adolescents tend to be less informed than adults they often have a sense of having unlimited power, feelings of invulnerability and impulsiveness that can lead to reckless behaviour.¹ They are curious and have a natural inclination to experiment. There is conflict between their emerging values and beliefs and those of their parents and so adolescents may be trying to demonstrate these differences by experimenting with drugs and law-breaking activities.

Adolescents are prone to high-risk sexual behaviours, leading to sexually transmitted diseases, unwanted pregnancies and difficulty in accessing healthcare services. Adolescents are less capable of understanding the relationship between behaviour and consequences. They may not appreciate the concept of fully informed consent being a vital part of sexual relationships and they can be vulnerable to sexual exploitation.

The consequences of sexually transmitted infection (STI) and unplanned pregnancy can be devastating. Young women are at the start of their reproductive life and risk compromising their future fertility through tubal occlusion or ectopic pregnancy. In many areas, young women who get pregnant are withdrawn from school, further disadvantaging them.²

Studies show that young people are not affected equally by reproductive health problems. Orphans, young girls in rural areas, young people who are physically or mentally impaired, abused or have been abused as children and those migrating to urban areas or being trafficked are more likely to have problems. Their needs vary by age,

sex, educational status, marital status, migration status and residence. Because adolescents normally face barriers in accessing prevention and management services such as inability to pay, lack of transport and confidential concerns with parents and guardians, they are a particularly high-risk group for STIs.

New means of communication, knowledge sharing, and social media are transforming the lives of adolescents particularly. Youth are the most likely of all age groups to be connected through social media, with approximately 71% of those aged 15–24 years online, compared with 48% of all persons. Connecting to the Internet brings social, educational, and employment opportunities, but social media have also given rise to new and emerging forms of bullying, exploitation, and predation.

Understanding and meeting the sexual and reproductive health (SRH) needs of adolescents and young people, including those living with HIV, is essential in supporting this growing population to thrive. History taking is important. Privacy and a non-judgemental approach is important. It can be difficult to raise the subject of sex and STIs. It is important not to make any assumptions and a history about drugs and alcohol use should be routine. Counselling, screening, and treating STIs are a critical part of adolescent reproductive health. High-quality STI prevention interventions and care include CSE programmes, testing and treatment services, preventive technologies, vaccines and supportive and dignified care is needed.³

One of the important concerns of young people is their sexual relationships. In particular, young people need to know how they can maintain healthy personal relationships. It is important to keep in mind that sex is never 100% 'safe', but you can advise young people on how to make sex as safe as they possibly can.

Sexuality education for both boys and girls needs to take place through a potentially wide range of programmes and activities in schools, community settings, and religious centres, as well as informally within families, among peers, and through electronic and other media.

Barriers to access to health care constitute a key reason for the many adverse outcomes of adolescent pregnancy and

childbearing. Providing access to comprehensive sexuality education, services to prevent, diagnose and treat STIs and counselling on family planning is important. Empowering young people to know and exercise their rights – including the right to delay marriage and the right to refuse unwanted sexual advances is needed.

Teens need comprehensive sexual and reproductive health counselling about delaying sexual activity. And for those who choose to be sexually active, they need education about contraceptive methods and condoms for sexually transmitted infection (STI) prevention. They need counselling to select a method that best suits them and information about how to use that method correctly and consistently. Parents and guardians also need guidance and information to help them talk with their teens about sex, pregnancy, contraception, and STIs.

The negative health consequences of adolescents can pass from one generation to the next. For example, babies born to adolescent mothers have a high risk of being underweight or stillborn. They are also likely to suffer from the same social and economic disadvantages encountered by their mothers. That is why addressing the needs of adolescents is an intergenerational investment with huge benefits to subsequent generations.⁴

Parents need to have adequate communication with their adolescents regarding sex-related topics, as parents were found to be among the least common sources of information regarding the topic; however, imparting the correct information, with an open-minded approach, while talking to their children about these matters is equally important. Parents should be actively involved in sex education programmes to reinforce the information their children already have. Comprehensive sex education includes gender components which empower young people to negotiate safer sex and avoid STIs.

Enabling girls to make informed and autonomous decisions about their sexuality and reproductive health is critical for fulfilling their human rights and ensuring access to education, economic opportunities, social empowerment, and financial independence. To ensure adequate comprehensive sexual education for adolescents and young adults with intellectual and developmental

disabilities, sexual health educators should facilitate conversations about sexual and reproductive health that are non-judgmental and sexually inclusive.

CONCLUSION

Healthy sexuality is an important part of adolescent development, contributing to helping young people develop safe and healthy routines, behaviours and relationships that they can carry into their adult lives. Providing access to comprehensive sexuality education and sexual healthcare services empowers young people to lead healthy lives.

KEY POINTS

1. Providing adolescents with accurate, age-appropriate information on reproductive health, contraception, sexually transmitted infections (STIs), and consent helps them make informed decisions.
2. Ensuring confidential and non-judgmental access to sexual health services, including contraception, STI testing, and counselling, is crucial for adolescent well-being.
3. Teaching adolescents about mutual respect, boundaries, and the importance of consent fosters healthy relationships and reduces the risk of abuse or coercion.

REFERENCES

1. Ceri Slater et al. Sexual health in adolescents, Clinics in Dermatology. Volume 32, Issue 2, March–April 2014, Pages 189-195
2. Sophie Forsyth et al. Sexual health issues in adolescents and young adults. Clin Med (Lond). 2015 Oct 5;15(5):447–451. doi: 10.7861/clinmedicine.15-5-447
3. Health Care Providers and Adolescent Sexual and Reproductive Health. CDC 2024
4. Mengjia Liang, M.S et al. The State of Adolescent Sexual and Reproductive Health. Volume 65, Issue 6, Supplement S3-S15 December 2019.

Monthly Clinical Meetings AOGD Calendar 2024-25

Date	Hospital
28th February, 2025	UCMS & GTB Hospital
28th March, 2025	RML Hospital
25th April, 2025	LHMC & Smt Sucheta Kriplani Hospital

Psychiatric Morbidity of Adolescent Girls with PCOS

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INTRODUCTION

Polycystic ovarian syndrome (PCOS) is a common disorder occurring in adolescent girls characterized by menstrual irregularities, hyperandrogenism and polycystic ovarian morphology on ultrasound. Indian studies have shown prevalence estimates of 2-35%. One large multi-centre study from India assessed prevalence rates using different criteria. The maximum prevalence noted was 19.6% with Rotterdam criteria (oligo-anovulation, hyperandrogenism, polycystic-appearing morphology of the ovary). Trends identified in the study were a slightly increased prevalence in the urban centres (Prevalence of 20.3% in urban centres vs 19.2% in rural centres). The study also elucidated region-wise differences in PCOS, with the central region having the highest prevalence, followed by the north, east, south and northeast respectively.¹

PCOS significantly impacts adolescents, leading to various physical and psychological consequences. It is associated with numerous physical complications including obesity, insulin resistance, type 2 diabetes mellitus, hypertension, metabolic syndrome, hypertension, and fatty liver disease, all of which present considerable health risks.² Though there is much knowledge and research on the physical morbidity in PCOS, the psychological impact, which has a significant impact on quality of life, gets missed. The data on psychiatric morbidity is also often heterogeneous as studies often have a wide age range of participants.³ In this review, we shall be focusing on the psychiatric morbidity of PCOS specifically in the adolescent age group.

Discussion

1. Self-concept, body perception, self-esteem:

Adolescence is a period that is associated with the bodily changes of puberty. At this time, beliefs regarding body image, body perception and self-esteem also come to the forefront. This is heavily influenced by the external world, including opinions of the family, peers, environment and social media. Often adolescents develop a negative body image and lower self-esteem because of the above-mentioned factors which may lead to significant

emotional distress. Weight gain, hirsutism and acne commonly occur in PCOS due to hormonal changes. These changes are often distressful for the adolescent girl, for whom her self-perception and validation from her peers contribute significantly to her self-esteem. Studies have corroborated these deficits in body perception and self-esteem in adolescent girls.^{4,5}

2. **Stress and PCOS:** Women with PCOS have been seen to be having a greater amount of stress in comparison to those without PCOS. Stress has also been linked to adverse metabolic and reproductive outcomes. In an Indian study on 100 women with PCOS, with matched controls, women with PCOS had a significantly higher score on the Perceived Stress Scale. Stress hormones (Cortisol and DHEA) in women with PCOS were also found to be significantly increased as compared to controls. This study connected the biological mediators and perceived stress to PCOS.⁶ Increased mean scores of PSS in adolescents with PCOS have also been seen in an Egyptian study.⁷ More research is warranted in this field as adolescents are a vulnerable age group in terms of stress.

3. **Sleep and PCOS:** Women with PCOS have more propensity to disordered sleep than those without PCOS. Sleep difficulties in PCOS are primarily influenced by several interconnected factors:

- **Hormonal Imbalances:** Elevated levels of androgens (male hormones) and disrupted circadian rhythms are believed to contribute to sleep disturbances in women with PCOS.
- **Insulin Resistance:** Many women with PCOS experience insulin resistance, which can disrupt glucose metabolism and lead to poor sleep quality.
- **Obesity and Metabolic Syndrome:** Obesity is common in PCOS and is associated with conditions like sleep apnea, which further exacerbates sleep issues.
- **Psychological Stress:** Women with PCOS may experience higher rates of anxiety and

depression, which are known to interfere with sleep quality.

- **Increased Sympathetic Activity:** Elevated sympathetic nervous system activity has been observed in PCOS, which may contribute to sleep disturbances such as insomnia.

Sleep difficulties found in PCOS include a decrease in Rapid Eye Movement (REM) sleep, an increase in sleep latency and REM latency, a decrease in the amount of time spent in REM and non-REM sleep and deficits in sleep efficiency have been observed. Women with PCOS have a higher risk of Obstructive sleep apnea. Metabolic severity has been seen to be associated with sleep deficits. Research on adolescents is lacking in this area.⁸

4. **Psychiatric morbidity and clinical implications:** Psychiatric morbidity in adolescents with PCOS is very common, with some studies reaching estimates of 50%.⁵ In this section, we discuss the disorders in detail.

Depression

Depression may present somewhat differently in adolescents as compared to adults. In adults, depression presents with depressed mood that is persistent over time, lack of interest in previously pleasurable activities, diminished energy, negative views and ideas regarding themselves, their future and their environment, suicidality, concentration difficulties and sleep and appetite disturbances. In adolescents, however, depression may often present with irritable rather than depressed mood, increased reactivity in mood, anxiety, unexplained physical symptoms, school refusal, behavioural problems, academic decline, and use of substances.

Adolescents with PCOS exhibit a 2.4-fold increased susceptibility to depressive disorders in comparison to their age-matched counterparts without the condition, with prevalence rates approximating 50–60%.^{4,5} This highlights the urgent need for mental health assessments in this population.

Pathophysiology

In patients with Polycystic Ovary Syndrome (PCOS), the concentrations of serotonin, dopamine, gamma-aminobutyric acid (GABA), and acetylcholine are significantly reduced. Conversely, the levels of glutamate, which serves as the primary excitatory neurotransmitter for gonadotropin-releasing hormone (GnRH) and luteinizing hormone (LH), are elevated in disorders associated with PCOS; these alterations in neurotransmitter profiles may contribute to the underlying pathophysiology of depressive symptoms in individuals with PCOS.

Prevalence

A Chinese study found that 36.12% of adolescent girls with PCOS exhibited depressive symptoms.⁹ A systematic

review and meta-analysis reported an odds ratio of 2.21 for depression in adolescents with PCOS compared to controls, indicating a significantly higher risk.¹⁰ In India, a study revealed a prevalence of 36.5% for significant depression among adolescent girls with PCOS.¹¹

Associated Factors

Factors such as insulin resistance, hirsutism, and poor sleep quality have been linked to increased risk of depression.¹¹ The psychological impact of physical symptoms like weight gain and acne can exacerbate feelings of low self-esteem and anxiety.

Bipolar disorders

Bipolar disorders are mood disorders which are characterized by episodes of elevation of mood (mania/hypomania), depression or both at the same time (mixed). While adolescence is a time when mood fluctuations, irritability and changes in emotional state are normally observed, it is important to distinguish it from mood disorders, which are more severe and cause disruption and dysfunction in the adolescent's life. Severe emotional lability seen in such patients can hamper the development of self-image and identity and may also disrupt their social interactions and future prospects.

A study on psychiatric comorbidities in hospitalized adolescents with PCOS revealed a prevalence rate of 5.5% of bipolar disorder.¹² A systematic review highlighted that women with PCOS are 1.78 times more likely to be diagnosed with BD compared to those without the syndrome. Given the increased risk, early screening for BD in adolescents with PCOS is recommended to facilitate timely intervention.¹³

Another implication of comorbid bipolar disorder with PCOS is that of management. Sodium Valproate is a mood stabilizer which has PCOS as an adverse effect. Some second-generation antipsychotics have metabolic adverse effects and should be used with caution in patients with PCOS.

Anxiety disorders

Anxiety may present as a range of symptoms, such as autonomic symptoms like palpitations, sweating, and shortness of breath, cognitive symptoms such as apprehension, hypervigilance and behavioural symptoms like restlessness and avoidance.

A systematic review found that adolescents with PCOS exhibited a higher risk of anxiety, although specific prevalence rates were not statistically significant compared to controls (OR = 1.90, $p = 0.33$).¹⁰ A cross-sectional study showed that 46.25% of PCOS patients showed signs of anxiety using the Hospital Anxiety and Depression Scale (HADS).¹⁴ Another study indicated that 43.6% of adolescents with PCOS had mood disorders, which often include anxiety symptoms.¹²

Physical and Gynaecological morbidity of PCOS such as infertility, hirsutism, and impaired glucose tolerance may be predictors of anxiety in adolescents with PCOS.¹⁴ The psychological impact of PCOS symptoms, including body image issues, contributes to elevated anxiety levels.

Despite the high prevalence of anxiety among adolescents with PCOS, some studies suggest that the focus on depression may overshadow the need for anxiety assessment. This highlights the importance of comprehensive mental health evaluations in this population to ensure appropriate interventions are implemented.

Obsessive Compulsive Disorder (OCD)

OCD is a psychiatric disorder characterised by repetitive anxiety-provoking thoughts called obsessions and resulting repetitive actions called compulsions. The prevalence of OCD in adolescents with PCOS was measured to be 2%, which was not significantly different from those without PCOS.⁴

Psychotic disorders

Psychotic disorders are severe mental illnesses where there is a loss of contact with reality. They are characterised by delusions, hallucinations and disordered thinking, along with disturbances in biological functions. There also may be a withdrawal of the patient from their usual patterns of activities and social interactions.

Adolescents with PCOS may experience psychotic symptoms due to hormonal imbalances and neuroendocrine dysfunctions associated with the syndrome.

Estrogen seems to have antipsychotic properties. A decline in estrogen levels facilitates the manifestation of psychotic symptoms. Numerous studies indicate that, among females suffering from chronic psychotic disorders, symptom severity intensifies during the premenstrual phase, post-delivery, and at the onset of menopause. Women diagnosed with PCOS may thus exhibit heightened susceptibility to psychosis just following ovulation due to prolonged exposure to elevated levels of unopposed estrogen resulting from infrequent ovulation. Upon the occurrence of ovulation, these individuals experience a rapid decrease in estrogen levels, which parallels the physiological state observed postpartum.¹⁵

Another important issue in adolescents with PCOS with comorbid psychotic disorders is the possible effects of the disorder itself and the adverse effects of some antipsychotic medications. Metabolic syndrome is a condition characterized by abdominal obesity, hypertriglyceridemia, low HDL, elevated blood pressure and blood glucose. Metabolic syndrome is common in PCOS as well as Schizophrenia. It is postulated to occur in Schizophrenia due to the underlying biological mechanisms of the disease itself and due to adverse effects of medications (eg. Second-generation antipsychotics). They can also cause weight gain without the full spectrum of metabolic syndrome. This may pose a cardiovascular risk as well

as add to the distress associated with body image issues. Some antipsychotics may also cause hyperprolactinemia as an adverse effect, which may cause amenorrhea or irregular menstrual cycles. Thus, PCOS with comorbid psychotic disorders should be treated by Gynaecologists and Psychiatrists in close liaison with each other.

Eating disorders

Eating disorders are characterized by thoughts and behaviour around eating and weight gain which are maladaptive and lead to a significant decline in functioning as well as poses grave physical health risks as well. An Indian study comparing features of PCOS in urban and rural populations has found the prevalence of Anorexia or Bulimia to be 3% in the sample.¹⁶ Maladaptive eating patterns may also be a presenting feature of depression in adolescents. Eating disorders become important in adolescents with PCOS due to symptoms of weight gain and subsequent body image issues.

Suicidality

Suicidal behaviours are a range of behaviours with the basis of causing harm to oneself, with differing intents, ranging from deliberate self-harm to preparatory behaviour with a plan for suicide to a suicide attempt. It has been that women with PCOS have a higher prevalence of suicidal behavior and suicide attempts than those without PCOS.³ In a study on hospitalized adolescents with PCOS, the prevalence of suicidality was found to be 19.6%.¹² Adolescents typically have a higher rate of suicide attempts than adults. Negative thoughts around body image coupled with psychosocial factors like bullying by peers may contribute to suicidal behaviour. PCOS is associated with a higher risk of depression in adolescents, which is also an important risk factor for suicide.⁴

Women with PCOS, in comparison to their counterparts without such a diagnosis, appeared to be at an elevated risk of demonstrating more maladaptive emotion regulation strategies, as well as experiencing more pervasive suicide-related cognitions (i.e., rumination, suicidal ideation, and intent) and behaviours (i.e., Non-Suicidal Self-Injury). Furthermore, we observed that women with a diagnosis of PCOS, as opposed to those without, reported a heightened incidence of suicidal ideation and Non-Suicidal Self-Injury (NSSI), along with an increased future intent to commit suicide. It is conceivable that the amplified utilization of maladaptive emotion regulation strategies by women diagnosed with PCOS may play a significant role in fostering a greater likelihood of engaging in NSSI, either as a method of regulating intense emotions or as a form of distraction or an appeal for assistance.¹⁷

Quality of Life (QoL)

It has been unequivocally seen in literature that PCOS is associated with deficits in quality of life in women. Psychiatric illnesses like depression, commonly found

in PCOS may lead to further deterioration of QoL. The symptoms of PCOS like hirsutism, acne and weight gain may also affect QoL by negatively influencing the body image and identity development in this vulnerable population.⁵

Screening for Psychiatric morbidity

Early identification of psychiatric comorbidities can lead to timely interventions, improving overall health outcomes for adolescents with PCOS.^{3,11} For Depression, The Patient Health Questionnaire for Adolescents (PHQ-A) is a validated tool for screening. It is a short self-report scale that is an adaptation of PHQ-9, developed and validated for the adolescent population. Other tools include the Hospital Anxiety and Depression Scale (HADS), which is a validated screening tool for symptoms of depression and anxiety in adolescents.

CONCLUSION

PCOS is a gynaecological condition with multi-system complications. Focus on Psychiatric morbidity is essential as they are very common and pose significant challenges to an already vulnerable population. The Psychiatric morbidity has potential biological mechanisms stemming from the hormonal imbalances found in PCOS on the background of a negative body image due to physical symptoms like obesity, acne and hirsutism. Screening for depression and anxiety can be easily done with available screening tools and is recommended in the literature.^{11,12}

KEY POINTS

1. PCOS is commonly associated with Psychiatric comorbidities.
2. Psychiatric morbidity in PCOS has possible biological mediators in the form of hormonal disturbances.
3. Clinical features of PCOS may be associated with negative body image and may lead to anxiety and depressive symptoms.
4. Psychiatric morbidity in PCOS has clinical implications, including treatment challenges and QOL deficits.
5. Close liaison between Gynaecologists and Psychiatrists is important during management.

REFERENCES

1. Ganie MA, Chowdhury S, Malhotra N, Sahay R, Bhattacharya PK, Agrawal S, et al. Prevalence, Phenotypes, and Comorbidities of Polycystic Ovary Syndrome Among Indian Women. *JAMA Netw Open*. 2024 Oct 1;7(10):e2440583.
2. Jakubowska-Kowal K, Skrzyńska K, Gawlik-Starzyk A. Treatment and complications of PCOS in adolescents - what's new in 2023? *Front Endocrinol (Lausanne)*. 2024 Oct 2;15.

3. Kanagarajan S, Varshney P, Ganjekar S, Muralidhar A, Desai G. Psychiatric comorbidities among Indian women with polycystic ovary syndrome: A scoping review. *Journal of Psychiatry Spectrum*. 2023;2(1).
4. Sari SA, Celik N, Uzun Cicek A. Body Perception, Self-Esteem, and Comorbid Psychiatric Disorders in Adolescents Diagnosed with Polycystic Ovary Syndrome. *J Pediatr Adolesc Gynecol*. 2020 Dec;33(6):691–6.
5. Çoban ÖG, Tulacı ÖD, Adanır AS, Önder A. Psychiatric Disorders, Self-Esteem, and Quality of Life in Adolescents with Polycystic Ovary Syndrome. *J Pediatr Adolesc Gynecol*. 2019 Dec;32(6):600–4.
6. Benjamin JJ, MaheshKumar K, Radha V, Rajamani K, Puttaswamy N, Koshy T, et al. Stress and polycystic ovarian syndrome-a case control study among Indian women. *Clin Epidemiol Glob Health*. 2023 Jul;22:101326.
7. Khafagy G, El Sayed I, Abbas S, Soliman S. Perceived Stress Scale Among Adolescents with Polycystic Ovary Syndrome. *Int J Womens Health*. 2020 Dec;Volume 12:1253–8.
8. Sam S, Ehrmann DA. Pathogenesis and Consequences of Disordered Sleep in PCOS. *Clin Med Insights Reprod Health*. 2019 Jan;13:117955811987126.
9. Wang L, Su S, Xiong T, Wang M, Ding R, Tan H, et al. Prevalence and associated risk factors for depression symptoms in adolescent girls with polycystic ovary syndrome: a hospital-based cross-sectional study. *Front Public Health*. 2024 Aug 21;12.
10. Li Y, Zhang J, Zheng X, Lu W, Guo J, Chen F, et al. Depression, anxiety and self-esteem in adolescent girls with polycystic ovary syndrome: a systematic review and meta-analysis. *Front Endocrinol (Lausanne)* [Internet]. 2024 Sep 30;15. Available from: <https://www.frontiersin.org/articles/10.3389/fendo.2024.1399580/full>
11. Talwar V, Talwar G. Assessment of Depression Among Adolescent Indian Girls With PCOS. *J Endocr Soc*. 2021 May 3;5(Supplement_1):A738–A738.
12. Trivedi C, Rizvi A, Ashraf S, Husain K, Yadav G, Adams E, et al. Psychiatric Comorbidities in Hospitalized Adolescents With Polycystic Ovary Syndrome. *Prim Care Companion CNS Disord*. 2024 Nov 7;26(6).
13. Brutocao C, Zaiem F, Alsawas M, Morrow AS, Murad MH, Javed A. Psychiatric disorders in women with polycystic ovary syndrome: a systematic review and meta-analysis. Vol. 62, *Endocrine. Humana Press Inc.*; 2018. p. 318–25.
14. Cupino-Arcinue MDJ, Banal-Silao MMsMJ. Prevalence of Anxiety and Depression among PCOS Patients Seen in a Tertiary Government Hospital Using the Hospital Anxiety and Depression Scale – English/Philippino Version (HADS/HADS-P). *Acta Med Philipp*. 2024 Jun 28;58(11).
15. Doretto L, Mari FC, Chaves AC. Polycystic Ovary Syndrome and Psychotic Disorder. Vol. 11, *Frontiers in Psychiatry*. Frontiers Media S.A.; 2020.
16. Balaji S, Amadi C, Prasad S, Bala Kasav J, Upadhyay V, Singh AK, et al. Urban Rural Comparisons of Polycystic Ovary Syndrome Burden among Adolescent Girls in a Hospital Setting in India. *Biomed Res Int*. 2015;2015:1–10.
17. Williams S, Fido D, Sheffield D. Polycystic Ovary Syndrome (PCOS) and Non-Suicidal Self-Injury (NSSI): A Community-Based Study. *Healthcare*. 2022 Jun 15;10(6):1118.

Media addiction, side effects and how to get over them in Adolescents

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INTRODUCTION

Social media has become an essential part of everyday life for adolescents in India, shaping social interactions, self-expression, and information consumption. The growth of mobile internet access, affordable smartphones, and the emergence of popular social media platforms have contributed to rapid growth in social media use among young people in the country. While it provides avenues for self-expression, education, and socialization, it also poses some serious issues related to mental health, cyberbullying and addiction.

Prevalence of Social Media Use in Adolescents

There has been a significant rise in the number of users as well as time spent on social media sites among Indian teenagers particularly after Covid according to various studies and reports.

- 1. Increased Internet Access:** As of 2020 statistics, India has over **700 million internet users**, and the majority of new users come from rural areas
- 2. Growth in Usage:** A 2021 study by the **Internet and Mobile Association of India (IAMAI)** showed that **around 75% of Indian adolescents** aged 12-18 years have access to social media, with many engaging with it multiple times a day.
- 3. Popular Platforms:** Most popular social media platforms used by teenagers in India are:
 - (a) Instagram:** The photo and video-sharing service is extremely popular among teenagers in India, especially the Instagram reels.
 - (b) YouTube (Shorts):** Adolescents in India are heavy viewers of videos, which may range from entertainment and educational content to lifestyle and vlogs
 - (c) WhatsApp**
 - (d) Facebook:** Facebook's popularity among younger users has declined significantly

Social Media Addiction Among Adolescents

Social media addiction refers to the excessive, compulsive, and often uncontrollable use of social media platforms to the point where it interferes with an individual's daily life, responsibilities, relationships, and well-being.

- Studies vary about the rate at which people experience an addiction due to social media. However, 30 to 50% of adolescents consider their use as problematic.
- **Time Spent by Adolescents on Social Media:** Adolescents who report spending more than **3 to 4 hours per day** on social media are often classified as at risk of developing social media addiction. A report by the India Child Protection Fund highlighted that children aged 8-18 years spend an average of 6.5 hours per day on screens, with social media platforms being the primary draw.¹

Factors Contributing to High Incidence

- **Psychosocial Vulnerability:**
 - (a)** In this stage, adolescents are vulnerable to peer influence, social comparison, and external validation.
 - (b) Fear of Missing Out (FOMO) and social comparison** drive strong usage of social media.
- **Psychological Factors:** Adolescents experiencing anxiety, depression, or low self-esteem are at higher risk of developing an addictive relationship with social media.
- **Peer Pressure and Social Norms:** They feel pressured by their peers and society to stay always connected.
- **Platform Design:** These social media are designed with user engagement maximized through likes, notifications, and endless scrolling features. This induces the release of dopamine through a reward mechanism by the brain that reinforces the habit and contributes to addictive behaviour.²

Key Characteristics of Social Media Addiction:

1. **Excessive Time Spent Online:** Spending too much time on social media, even more than what was initially intended, to the point where time for other activities is lost.
2. **Compulsive Usage:** Feeling an irresistible desire to check social media notifications or updates, even when it's not necessary. Checking the media before going to sleep and on waking up.
3. **Neglect of Real-life Responsibilities:** Prioritizing social media engagement over important tasks, such as schoolwork, work or personal relationships.
4. **Negative Emotional Impact:** Experiencing anxiety, depression, or irritability when unable to access social media or when social media use is limited.
5. **Difficulty Disconnecting:** Having a feeling that one cannot minimize the use of social media even with negative influences or attempts to limit it.
6. **Escapism:** Using social media as an escape from handling real-life issues, negative emotions or social situations.

Impact of Social Media on Adolescent Well-being

While social media offers adolescents a space for creative expression, learning, and social connection, there are also concerns about its impact on mental, physical, and social well-being.

Positive Effects:

- **Social Connectivity:** Social media provides adolescents with opportunities to connect with peers, make new friends, and maintain relationships despite geographical distances, especially in rural areas where access to social opportunities may be limited.
- **Access to Information:** Social media offers access to information, educational resources and online communities. Many adolescents use platforms like YouTube to learn new skills, explore interests, and even pursue academic subjects outside of traditional school environments.
- **Self-Expression:** Platforms like Instagram allow teens to express themselves through creative outlets such as photography, video creation and writing. This is particularly important in a country like India, where cultural norms around self-expression and identity can vary significantly.

Negative Effects:

1. **Physical Health Issues:**
 - **Eye Strain:** Prolonged screen time can lead to digital eye strain, causing discomfort, headaches, blurred vision and dry eyes.

- **Sleep Problems:** Social media use has demonstrated a moderate negative effect on sleep quality. Night-time-specific use had a stronger effect as compared to general use. Female adolescents and younger adolescents showed greater disruption in sleep patterns.³
 - **Poor Posture:** Constant use of devices can lead to poor posture, resulting in back, neck and shoulder pain.
 - **Obesity:** Sedentary behaviour, such as prolonged sitting, can contribute to weight gain and other health problems related to a sedentary lifestyle.
2. **Psychological Effects:**
 - **Addictive Behaviours:** Adolescents may develop a dependency on social media, video games or other online content, leading to an unhealthy fixation on digital platforms.
 - **Anxiety and Depression:** Social comparison, cyberbullying or the constant pressure to be online and engaged can contribute to feelings of anxiety, depression, low self-esteem, inattention, hyperactivity/impulsivity, ODD as well as adolescent-reported fear of missing out (FOMO) and loneliness.⁴
 - **Reduced Attention Span:** Continuous exposure to rapid information on social media or video games can impair attention span and focus, making it difficult for adolescents to concentrate on schoolwork or other tasks.
 - **Cyberbullying and Online Harassment:** Cyberbullying is a growing concern among adolescents in India. The anonymity and reach of social media platforms can lead to harassment, body shaming, and bullying which can affect an adolescent's mental health.
 - **Body Image and Social Comparison:** social media often promotes unrealistic beauty standards and lifestyle expectations, leading to body image issues and social comparison. Adolescents in India, particularly girls, may feel compelled to follow these standards, which can lead to low self-esteem and mental health problems.
 3. **Social and Behavioural Effects:**
 - **Isolation:** Excessive media use can lead to reduced face-to-face social interactions, leading to feelings of loneliness or social withdrawal.
 - **Academic Decline:** Spending too much time on media can take away from studying or engaging in educational activities which can lead to poor academic performance.
 - **Impaired Communication Skills:** Overreliance on online communications instead of in-person interactions impairs the development of important social and communication skills.

Treatment of Social Media Addiction in Adolescents

1. Open Communication and Education

- **Discussing the Issue:** The first step in treating social media addiction in adolescents is to have an open and non-judgmental conversation. Parents, caregivers or educators should talk to adolescents about their social media use and the impact it may have on their health, relationships and responsibilities.
- **Educating About the Risks:** It's important to educate adolescents about the psychological and physical risks of excessive social media use, including issues like anxiety, depression, sleep disruption and the pressures of social comparison. When adolescents understand the consequences of their behaviour, they may be more motivated to change.⁴

2. Setting Boundaries and Limits

- **Screen Time Limits:** Establishing clear and reasonable limits on the amount of time spent on social media each day is essential. Parents or guardians can set rules for when and how long their adolescent can use social media, such as no usage during meals, homework time or before bed.
- **Time Management Tools:** Parents can use apps or devices with built-in tools to track and limit social media usage. These apps can help both parents and adolescents monitor time spent online and enforce screen time limits.

3. Encouraging Healthy Digital Habits

- **Scheduled Breaks:** Adolescents should be encouraged to take regular breaks from social media, especially during study or work periods. Encouraging activities like outdoor play, sports or creative hobbies during breaks can divert attention from the screen.
- **Device-Free Zones:** Creating spaces in the home where social media usage is not allowed (e.g., during family meals or in the bedroom at night) can help limit exposure and promote healthy offline interactions.
- **Mindful Social Media Use:** Encourage adolescents to use social media intentionally, rather than mindlessly scrolling. They can set specific goals for using social media (e.g., connecting with friends, or researching a topic) to avoid wasting time and overuse.⁵

4. Promoting Offline Socialization and Activities

- **Engaging in Real-life Social Interactions:** Encouraging face-to-face interactions with friends and family members can help adolescents feel more connected in the real world and reduce their dependency on online validation.
- **Hobbies and Interests:** Adolescents should be encouraged to develop new hobbies and

interests, such as playing sports, painting, reading or learning a musical instrument. These offline activities help balance their time and promote healthy engagement outside of digital platforms.

- **Volunteer or Community Activities:** Getting involved in volunteer work or community service projects can give adolescents a sense of purpose and a connection to others, reducing the need for excessive online engagement.

5. Cognitive Behavioural Therapy (CBT)

- **Addressing the Root Causes:** Cognitive Behavioural Therapy (CBT) can help adolescents address underlying emotional issues, such as anxiety, loneliness, or low self-esteem, which might drive them to excessive social media use.
- **Behaviour Modification:** CBT can teach adolescents how to recognize triggers for compulsive social media use (such as boredom, stress, or loneliness) and develop healthier coping mechanisms. The therapy focuses on replacing unhelpful behaviours with positive alternatives, like engaging in real-world activities or using social media in a balanced way.
- **Improving Self-Esteem:** CBT can also help boost an adolescent's self-esteem, which may reduce the need for seeking validation through likes, shares, or comments on social media platforms.

6. Family Involvement and Support

- **Family as Role Models:** Parents and caregivers should set a positive example by managing their own screen time and responsibly using social media. Adolescents are more likely to adopt healthy habits when they see their family members following the same rules.
- **Family-based Strategies:** Families can work together to create guidelines for social media use and spend quality time together away from screens. Engaging in activities like board games, outdoor sports or family dinners can strengthen relationships and encourage healthy boundaries.
- **Consistent Monitoring:** While respecting the adolescent's privacy, parents can monitor their child's social media usage, keeping track of the content, they are exposed to, the amount of time spent online and their social interactions.

7. Digital Detox

- **Taking a Break from social media:** A digital detox involves disconnecting from social media for a set period. Adolescents may benefit from a weekend or week-long break to reset their relationship with social media. This detox can help them become more aware of their online behaviours and how they impact their mental health.

- **Gradual Detox:** For adolescents who may find it difficult to completely disconnect, a gradual reduction in social media usage over a few weeks can be a good alternative. Reducing time spent on social media each day can ease the transition and make the process less overwhelming.

8. Support Groups and Peer Counselling

- **Group Support:** Participating in support groups or therapy groups with peers who are also dealing with social media addiction can help adolescents feel less isolated in their struggles. Group therapy allows for sharing experiences, discussing coping strategies, and gaining mutual support.
- **Peer Counselling:** Encouraging peer-to-peer support can help adolescents feel more understood. Older teens or mentors who have overcome social media addiction can provide guidance and offer tips on how to manage digital behaviour.

9. Professional Counselling and Therapy

- **Therapist Support:** If social media addiction is affecting the adolescent's emotional health or day-to-day functioning, professional help from a counsellor or psychologist may be necessary. Therapy can address mental health issues such as depression, anxiety or stress that contribute to social media addiction.
- **Family Therapy:** At times, it may require family therapy in which the issues that may be caused by the adolescent's family dynamics and communication could be addressed. This can also assist the entire family to understand how to support their adolescent child deal with the process of treatment of addiction.

10. Medication (In Severe Cases)

- **Addressing Co-occurring Mental Health Disorders:** In cases where social media addiction is linked to severe underlying mental health issues, such as anxiety, depression, or ADHD, medication prescribed by a healthcare professional may be part of the treatment plan. Medication can help address these underlying conditions, making it easier for the adolescent to manage their addiction.

CONCLUSION

Every fifth person in India is an adolescent. We are a young country with 21% of our population between the ages of 10-19 years. Social media usage among adolescents in India has grown at a rapid pace and has become an integral part of their daily lives. As the country continues to embrace digitalization, the focus will need to be on ensuring that social media is used in a way that supports the well-being and development of adolescents. This will only be achieved with concerted efforts between government bodies, educators, parents and the tech industry for a safer, more responsible digital world for young users.

KEY POINTS

1. The main causes of social media addiction are increased internet access, increased usage of the internet and free availability of various popular platforms.
2. Social media addiction causes various physical, and psychological health issues and negative social and behavioural effects.
3. Family support and peer group support have a very important role in the treatment of social media addiction.
4. We should promote healthy digital habits, offline socialisation and offline activities to prevent addiction.
5. Medications are required only in severe cases of anxiety, depression and ADHD cases.

REFERENCES

1. India Child Protection Fund. The Internet and Mobile Association of India (IAMAI) and Cyber Peace Foundation Release a Study on "Online Behaviour of Kids Aged 8-18 Years in India"; 2020
2. R. Bottaro, P. Faraci. The use of social networking sites and its impact on adolescent's emotional well-being: A scoping review *Current Addiction Reports*, 9 (2022), pp. 518-539.
3. BEDNAREK, Szymon, GÓRSKI et al. The Psychological Effects of Social Media Use: Insights from Combined Research on Adolescents' Mental Health. *Quality in Sport*. 2024;35:56340. eISSN
4. 2450-3118.McLean, L., et al. Adolescent's social media use and mental health: A review. *Current Psychiatry Reports*, 2017; 19(11), 82.
5. A. Popat, C. Tarrant. Exploring adolescent's perspectives on social media and mental health and well-being – a qualitative literature review. *Clinical Child Psychology and Psychiatry*, 28 (2023), pp. 323-337.

1. Navigating the Adnexal Imbrogio- Learning the Limitless

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ABSTRACT

Ovarian masses are estimated to be from 8% to 18% in women, regardless of age. Gastrointestinal stromal tumours (GISTs) primarily occur in the gastrointestinal tract, with primary ovarian GISTs being exceedingly rare. This case report emphasizes the necessity of considering ovarian GISTs in differential diagnoses for women with large adnexal masses and highlights the need for thorough evaluations to rule out gastrointestinal tumours. A 72-year-old lady presented with abdominal pain, bloating, and a rapidly growing mass. Imaging suggested a complex left ovarian cyst/dermoid, with tumour markers CA-125, AFP, and CEA elevated. Initial assessments indicated a benign/malignant ovarian cyst; however, surgical exploration revealed a large ovarian mass with adhered bowel. The histopathological evaluation confirmed a Mature Cystic Teratoma with a GIST ovary, along with multiple deposits. This case underscores the diagnostic challenges of ovarian GISTs, often misidentified as more common lesions. A high index of suspicion and detailed examination are essential for accurate diagnosis.

Keywords: Ovarian GIST, Adnexal mass, Mature Cystic Teratoma

INTRODUCTION

The prevalence of ovarian masses is estimated between 8-18% in women, regardless of age.¹ Pelvic masses (benign or malignant) can arise from both gynecologic and non-gynecologic sources. Appropriate detection and evaluation demand keen suspicion, a detailed history and physical exam, and attention to subtle clues. There are challenges encountered in diagnosing adnexal masses, including its variability in presentation, vague clinical features, diagnostic imaging pitfalls and the need for specialized expertise.

Case Report

A 72-year-old P12L9 female, presented with pain, bloating and a rapidly growing abdominal lump for 5 months, with loss of appetite and weight. No H/O fever, cough,

tuberculosis, bowel or bladder complaints were elicited. She was a Diabetic and Hypertension (on treatment) and a known case of coronary artery disease, with a H/O stent placement 3 years back. On local examination, a large abdomen-pelvic mass ~20*20 cm, firm, smooth with lower border palpable, was noted. Further imaging with USG suggested a 70*67 mm complex left ovarian cyst. Also, the CECT abdomen showed a normal uterus with a 97*68mm cystic lesion in the left adnexa with post-contrast enhancement and diagnosis of? A dermoid cyst was given. Tumor markers CA-125, AFP and CEA were found raised, rest unremarkable.

Keeping in mind, her clinical presentation, imaging findings, and elevated tumour markers, a surgical exploration was planned, which revealed a large solid cystic mass in the midline. The mass was identified to be arising from the Left Adnexa involving the left ovary, also adhesions were present with the bowel super-anteriorly and posteriorly.

Part of the sigmoid colon adhered posteriorly. A segment of 25 cm of ileum was found attached and possibly found involving the tumour anteriorly. Multiple Mesenteric deposits were noted. A total abdominal hysterectomy with bilateral salpingo-oophorectomy, infra colic omentectomy, with internal iliac lymph node sampling with left internal iliac artery ligation was performed, followed by bowel loop resection and double barrel ileostomy, in collaboration with surgeons.

On histopathological and immuno-histochemistry correlation a diagnosis of Mature Cystic Teratoma with GIST Ovary, with multiple omental and mesenteric deposits was made.

Postoperatively patient had been discharged and is following up with the medical oncology and surgery department, at the time of presentation.

DISCUSSION

Gastrointestinal stromal tumours (GISTs) are rare mesenchymal tumours of the gastrointestinal tract arising from the interstitial cells of Cajal. Extraintestinal GISTs arising from the omentum, mesentery, retroperitoneum, uterus, and bladder have been documented. However,

primary ovarian GIST is the rarest of rare entity. The main aim is to emphasize the existence of Ovarian GIST, which should be kept in mind as a differential diagnosis in women presenting with a large adnexal mass. Evaluation of abdominopelvic masses should include a battery of tests to rule out gastrointestinal tumours.²

This case underscores the rarity and diagnostic challenges of ovarian GISTs, which are far less common than other ovarian neoplasms such as dermoid cysts or ovarian carcinomas. Lack of clear distinguishing features in imaging studies, histopathological examination and immunohistochemistry (IHC) are crucial for diagnosis. The complexity of this diagnosis highlights the importance of considering less common diagnoses and further evaluation to rule out gastrointestinal tumours masquerading as adnexal masses.³

A string of investigations are required to evaluate such masses, some of which include imaging with ultrasound, CT scan, MRI, and positron emission tomography scans, besides upper endoscopy, endoscopic ultrasound and fine needle aspiration biopsy being other diagnostic tests.

The primary goal of surgery for GISTs is to completely remove the tumour, and it's usually the first treatment offered for GISTs that haven't spread. However, surgery may not be an option if the tumour becomes very large or invades nearby tissues. In such cases, targeted drug therapy may be used initially to shrink the tumour, with surgery potentially being performed at a later stage.

REFERENCES

1. Mobeen S, Apostol R. Ovarian cyst. [Updated 2023 Jun 5]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan. Available from: <https://www.statpearls.com>
2. Gaballa KM, Metwally IH, Refky et al. Ovarian gastrointestinal stromal tumor: does this diagnosis exist? *Eur J Gynaecol Oncol.* 2017;38(1):147-149.
3. Tonni G, Palicelli A, Bassi MC et al. Gastrointestinal stromal tumors (GISTs) mimicking primary ovarian tumors or metastasizing to the ovaries: a systematic literature review. *Cancers (Basel).* 2024 Jun 23;16(13):2305.

2. Acute Fatty Liver– A Diagnostic Dilemma

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ABSTRACT

Acute fatty liver of pregnancy (AFLP) is an extremely rare condition that can lead to severe maternal morbidity and maternal and perinatal mortality. A 29-year primigravida presented at 32 weeks gestation with a monochorionic diamniotic twin, preterm prelabour rupture of membranes, jaundice, and deranged liver enzymes. Her BP, leukocyte count, and blood sugar were normal. Repeat LFT, KFT and coagulation profile showed increasing derangement, Swansea's score was 5. Given the rapid deterioration, a provisional diagnosis of AFLP was made. Coagulation profile was corrected with multiple cryoprecipitates and FFP transfusions Caesarean section was done. The patient had both male babies and 200 cc retroplacental clots were removed. Her dengue serology and hepatitis viral markers were negative. During the postoperative period, she developed hypoglycemia and pancreatitis. With supportive management, currently, both patient and babies are doing well. High suspicion of AFLP led to a good maternal and foetal outcome.

Keywords: AFLP, Acute fatty liver, deranged liver enzymes, coagulopathy, Swansea criteria

INTRODUCTION

Acute fatty liver of pregnancy (AFLP) is a rare but serious obstetric condition, affecting 5 to 30 cases per 100,000 pregnancies.^{1,2} With advancements in testing, the

incidence of AFLP appears to be increasing, as milder cases are now more readily diagnosed and reported. It is characterized by jaundice, liver dysfunction, and other systemic manifestations, including coagulopathy and renal dysfunction. AFLP poses significant risks to both maternal and fetal health. Due to the broad differential diagnosis for liver disease and elevated liver enzymes during pregnancy, accurate diagnosis can be challenging and requires a comprehensive understanding of all potential causes. In the absence of a liver biopsy, AFLP is considered a diagnosis of exclusion. The Swansea criteria, which require a score of greater than 6, is commonly used for diagnosis. While mortality rates for AFLP were once reported to exceed 70% in the 1980s, recent data suggest a significant decrease to approximately 2%. This decline is largely attributed to increased awareness, leading to earlier diagnosis and timely delivery.^{3,4}

Case Report

A 29-year-old primigravida at 32 weeks gestation with monochorionic diamniotic twins was referred with preterm prelabour rupture of membranes (PPROM) and significant derangement of liver function tests. The patient had a one-week history of loose stools and reduced appetite, followed by a 5-day history of undocumented fever. There was no history of headache, blurring of vision, epigastric pain, decreased urine output, high BP records, itching over palm and soles, any drug or chronic alcohol intake, recurrent jaundice, multiple blood transfusions, gall stones, or any

other significant medical or surgical history in past. There was no significant family history of liver disease or other hereditary conditions. On examination, she was alert and oriented (E4V5M6), with normal blood pressure (110/80), pulse rate (76/min), and respiratory rate (20/min). The uterus was overdistended with palpation of multiple fetal parts with both babies were in cephalic presentation. There was no uterine tenderness, both fetal heartbeats were regular, and speculum examination revealed clear liquor. Laboratory findings at the presentation included elevated liver enzymes (SGOT 140 U/L, SGPT 150 U/L), alkaline phosphatase (583 U/L), and total bilirubin (6.4 mg/dl). Blood sugar and leukocyte count were normal. A differential diagnosis of viral hepatitis, fulminant hepatitis, AFLP, and dengue was considered. Swansea criteria were considered for diagnosis of AFLP, she had a score of 4 (based on elevated bilirubin, liver enzymes, creatinine, and INR). Blood samples were sent for viral markers, LDH, dengue serology, and serum ammonia. Repeat CBC, KFT, LFT, and coagulation profiles were sent which showed significant deterioration, Table 1. Ultrasound of the upper abdomen was normal.

Due to the worsening liver function and the high suspicion of AFLP, immediate delivery was considered. The patient was transfused 6 units of cryoprecipitate and 4 units of FFP based on the coagulation profile. Due to poor Bishop score, a caesarean section was performed with the delivery of two male babies, Intraoperative findings included retroplacental clot (200 cc), and significant atonic PPH with 1.5 liters blood loss. Postoperative ROTEM was done, and 1 unit packed cells and additional blood products, 2 units FFP, and 4 PRP were transfused. Uterine balloon tamponade was placed and removed after 24 hours.

Post caesarean, the patient's liver function tests continued to deteriorate, and she developed episodes of hypoglycemia and confusion (hepatic encephalopathy). Her ammonia levels were elevated (52.6 µmol/L), and viral markers and dengue serology reports were negative. The repeat Swansea score was 8, confirming AFLP. The patient developed

pancreatitis on postoperative day 5, a known complication of AFLP. The patient was managed with supportive care and gradually improved. Her bilirubin levels began decreasing, and her kidney function and coagulation profile returned to normal. Both babies are stable and discharged in good health.

DISCUSSION

AFLP is a diagnosis of exclusion. Risk factors include multiple gestations, male fetuses, fatty acid oxidation disorders in the fetus, LCHAD (Long-chain 3-hydroxyacyl-coenzyme A dehydrogenase) deficiency and previous history of acute fatty liver of pregnancy.⁵ Our patient had multiple gestation and male fetuses. AFLP occurs due to decreased oxidation of long- and medium-chain fatty acids, resulting in an increased maternal serum level of fatty acids throughout gestation. The increased levels of fatty acids lead to fatty infiltration of various organs causing the symptoms and complications of AFLP. The Swansea criteria have been validated for diagnosis of AFLP when more than 6.⁶ The Swansea criteria include vomiting, abdominal pain, polydipsia/polyuria, encephalopathy, elevated bilirubin, hypoglycemia, elevated urate, leukocytosis, ascites or bright liver on ultrasound, elevated transaminases, elevated ammonia, renal impairment, coagulopathy, and/or microvesicular steatosis on liver biopsy. As the case was picked on early on, the Swansea score was initially 4 when the decision for termination was taken and the diagnosis was confirmed later on when other symptoms started developing. Treatment for AFLP is early delivery. Post delivery, there is initial deterioration, and recovery usually starts 3- 4 days after, Figure 2, which can also be seen in this case, Table 1. Newborns of mothers with acute fatty liver pregnancy should be screened and monitored for fatty acid oxidation disorders. Obstetricians must inform neonatologists about the maternal condition to ensure proper screening and monitoring for potential complications like hypoglycemia and metabolic imbalances.⁷

Table 1: Preoperative and Postoperative Investigations

Parameters	2 weeks before admission	One day before admission	On the day of admission	12 hours after admission	Postoperative Day 1	Postoperative Day 4	Postoperative Day 6	Postoperative Day 8
Hb (g/dl)	12.2	12.2	11.2	11.3	9.5	8.1	8.6	9.1
TLC (per cumm)	12400	12200	10800	12000	19000	17000	21400	16000
Platelet count (lakh/cumm)	1.49	1.21	92000	70000	2.08	1.1	1.7	2.0
Bilirubin (mg/dl)	1.7	6.4	6.87	8.2	8.8	12.1	14.3	8.19
OT/PT/ALP (U/L)	123/79/372	140/150/583	259/98/738	267/94/771	197/65/462	81/35/245	77/22/216	74/20/207
BU/ creatinine (mg/dl)	14/ 0.7	-	34.96/ 1.87	50/2.16	35.4/2.39	53/1.7	31.4/1.2	27.5/0.9
APTT (seconds)	-	-	50.9	52.8	42.7	37.7	36	25.5
INR	-	-	2.18	2.54	1.8	2.07	1.5	1.2
Amylase (U/L)	-	-	-	-	13	509	403	200
Lipase (U/L)	-	-	-	-	278	1659	1200	704
S. NH3 (µmol/L)	-	-	-	-	52.6	88.2	86	50

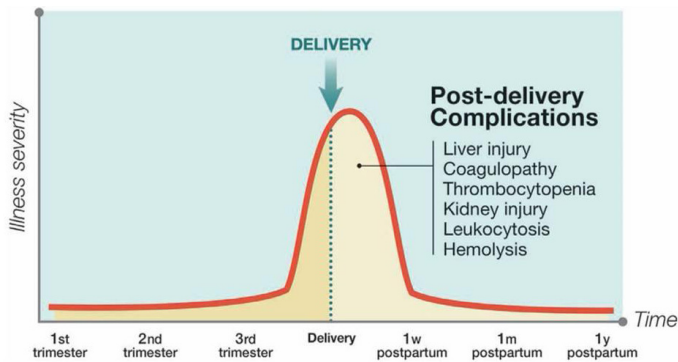


Figure 1: ROTEM: Postoperative Day 1

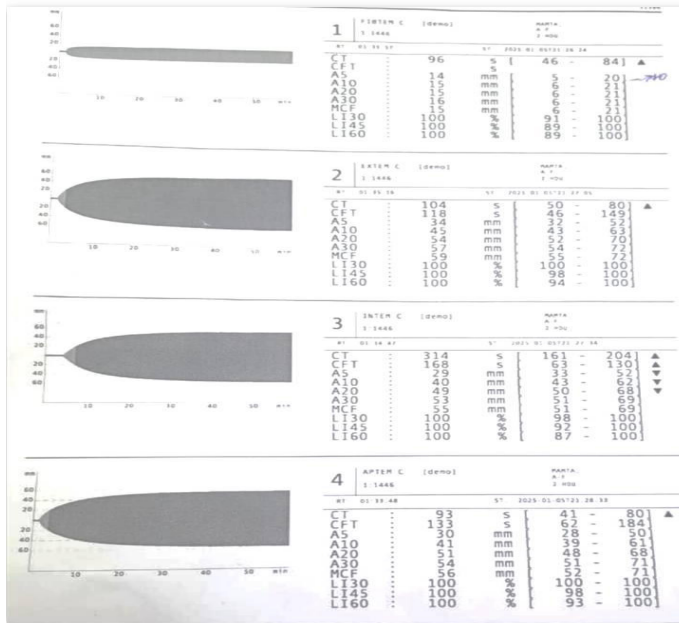


Figure 2: Course of AFLP before and after Delivery

CONCLUSION

This case highlights the importance of recognizing acute fatty liver of pregnancy as a potential cause of liver dysfunction in pregnancy, particularly in the context of multiple gestations. Early identification and intervention can significantly reduce severe maternal morbidity and mortality, as well as improve fetal outcomes. The patient in this case recovered with supportive management, and both babies were discharged in good health.

REFERENCES

1. Knight M, Nelson-Piercy C, Kurinczuk JJ, Spark P, Brocklehurst P; UK Obstetric Surveillance System. A prospective national study of acute fatty liver of pregnancy in the UK. *Gut*. 2008 Jul;57(7):951-6.
2. Rathi U, Bapat M, Rathi P, Abraham P. Effect of liver disease on maternal and fetal outcome--a prospective study. *Indian J Gastroenterol*. 2007 Mar-Apr;26(2):59-63.
3. Rolfes DB, Ishak KG. Acute fatty liver of pregnancy: a clinicopathologic study of 35 cases. *Hepatology*. 1985 Nov-Dec;5(6):1149-58.
4. Liu J, Ghaziani TT, Wolf JL. Acute Fatty Liver Disease of Pregnancy: Updates in Pathogenesis, Diagnosis, and Management. *Am J Gastroenterol*. 2017 Jun;112(6):838-846.
5. Nelson DB, Yost NP, Cunningham FG. Acute fatty liver of pregnancy: clinical outcomes and expected duration of recovery. *Am J Obstet Gynecol*. 2013 Nov;209(5):456.e1-7.
6. Ch'ng CL, Morgan M, Hainsworth I, Kingham JG. Prospective study of liver dysfunction in pregnancy in Southwest Wales. *Gut*. 2002 Dec;51(6):876-80.
7. Tran TT, Ahn J, Reau NS. ACG Clinical Guideline: Liver Disease and Pregnancy. *Am J Gastroenterol*. 2016 Feb;111(2):176-94.

3. A Rare Cervical polyp

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INTRODUCTION

Mesenchymal tumours are rare tumours which primarily affect females in their reproductive years. One such tumour is an angiomyxoma, typically arising from the connective tissue of the lower pelvis or perineum. It has a propensity for local recurrence and hence is termed 'aggressive'. Less than 10

Such case studies have been published in India, reporting this rare mesenchymal tumour. Here, we would like to report one such case that was presented as a benign cervical polyp.

Case Report

A 40-year-old multiparous female presented to the outpatient department with complaints of increased frequency of menstrual cycles and pain in the abdomen for one month. On examination, a polypoid mass was observed arising from the posterior lip of the cervix. Excision of the mass was planned and done as a minor procedure. On histopathological analysis of the mass, a well-circumscribed neoplasm comprising of satellite cells embedded in myxoid stroma was seen with interspersed chicken wire blood vessels. On IHC, tumour cells were found to be positive for Desmin and ER, vessels highlighted by CD34 and SMA.

Thorough counselling regarding the recurrence of the lesion was done. In our case report, we kept the patient on regular follow-up to date.

DISCUSSION

The histopathological diagnosis confirmed angiomyxoma, showing characteristic myxoid stroma and vascular components. The tumour was differentiated from other myxoid tumours such as myxoid liposarcoma and myxoma by its unique histological features, including the striking vascular component.

CONCLUSIONS

Angiomyxoma, though rare, can present as a cervical polyp, requiring careful histological evaluation to differentiate it

from other myxoid neoplasms. Complete excision is the treatment of choice due to the potential for local recurrence and its aggressive behaviour. Long-term follow-up is essential, as recurrence is possible despite its benign nature.

REFERENCES

1. Steeper TA, Rosai J. Aggressive angiomyxoma of the female pelvis and perineum. Report of nine cases of a distinctive type of gynecologic soft-tissue neoplasm. *Am J Surg Pathol*. 1983 Jul;7(5):463-75. doi: 10.1097/00000478-198307000-00009. PMID: 6684403.
2. Bothale KA (2012) A Rare Presentation of Aggressive Angiomyxoma as a Cervical Polyp. 1: 239. doi:10.4172/scientific-reports.239
3. Behrwala KA, Thomas JM. Aggressive angiomyxoma: A distinct clinical entity. *Eur J Surg Oncol* 2003;29:559-63.

Obituary



Dr B.G.Kotwani
(1929-2025)

Dr B.G.Kotwani, beautiful person inside out. Born in Karachi on 27th May 1929, she did her graduation from Lady Hardinge Medical college in 1952 and post graduation from CAMA Albless Hospital, Mumbai in 1958. She was a senior consultant in department of obstetrics and gynaecology at Sir Ganga Ram Hospital, New Delhi. She was an excellent clinician and surgeon with a long professional career covering various prestigious institutes of India and worldwide. She left for her final journey on 22-01-2025. We will cherish the wonderful memories she created with all of us. She will always be a part of our prayers and memories. On behalf of all AOGD members we express our heartfelt condolence to the family.

AOGD FAMILY

Journal Scan

Dr. Mrinalini

Assistant Professor

Dept of Obstetrics and Gynaecology

Children and Adolescents Mental Health: A Systematic Review of Interaction-Based Interventions in Schools and Communities

García-Carrión R, Villarejo-Carballido B, Villardón-Gallego L. *Front Psychol.* 2019 Apr

BACKGROUND

There is growing evidence and awareness regarding the magnitude of mental health issues across the globe, starting half of those before the age of 14 and having prolonged effects on individuals and society. Despite the multidimensional nature of this global challenge, which necessarily requires comprehensive approaches, many interventions continue to seek solutions that only tackle the individual level. This paper aims to have a systematic review of the evidence for positive effects on children and adolescents' mental health resulting from interventions conducted in schools and communities in which interaction among different agents is an integral component.

METHODS

An extensive search in electronic databases (Web of Knowledge, SCOPUS, ERIC, and PsycINFO) was conducted to identify interventions in which interactions between peers, teachers, families or other community members or professionals played a role. Their effects on children and adolescents' mental health were also assessed. They carried out a systematic review of papers published from 2007 to 2017. Eleven studies out of 384 met the inclusion criteria and seven of the articles reviewed centred on interventions conducted in schools and promoted supportive interactions

involving students, teachers, families and mental health professionals. Four of the articles develop interventions that engage community members in dialogic interactions with children and adolescents.

RESULTS

Interventions in communities and schools employ strategies to promote positive interactions amongst a range of stakeholders, such as teachers, parents, community members, and other professionals. A reduction in disruptive behaviours and affective symptoms like anxiety and depression, along with an improvement in social skills and personal well-being, are some of the outcomes of the mental health therapies that have been documented about the issues that children and adolescents face.

CONCLUSIONS

There is evidence of a positive effect on the mental health of children and adolescents, both in decreasing symptoms of mental disorders and in promoting emotional well-being. Whereas, interactions among different factors seem to be a relevant aspect across the interventions. More research is required to conclude its effect on the outcomes of the studies reviewed.

School-based interventions to promote adolescent health: A systematic review in low- and middle-income countries of WHO Western Pacific Region

Xu T, Tomokawa S, Gregorio ER Jr et al. *PLoS One.* 2020 Mar

BACKGROUND

In the World Health Organization Western Pacific Region (WHO WPRO), most adolescents enrol in secondary school. Safe, healthy and nurturing school environments are important for adolescent health and development. Yet, there were no systematic reviews found on the efficacy of school-based interventions among adolescents living in low and middle-income countries (LMIC) in the Region. There is

a grave need to identify effective school-based interventions and assisting factors for successful implementation in adolescent health in WPRO.

METHODS

For this systematic review, they used five electronic databases to search for school-based interventions to promote adolescent health published from January 1995

to March 2019. They looked for RCT and non-RCT studies conducted in WHO WPRO LMICs with adolescents aged 10 to 19 that focused on behaviour and health, school climate, and academic results. Analysis was done on treatment effects, bias risk, and study quality. A summary of successful interventions and implementation strategies was prepared for scale-up consideration.

RESULTS

Despite a broad key-term search strategy, they identified only eight publications (with 18,774 participants). Knowledge, attitudes, and behaviours were used as outcome measures in the majority of the investigations. While only one included BMI, waist circumference, and quality of life as outcome measures, others additionally included modifications to the physical environment and school policies. AIDS, sexual and reproductive health, deworming, diet, obesity, tobacco use, and suicide were among the subjects covered in these studies. Although their impact and scope were restricted, certain interventions

were found to be effective in enhancing knowledge, attitudes, and behaviours. The interventions employed in the various research ranged from those that focused on a single action area (such as improving personal skills) to those that addressed several action areas in health promotion, like establishing a supportive environment, developing personal skills, and building a health policy. No intervention study was found on other important issues such as screening, counselling and developing safe and nurturing school environments.

CONCLUSIONS

Only eight school-based health interventions were operated in the region. This study found that school-based interventions were effective in changing knowledge, attitudes, behaviours, healthy policies and the environment. Moreover, it was found that policy support, involving multiple stakeholders, incorporating existing curriculum and student participation are crucial factors for successful implementation.

Menstrual health and hygiene amongst adolescent girls and women of reproductive age: a study of practices and predictors, Odisha, India

Panda, N., Desaraju, S., Panigrahy, R.P. et al. BMC Women's Health. 2024

BACKGROUND

Menstruation is a major physiological change in a woman's life, but lack of knowledge, poor practices, socio-cultural barriers, poor access to products and improper disposal have significant consequences on the health, dignity and well-being of women and adolescent girls.

OBJECTIVES

This study aimed to assess the knowledge and practices related to menstrual health and hygiene amongst females 10–49 years of age; explore the experiences and challenges of women during menstruation; and identify the key predictors of healthy menstrual health and hygiene.

METHODS

It was a cross-sectional study design and a mixed methods approach for data collection was used. For the quantitative household survey, a total of 921 respondents were selected from three districts of Odisha and qualitative findings through focus group discussions and in-depth interviews supplemented the survey findings by identifying the barriers affecting good menstrual practices. Bivariate and multivariate logistics analyses were done to identify predictors of healthy menstrual health and hygiene.

RESULTS

For 74.3% of respondents, mothers were the primary source of information and about 61% of respondents were using sanitary pads. The mean age at menarche was 12.9 years and almost 46% of respondents had no information about menstruation before menarche. Lower age and education up to a higher secondary level or above had statistically significant associations with knowledge about menstruation. Good menstrual hygiene practices were strongly associated with age, caste, respondent's education, mother's education, sanitation facility, availability of water, accessibility and affordability for sanitary pads.

CONCLUSION

Traditional beliefs regarding menstruation are still prevailing at the community level. Educating mothers, increasing awareness about safe menstrual hygiene, providing adequate water and sanitation facilities and ensuring proper disposal of menstruation products need prime attention.

News Flash

Dr. Jaya Chawla

Professor

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Love shouldn't hurt! We all would tend to agree. But from where did this question arise in the first place? Wasn't first love synonymous with mushy conversations, sweet nothings, plain and simple care and affection? If you think so, my love, you've been living under the rock, I'm afraid. The current picture of first love states that 1 in 4 adolescents face emotional abuse, 1 in 8 experience physical violence and 1 in 12 go through the torment of sexual abuse at the hands of what we nowadays call intimate partners. Where is love in this entire picture, I'm still searching.

A recent WHO study published in the Lancet Child & Adolescent Health (Wang, DongqingAdu-Afarwuah, Seth et al. Lancet February 2025) highlights glaring differences in rates of such violence across the globe with Oceania region accounting for 47% and central Asia the lowest at 11%. The likelihood of this menace is more common in areas where women have less access to education, do not enjoy rights to parental inheritance and are subjected to early marriages where the discrepancy in age of the partners in matrimony creates a power imbalance that stems from financial dependence and societal pressures.

Where does all of this lead to in our practice? Young girls often feel intimidated by the thought of sharing their concerns with family who would little approve of their intimacy itself at that age despite all of this being real in today's times. So, they often reach the doorstep of a gynaec with vague presentations such as UTI and white discharge. It is often left for our experienced eyes to see that she has already initiated intimate contact and a leading question ensuring full privacy and a non-judgemental attitude on our part is all it takes to tell them that they are safe in revealing all their concerns, be it violence or fear of pregnancy and STIs or ignorance of contraceptive methods.

In the end, it is not only the knowledge of what is written in our books but also the subtle awareness of what is hidden between the lines that makes us a complete clinician. So, the next time you see a naïve looking girl in uber cool attire wearing loads of attitude, comfort her, and you might be able to peel the outer layer for all the battered and bruised, hassled and unsure teenager that lies within to touch her with your warmth and your insights. That is what medicine is all about, this February! Happy Valentine's !!!

Snitch Snatchers

Dr. Preeti Sainia

CMO NFSG

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- Persistent oligomenorrhea _____ years after menarche may indicate a higher chance of underlying ovarian or adrenal dysfunction.
A. 1-2 years
B. 2-3 years
C. 3-4 years
D. 4-5 years
- The most common breast problems in girls and young adolescents are:
A. Bening palpable mass
B. Malignant palpable mass
C. Nipple discharge
D. Cyclic mastalgia
- The most common cause of fatigue in adolescents is:
A. Thyroid disorder
B. Substance abuse
C. Too little sleep
D. Depression
- Shiller duval bodies are found in
A. yolk sac tumour
B. Dysgerminoma
C. Mucinous cystadenoma
D. none
- Most common malignant germ cell tumour is
A. Dermoid cyst
B. Endodermal sinus tumour
C. Immature teratoma
D. Yolk sack tumour
- Commonest cause of AUB in adolescent girls following menarche
A. hyperprolactinemia
B. thyroid disorders
C. coagulation disorders
D. anovulation
- All are features of vaginal sarcomas except
A. Mesenchymal tumour
B. Grape-like growth seen
C. Common in old age
D. Malignant
- A 19-year-old girl undergoes laparotomy for a 9 cm ovarian mass, the HPE shows glial tissue, cerebellar tissue and cortical tissue. The likely diagnosis is
A. Immature teratoma
B. Gonadoblastoma
C. Sertoli Leydig cell tumour
D. Struma ovarii
- The most common inherited bleeding disorder in adolescents.
A. Von Willebrand disease
B. Platelet dysfunction defects
C. Hemophilia
D. Clotting factor deficiencies
- The following area is not included while scoring in the Ferriman Gallwey system
A. Upper abdomen
B. Lower abdomen
C. Lower leg
D. Upper leg

Answer Key to January Quiz on Critical Care in Obstetrics

- cryoprecipitate
- ARDS
- Vasopressor administration
- 15-20 ml/kg
- procalcitonin
- 4-9%
- studifords criteria
- 700 ml/min
- Kerala
- WOMAN TRIAL

Association of Obstetricians & Gynaecologists of Delhi

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*-Annual Membership is for the calendar year January to December.

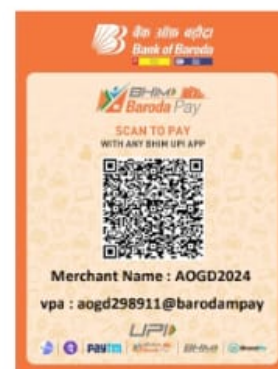
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Send Complete Membership Form Along With Cheque / DD and Photocopy of required documents.

**AOGDtiOffice, Department of Obstetrics & Gynaecology, Maternity Nursing
Home,ABVIMS & Dr RML Hospital, New Delhi- 110001**

Contact: 01123404419. Mob : +91 97173 92924



Inviting Applications for AOGD Subcommittees Chairperson (2025-27)

Fresh applications are invited for vacancies of chairpersons in 7 subcommittees.

1. Adolescent Health Sub-Committee
2. Endometriosis Sub- Committee
3. Endoscopy Sub- Committee
4. Fetal Medicine & Genetics Sub- Committee
5. Oncology Sub- Committee
6. QI Obst & Gynae Practice Sub-Committee
7. Urogynaecology Sub- Committee

The applications to be submitted to the AOGD office, Department of Obstetrics and Gynaecology, MNH Building ABVIMS RML Hospital,, New Delhi - 110001,(Scan Copies) on Email id : aogdrml2024@gmail.com

At in the given format by 31st January 2025

Dr Kamna Datta

Secretary AOGD

Eligibility Criteria for AOGD Sub-committee chairperson

1. The chairperson of a sub-committee should have been a member of the sub-committee in question for at least one term, with one term being equivalent to two years, prior to his/her appointment as chairperson of that sub-committee.
2. He/she should have been a member of the AOGD for fifteen years.
3. He/she should have experience in the field related to the subcommittee.
4. He/she should have completed atleast fifteen years from the date of his/her registration as a medical practitioner. Further, he/she should have held as senior/faculty position for not less than that of associate professor, senior consultant or an equivalent thereof in his/her respective organization, for a period of at least five years.
5. No person should hold chairpersonship of the same subcommittee for two consecutive terms with each term comprising of two years. Further, a person who has been chairperson for one subcommittee cannot be nominated as chairperson of another subcommittee unless separated by a duration equivalent to two terms of the subcommittee.
6. The Executive Committee may laydown additional criteria for the eligibility and pre-requisites for appointment as chairperson of each sub-committee from time to time.
7. An eligible member must send an application for nomination as chairperson of a sub- committee stating herein his/her previous experience in the field related to the sub- committee and future vision for further in the goals of the AOGD through such sub- committee. One person shall not apply for chairpersonship of more than one sub-committee at a time. The application shall be scrutinized by the Executive Committee of AOGD for nomination as chairperson.
8. In the event of more than one application being received for appointment as chairperson of a subcommittee and in the absence of unanimous decision of the Executive committee in this regard, the Executive Committee shall decide the nomination by cast of secret ballot.
9. No institution should have more than a maximum of 2 Chairpersons of subcommittees at any time. A third Chairperson from the same institution can be permitted only if there are no applications from other institutions even after repeated applications being asked for and the particular person's credentials are outstanding
10. In case there are more than 2 applications from the same institution 'first come, first served principle' will be applicable.
11. No subcommittee will have consecutive terms in the same institution.
12. The tenure of the chairperson of subcommittee shall be for a period of two years.

The Association of Obstetricians & Gynaecologists of Delhi

Nomination Form For Subcommittee Chairperson

Name: _____ AOGD Membership no: _____

Work place & Designation: _____

_____ Official Address: _____

Residential Address: _____

Phone: _____ Email: _____

Bio Sketch (250 words)

Includes duration of permanent membership of AOGD, previous subcommittee positions with tenure year and previous experience in the field related to the sub- committee along with future vision.

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Post Applied for

Chairperson
2025-2027

Name of Subcommittee

Proposed by-Name

AOGD Membership Number

Signature

Seconded by

- 1.
- 2.

The applications to be submitted to the AOGD office ABVIMS RML Hospital Obst & Gynae Dept, MNH Building, New Delhi - 110001, (Scan Copies) on Email Id : aogdrml2024@gmail.com, 1:00pm

At in the given format **By 5th January 2025**



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Delegates**

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Till
31st March 2025**

**For
Accompanying
Person**

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(INR 13,000 + GST)

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- Workshop
- CG Saraiya CME
- Conference
- Access to Exhibition Area
- Lunch (14th, 15th, 16th, 17th, 18th Jan)
- Inaugural Dinner (15th Jan)
- Cultural Dinner (16th Jan)
- Banquet (17th Jan)
- Conference Kit

Inclusions:

- Access to Exhibition Area
- Lunch (16th, 17th, 18th Jan)
- Inaugural Dinner (15th Jan)
- Cultural Dinner (16th Jan)
- Banquet (17th Jan)
- Accompanying Person Kit Bag

For More Details Contact: Mr Vikas Sharma - +91 9999216837



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