# AOGD BULLETIN

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## CARING FOR WOMEN'S HEALTH : EVIDENCE, ATTITUDE & PRACTICE

***Dedicated Issue:***
**Adolescence and Its Related Issues**


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# AOGD Bulletin

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## Contents






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# From the President's Pen

Greetings to all our AOGD members!

We hope you all are fine, fit and healthy, physically and mentally. The Corona pandemic has taken toll on everyone's physical, mental and psychological health all over the world. These challenging times demand that as health care givers and health care workers we maintain our own health and work tirelessly for the betterment of our patients. Besides, we also have the responsibility of carrying the torch of academics for our students and our society members. We shall try to pursue the academics as priority, and strive for virtual learning in all its varied forms. Keeping this in mind, we are organising the 42nd Annual AOGD Conference and 1st E-conference on the 30th, 31st October and 1st November 2020. We want this to be the first and last of its kind. This Corona pandemic shall wither, and certainly there will be a physical and normal conference in the year 2021.

However, this annual conference will be an unique, one time experience for each and everyone of us. It is a challenge for our organising team to innovate and explore newer horizons and evolve unconventional methods of organising this E-conference. Hence, we hope to get all encouragement and enthusiasm from our members. Though the annual conference is of three days, yet to give due importance to e-quiz, e-slogan, e-posters and free papers, they have been designated separate days. The workshops have been nicely crafted and spread over pre and post conference sessions. As a result, this mega event will spread from 23rd October to 6th November 2020.

This bulletin has a theme of Adolescence- and its related issues. The mental health disorders together with media addiction has been nicely dealt with. There is comment on the sexuality education as well POCSO act. The approach to adolescent contraception and puberty menorrhagia is well depicted. An experienced dermatologist has given views on adolescent acne. Finally there are suggestions of how to cope with stress in covid times.

'Change is inevitable in life', so these trying times will also change and give us long lasting memories. Lets us collect happy and encouraging memories during these challenging times. Long live AOGD.

**Dr Mala Srivastava**
President, AOGD

# From the Vice President's Pen

Greetings to all members of the Association!

As our country enters into the 5th month of the Corona Pandemic Lockdowns, so does our Secretariat of AOGD at SGRH. Over the past few months, we've organised a number of CMEs, Webinars etc Virtually through E- Platforms across Country and were overwhelmed by the transfer of knowledge and ideas.

The strength of our Association is Unity. With the Holistic efforts and guidance of our Seniors and the enthusiasm of our younger members, we are planning to hold our **42nd Annual and 1st E- Conference** with the **Theme: "Women's Health Care in the Current Challenging Scenario"**. The pre and post conference events including E- Quiz, Poster & Slogan competitions, Paper presentations and 10 Workshops in various Sub -specialties would be spread out **from 23rd October to 6th November 2020** and can be attended from anywhere after **a one time Registration** which shall be inclusive for all events. Looking forward to an active participation from all.

I hope these conference events will be an unforgettable academic feast and will enable our postgraduates and Fellows to keep pace with the best in the world.

The fate of a Bulletin lies in submission of good quality Scientific material and prompt editorship. Our expert Editorial team has brought out this **August E-Bulletin** with the **theme- 'Adolescent Health'** focusing on all aspects of health issues of Adolescent girls. I'm sure this exclusive Bulletin would be of great interest to the readers.

Hoping that all of us will sail through these tough times safely.

As Christopher Robin said to Winnie the Pooh, "You must always remember: **you are Braver than you believe, Stronger than you seem and Smarter than you think**."

A very **Happy Independence Day** to all ! Jai Hind!

With Warm Regards,

**Dr Kanika Jain**
**Vice President, AOGD**

# From the Secretary's Desk

Greetings to all !

Hope you all are keeping Safe and Healthy.

I am pleased to inform you that **42nd Annual AOGD Conference, Ist E-Conference 2020** organized by Sir Ganga Ram Hospital, New Delhi is planned to be held on **30th October, 31st October & 1st November 2020**. It shall be an entirely **Virtual Conference** with conference activities spread out from **23rd October till 6th November 2020.** The Theme of the Conference is **"Women's Health Care in the Current Challenging Scenario"**. Through this Conference, we wish to provide an academic feast to all our viewers. It would include Pre and Post Conference Workshops on various sub-specialties, Orations, Keynote Addresses, Panel Discussions, E-Posters and Paper Presentations, E-Quiz, Slogan Competition and Scientific Video sessions. Please block your dates and participate in this scientific extravaganza.

Our editorial team has brought the AOGD E-Bulletin August version dedicated to **Adolescent and It's Related Issues,** covering all the issues of Adolescent females. I hope the content will be of great interest and of immense use to our readers.

We appreciate the spirit and support of all our members in making headway with the academic activities during this ongoing COVID-19 Pandemic.

Looking forward to your continued support.

**Alone we can do so little; together we can do so much. –** Helen Keller

Warm Regards

**Dr Mamta Dagar**
Hon. Secretary

## Monthly Clinical Meeting

AOGD Monthly Virtual Clinical Meet & Executive Meeting will be organised by LHMC Hospital, New Delhi on **14th August, 2020 from 04:00pm to 06:00pm**.

# From the Editor's Desk

**Dr Geeta Mediratta**
Chief Editor

**Dr Chandra Mansukhani**
Co-Editor

**Dr Latika Bhalla**
Guest Editor

Dear Members,

FOGSI & Adolescent Health committee is celebrating the month of August as **The Adolescent Health** month.

Therefore, the AOGD bulletin for month of August is dedicated to Adolescent issues.

India has the largest Adolescent population in world, ie. nearly 253 million, out of 1.2 billion children worldwide.

Adolescence is an important period of life: transition between childhood & adulthood.

Peer approval and Peer Pressure during COVID times is making life difficult, putting adolescents under so much stress. Risk taking behavior during adolescence makes them prone to road traffic accidents, tobacco & alcohol consumption, drug addiction and violence and is responsible for increased adolescent morbidity and mortality. In national and international census, road traffic accident is the major cause of mortality due to media addiction/ texting while driving.

There is excessive sexting, sexual abuse of minor girls and rape cases. Teen- age Pregnancy with child marriages can be tackled with proper education of girl child. Hence appropriate guidelines regarding mental health, reproductive health & safety of this vulnerable population should be formulated by each country, as social problems are unique to every community.

Every clinician (Obstetrician or pediatrician) should be well versed to deal with adolescent common problems with respect and dignity. This bulletin will cover various issues of Adolescence eg. Anticipatory guidance to adolescent children, Mental health disorders in adolescent children - an overview, Media addiction and side effects, Sexuality education- need of the hour!, POCSO act-what a doctor should know, Adolescent- contraception, Puberty Menorrhagia, Adolescent acne: dermatologist's perspective.

An article "My altercations with covid-19" is written by pediatrician himself who went through a tough time when he became a corona victim.

Dr Puja Dewan has enumerated types of stresses during COVID times and suggested methods to cope up these situations.

**Editorial Team**

# Anticipatory Guidance to Adolescent Children

**Sangeeta Yadav[1], Bhavya Kukreja[2]**
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Adolescent Preventive Health is the key component for a normally growing adolescent in the community. The aim of the health professional is to provide health education and anticipatory guidance at each visit which should be documented in the patient's records. The anticipatory guidance for the parents or guardians is essential as the adolescent is going through rapid changes in both growth and development as well. This makes the adolescent vulnerable to many risks which need to be prevented and addressed. The adolescents spends less time under the direct supervision of the parent, adults should be reminded of the need to stay involved with their teenagers It is an opportunity for parents to express their concerns about their adolescent's emotional or physical well-being. Parents often have additional queries which need to be addressed by the health professional.

## Introduction

Adolescence period is accompanied by dramatic physical, cognitive, social, and emotional changes which presents both opportunities and challenges not only for the adolescents, but also the families, health professionals, educators, and communities. The foundations are laid by social and cultural influences towards nurturing a sense of self-assurance in adolescents and encouraging and reinforcing them to develop healthy choices for social competence and sense of responsibility required for personal health, academic achievement, and competence at work. Anticipatory guidance is appropriate at all ages, but especially important for the adolescents as they are establishing patterns of behaviours influencing the health that may last a lifetime. Anticipatory guidance for the parents or guardians is essential, given the many rapid changes of adolescence. It is also important to provide them with the knowledge when the habits are being formed to handle the challenges of life challenges. It has also been reported that less than 20% of clinicians actually spare some time during well child visits to provide anticipatory guidance. Thus, there is a large gap and needs special attention. Therefore, dwelling on discussions for anticipatory guidance are worthwhile and should be the key component of all well child visits.

## Definition

Anticipatory guidance is defined as proactive counselling that addresses the significant physical, emotional, psychological, and developmental changes that occur in adolescence and delineates areas of wellness and identifies risks as well. The focus is on both adolescents and parents and should be integrated throughout the visits. It may be an opportunity for children to express their concerns about emotional or physical well-being. It also provides an opportunity to establish or open communication channels for parents and it may improve their parenting skills. In a study conducted by Ramos M M et al 47% of youth reported an unmet need for anticipatory guidance. Meeting this demand will ensure both reduction in risky behaviour and promotion of healthy lifestyle.

## Objectives

It should focus on both adolescents and parents and be integrated in every visit to provide an understanding for the parents to have a good and healthy relationship with their adolescent which also improves their parenting skills.

- To assist the family in understanding of the adolescent's development
- To provide information about the healthy lifestyles practices and benefits
- To evaluate the extent to which adolescents have experienced intentional and unintentional injuries both physical and mental
- To promote the prevention of diseases and injuries
- To provide support to adolescents for becoming responsible for their health and lifestyle choices
- To reinforce the health guidance and clarify their instructions.

## Present Health Education and Anticipatory Guidance in a Manner Such That

- The adolescent also participates in this experience and understands and accepts the responsibility of good health.
- Through effective parenting with the adults setting limits for their children and to provide
- A nurturing and supportive environment that promotes healthy lifestyles.
- The health professional needs to remind parents about successful strategies to improve the health status of their child.
- Intentional and unintentional injuries are the principal causes of morbidity and mortality in adolescents.
- The health professionals needs to determine what measures have to be taken to reduce injuries.
- Open lines of communication are necessary if the above goals are to be achieved.

**Clinicians can offer anticipatory guidance to families through**

a. Personal discussions in clinic
b. Multimedia (eg, office posters, videotapes);
c. Written information- Pamphlets etc.
d. Modeling
e. Role playing

## According to the phases of Early, Mid, and Late Adolescence the various topics need to be discussed.

**In Early Adolescence between 11-13 years most important is the puberty and its associated changes.**

1. **Physical changes:** During early adolescence, most girls experience a rapid growth spurt, changes in fat distribution, and development of secondary sexual characteristics such as pubic hair and breasts.

   For most boys, the early adolescent period marks the beginning of the biological changes of puberty, including testicular growth, voice changes, and development of acne, pubic hair, and nocturnal emissions.

   It is very important to emphasize that rate of development of all these changes can vary and it is normal.

   These changes make the adolescents feel uncomfortable therefore a 'closed door policy' to give them some privacy.

   There is increased preoccupation with body image, eating disorders should be looked for by specifically asking for eating habits and physical activity.

2. **Cognitive and moral development:** Young adolescents still focuses primarily on the concrete and the present—the "here and now." It's Fright or Flight.

   They also tend to see any individual and their behavior in black and white without any grey scale.

3. **Emotional development:** Young adolescents display erratic or moody behavior, especially with the stresses of academic achievement, sports performance, peer pressure, and changing family relationships.

   They may be in conflict with the rules.

   Parents need to promote skills and confidence in decision making.

4. **School:** Transition to middle school provokes anxiety due to more impersonal environment and less parental support.

   They encounter higher academic expectations and significantly greater peer pressures.

   They should be counseled to be more organized and efficient to prevent reduction in overall academic performance.

   School dropout rate may also increase in this phase of transition.

   Peer pressure is also an important aspect. They need to be prepared for increasing peer pressure

5. **Risky behavior:** Most common injury related deaths in adolescent is due to motor vehicle and unintentional injuries during sports activities.

6. **Sexuality:** The most noticeable change in children entering adolescence is pubertal change. Timing for this is variable for each individual.

   An appropriate time for anticipatory guidance about normally expected body changes is when the physician and parent notice the beginning of the physical growth spurt.

   The first of these is usually breast budding in girls or testicular growth in boys.

   This is the time when they start exploring

sexuality. More than 7 percent of American youths are sexually active before 13 years of age[2].

Adolescents may have worries, questions or misunderstandings about many issues, including masturbation, menstruation, wet dreams, erections, sexual fantasies, orgasms and sexual orientation.

A pediatrician should be open for discussions regarding these and discussions should be structured and simplified to meet the needs of these young adults.

It is also important to review menstrual cycle, fertility, knowledge of contraception and of STDs should be assessed.

Assess if they are indulging in any type of sexual activity.

7. **Abuse and violence:** It becomes important to assess past experiences and correlate them to current risky behaviors so that adolescent's sexual health can be assessed sensitively.

   Sexual abuse is common in this age group.

**The Mid adolescence 14-16 years is the phase of discovering individual identity.**

1. **Physical development:** most girls would have completed physical changes of puberty by now and boys will be in process of maturation.

   This is again the opportunity to emphasize about normal changes of puberty.
2. **Emotional development:** The teens now move from large groups into small group of friends with similar interests, values and activities.

   They also seek privacy and alone time which needs to be handled with parental affection and respectful communication.
3. **Cognitive development:** formal operational thinking becomes functional now and can better understand interpersonal relationships.
4. **School:** The educational system becomes more demanding and requires special attention.

   There are many serious challenges to academic success, like undiagnosed learning disabilities, attention deficit hyperactivity disorder, inadequate school resources, or lack of parental involvement.

   These issues need an early diagnosis so that early intervention can be started.
5. **Risky behaviors:** This is the time of experimentation with alcohol and tobacco.

   Alcohol and other drugs are major factors in adolescent deaths, contributing to motor vehicle crashes, homicides, and suicides.
6. **Sexuality:** Teens can indulge into risky sexual behaviors.

   This poses them to the risk of sexually transmitted diseases and unwanted pregnancy.

   Need guidance on importance of delaying sexual intercourse and, if already active, to practice protected sex.

   Consequences of unprotected intercourse like unwanted pregnancy, STDs to be emphasized.
7. **Emotional behaviors:** Mood swings are a common characteristic of adolescence.

   Particularly persistent feelings of sadness and depression should not be dismissed as "normal" moodiness.

**The Late adolescence of 17- 19/21 years is the age of maturity and independence & stepping stone when they start becoming legally responsible for themselves and their choices.**

1. **Future endeavors:** Personal, vocational, and educational options are paramount in late adolescence.

   Depending on the socio cultural status some older adolescents may be living independently.

   Some live at institutions/ town of work places.

   They may feel either empowered or intensely frustrated by the expectations of the socio cultural milieu.

   Social support system plays a key role in this.
2. **Risky behaviors:** This stage of independence may also make them prone to high risk behaviors like drugs, alcohol and unsafe sexual activity.
3. **Life planning:** When providing care for youth who are becoming young adults, health professionals should use the visits as opportunities to discuss life planning skills, including pre-marital counselling.

   Health professionals should emphasize the three components that form the foundation of reproductive health, nutrition requirements, physical activity, and avoidance of alcohol, tobacco, and other drugs.

**The Table below outlines the history and clinical evaluations to be conducted which should be carried out during the routine visits.**

| Topic | Skill and Knowledge |
|---|---|
| Medical History | Chronic illnesses, Acute problems- Headache, Chest pain etc. etc, Reproductive and Mental Health Issues |
| Psychosocial History | HEADDSSS assessment |
| Growth & Pubertal Evaluation | Physical and SMR Staging |
| Developmental assessment | Normal Adolescent Milestones |
| Immunization History | Vaccinations Due |
| Assess BMI | Interpretations |
| Assess Blood Pressures | Age appropriate |
| Genital Examinations | Normal/ Pathology |
| Sports Participation | Evaluations |
| Consent/Confidentiality | Laws related to consent/ Confidential services |

## The Situations Warranting Guidance

Annual health supervision visits for each adolescent is highly recommended to include health promotion.

In addition or each adolescent at each visit, it can be helpful to do a "HEADDSSS" assessment and offer brief advice and interventions during all health encounters with youth.

Adolescents with chronic problems or high-risk behaviours may require additional visits for health promotion and anticipatory guidance.

The clinicians taking care of adolescents have unique opportunities to make a difference in their health and their lives by being creative, flexible and open-minded in the care provided.

Providing health care for adolescents involves a variety of medical, social and legal knowledge, and close working relationships must be established within the adolescent's network to establish an effective care system.

**Assessment of Growth & Pubertal status:** At each visit is warranted. Assess and plot on the charts, Calculate BMI, Check Blood pressures, Vision etc.

**Cardio metabolic risk of obesity:** Help children maintain normal blood lipids and blood pressure 2 key components involved in metabolic syndrome is a crucial part of preventive services for children and adolescents.

***Structured weight management*** - Increased structure and goal setting.

- Be positive and support small incremental steps for change.
- Families find it helpful to have a reminder of their goals when they visit
- Consume at least 5 servings of fruits and vegetables daily.
- View no more than 2 hours of television per day.
- Be physically active at least 1 hour per day.
- Limit consumption of sugar-sweetened beverages (eg, soda and sports drinks).

**Nutrition:** is an important aspect of adolescent health.

- Educate them about balanced diet.
- Eat three nutritious meals a day at regularly scheduled times; breakfast is especially important.
- Choose plenty of fruits and vegetables; breads, cereals, and other grain products; low-fat dairy products; lean meats, chicken, fish, and other sources of protein; and foods prepared with little or no fat.
- Include foods rich in calcium and iron in your diet.
- Limit high-fat or low-nutrient foods and beverages such as candy, chips, or soft drinks.
- Child should also be monitored for body image issues and any eating disorders.

**Sleep:** Teenagers need more sleep, about 8-10 hours to help them perform optimally.

- Sleep hygiene to be explained
- Lack of sleep and its ill effects should be taught.

**Dental Health:** Adolescent should be counselled about oral health and preferably a dental evaluation every 6 months.

**Immunization status** to be checked and completed

**Physical Activity:** Exercise at least 3 times in a week for 30-60 minutes.

**Safety:** Motor vehicle accidents are the leading cause of non-intentional injury in adolescents.

- Counselling about speed limits and other safe driving laws should be done.
- Use of protective gears like helmets and seat belts is to be emphasized while driving,
- Do further reinforcement and education and actual assessment about helmets.

- Use of mobile phones while driving is a significant hazard, which needs special attention.
- Talking to teens about internet and its wide range of effects on their mental health needs to be discussed.

**Digital Devices:** Talking to teens about internet and its wide range of effects on their mental health needs to be discussed.

- Parents should make their children comfortable about sharing their experiences and feelings about internet and give non-judgmental advice to them.
- They should be able to monitor their child's activities on internet so that timely corrective measures can be taken.
- Parents must begin the difficult conversation about Sexting" sending a text message with pictures of children or teens that are inappropriate, naked or engaged in sex acts.
- Before there is a problem introduce the issue as soon as a child is old enough to have a cell phone.
- Children now a day find it easy to make internet friends rather than actual physical social contact which are restricting the intrinsic social nature of human being.
- In the need of hour one must have a friend to discuss and share their feelings.
- In exploratory phase of adolescence teenagers get easy access to porn pictures, videos and audios over the internet resulting in early initiation of sexual activities.
- Also they can end up in cybercrime activities.

**Media Usage:** Total amount of screen time per day and presence of a TV set or an Internet connection in the bedroom should be documented.

- Limit total entertainment screen time to fewer than 2 hours per day.
- Create an "electronic media–free" environment in children's rooms.
- Avoid watching TV during family meals.
- Co view and discuss content with children and adolescents.
- Be good media role models—children often develop their media habits based on their parents' media behaviour.
- Emphasize alternative activities.

**Substance Abuse:** Tobacco use and smoke exposure status of the family and household members should be documented, including former smoking status given the risk of relapse.

- Include in the problem list & summary list.
- Advise the family to make their home and car smoke-free.
- Congratulate families for the efforts they are making to protect children from the harms of tobacco smoke exposure and encourage to continue to move towards quitting completely.
- Those who may be using tobacco periodically, advise them to stop before they become hooked.
- Follow up and reminder system at every opportunity

**Stress:** Teenagers often experience stress as they move through puberty. There are significant benefits of exercise, diaphragmatic breathing, and progressive muscle relaxation.

The following techniques may be helpful in reducing and coping with this stress.

1. Meditation and yoga
2. Brain Gym

- Finally, it is important to provide feedback on the risks and consequences of the behaviour.
- Emphasize on the personal responsibilities towards change or not to change.
- Provide advice and your professional opinions and recommendations to facilitate.
- Offer strategies, not a single solution.
- Let them participate with the selection of the best approach that seems feasible for him or her.
- Show Empathy- A positive, caring manner which will foster rapport.
- Encourage Self-efficacy- Encourage positive "change talk" and support them in believing that he or she can change the behaviour.
- At times, professional help can also be sought by involving the school counsellors. Some of these activities can be done with friends; others need a professional practitioner.
- The health provider should help sort these options out with the adolescent and their parents.

Pediatricians can play an important role by counselling teens about these common issues, perils and pitfalls. With anticipatory counselling

focused on these concerns, pediatricians can help foster the personal growth and social/intellectual development of teenagers to better prepare them for success in college and then later in life. For all these concerns the challenge for the health professional is to establish a trusting relationship that supports the adolescent and the family so that opportunities for exploration and continued growth are presented in a safe and nurturing context.

## Further Reading


1. Ramos, M. M., Sebastian, R. A., Stumbo, S. P., McGrath, J., & Fairbrother, G. *Measuring Unmet Needs for Anticipatory Guidance Among Adolescents* (2017).
2. Eaton DK, Kann L, Kinchen S, et al.; Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2007. *MMWR Surveill Summ*. 2008;57(4):1–131.

# Mental Health Disorders in Adolescents - An overview

**Deepak Gupta[1], Nabanita Sengupta[2]**

[1]Consultant Child and Adolescent Psychiatrist, Sir Ganga Ram Hospital; Founder and Director, Centre for Child and Adolescent Wellbeing, New Delhi, [2]Fellow in Child and Adolescent Psychiatry, Sir Ganga Ram Hospital, New Delhi

## Introduction

Adolescence is the period of transition from childhood to adulthood. World Health Organization (WHO) defines adolescents as people who fall in the age group of 10-19 years.[1] It is a unique and dynamic period where a wide range of physical, emotional, sexual and social changes occur that can put adolescents at risk of developing mental health disorders. Promoting the adolescents' psychological and emotional well-being and protecting them from risk factors that may have detrimental impact on their mental health are of immense importance for their well-being during adolescence and for their potential to have a productive and fulfilling life in adulthood.[2]

## Burden of Mental Health Disorders Among Adolescents

Across the globe, mental health disorders make up a major burden of disease amongst adolescents. Worldwide, an estimated 10–20% of adolescents suffer from mental health disorders, and close to 50% of all mental health disorders start by 14 years of age and 75% of them by 24 years of age; yet most of them remain underdiagnosed and undertreated.[3] Table 1 outlines the estimated disease burden of different mental health disorders among adolescents as published by World Health Organization (October, 2019).[2]

## Risk Factors of Mental Health Disorders in Adolescence

Numerous factors play a vital role in the occurrence of mental health disorders in the adolescent population. The more risk factors adolescents are subjected to, the greater is the damaging impact on their mental health. Factors that play a role in the development of mental health disorders in adolescents can be divided into individual risk factors, familial risk factors and societal risk factors.

### 1. INDIVIDUAL RISK FACTORS

#### a. Biological Factors

##### i. Genetic Factors

Mental health disorders tend to run in families. A large number of twin, family and adoption studies have consistently shown that mental health disorders are higher in biological relatives of a person as compared to general population.[5] Although there is strong evidence for genetic vulnerability, no specific gene has been unequivocally identified for most mental health disorders till date.[5]

##### ii. Neurobiological Factors

Morphometric studies suggest that cortical grey matter volume declines in many regions of the brain starting from childhood throughout adolescence; the

**Table 1:** Estimated disease burden of different mental health disorders among adolescents (World Health Organization, October, 2019)

- Mental health disorders account for 16% of the global burden of disease and injury among adolescents in the age group of 10–19 years.
- Worldwide, depression is the fourth leading cause of disability among 15–19 year-olds.
- Anxiety is the ninth leading cause of disability among adolescents aged 15–19 years and sixth among those aged 10–14 years.
- Globally, suicide is the third leading cause of death among adolescents aged15-19-year.
- Childhood behavioral disorders (Attention deficit hyperactivity disorder and conduct disorder) are the second leading cause of disability in adolescents aged 10–14 year.
- Around the globe, the prevalence of episodic drinking among 15¬19 year-olds is 13.6%.
- An estimated 5.6% of adolescents aged 15–16 years had used cannabis at least once in the preceding year.[4]

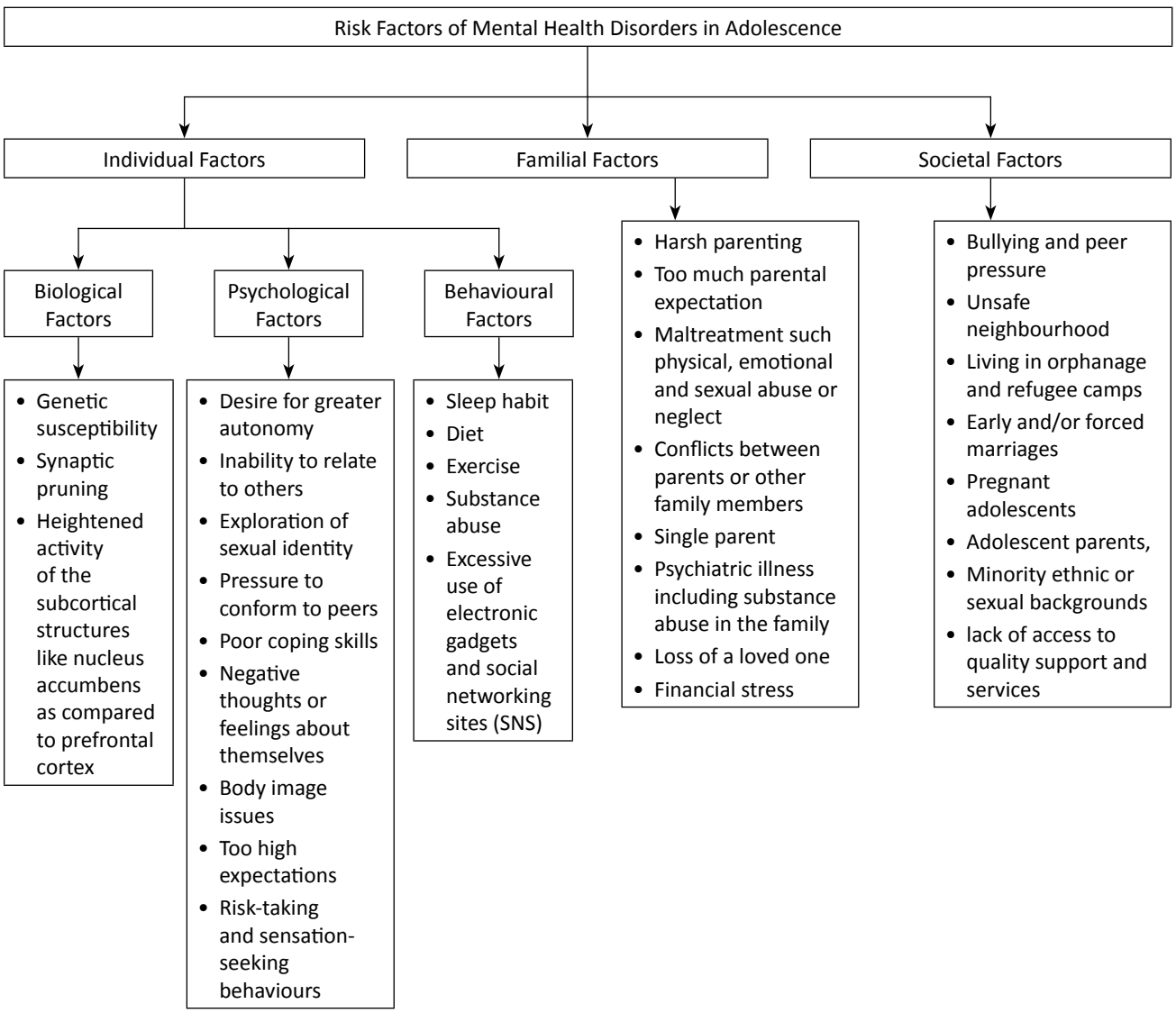
rate of this decline varies in different regions. For example, the grey matter volume of the dorsolateral prefrontal cortex (DLPFC) peaks in mid-adolescence; later declines and then stabilizes in early adulthood.[6] The reduction in grey matter during adolescence has often been regarded to result from pruning of synapses those are no longer useful.[7]

Several studies show elevated activity in subcortical regions, especially the nucleus accumbens, which regulates reward seeking coupled with a lag of maturation of cognitive-control system such as prefrontal cortex, which matures gradually over adolescence and early adulthood and is involved in self regulation; predisposes the adolescents to indulge in risk taking behaviors such as substance abuse.[6,8,9]

**b. Psychological Factors**

Common psychological factors that predispose an adolescent for mental health disorders include a need for greater autonomy, inability to connect with others, exploration of sexual identity, pressure to match up to the peers, poor coping skills, negative thoughts or feelings about themselves, body image issues, taking on too many activities or having

## Chart 1: Summarizes The Different Risk Factors Associated with Mental Health Disorders in Adolescence



too high expectations etc.[2,10,11,12] Adolescence period is also associated with risk-taking and sensation-seeking behavior[8] that make them prone to stress and mental health problems.

**c. Behavioural Factors**

Lifestyle has an immense effect on the mental health of all, including that of adolescents. Healthy lifestyle choices including adequate and timely sleep, regular exercise, balanced diet, avoiding substances of abuse can effectively contribute to good mental health and vice versa.[10]

Excessive use of electronic gadgets and social networking sites (SNS) may negatively impact the mental health of the adolescents in a number of ways. Adolescents with excessive electronic gadget use tend to have a poor sleep pattern; they go to bed later, have longer sleep latency and less total sleep duration and late waking up time.[13,14,15] The internet is flooded with loads of manipulated images of idealised 'beauty standards', which are linked to the feeling of inadequacy, poor body image, low self esteem, which in turn are linked to poor mental health.[15] Excessive use of social networking sites can also promote negative emotional states like isolation, loneliness, fear of missing out (FOMO) etc.[16] Cyber-bullying and online harassment can leave lasting emotional scars on the adolescent's mind.[16]

2. **Familial Risk Factors**

Family and home environment can affect the young minds to a great extent. Factors that commonly lead to adverse mental health outcomes in adolescents include harsh parenting, too much parental expectation, maltreatment such physical, emotional and sexual abuse or neglect, conflicts between parents or other family members, single parent, psychiatric illness including substance abuse in the family, loss of a loved one, financial stress etc.[2,12,17,18,19,20]

3. **Societal Risk Factors**

A substantial number of adolescents are prone to develop mental health disorders due to risk factors involving society at large. These include adolescents facing bullying and peer pressure, those living in an unsafe neighbourhood and in humanitarian settings like orphanage and refugee camps, adolescents who are married, pregnant, adolescent parents, adolescents from minority socioeconomic, ethnic or sexual backgrounds or any other group facing discrimination and stigma, and those lacking access to quality mental health services.[2,12,19,20]

## Early Warning Signs of Mental Health Disorders in Adolescence

Mental health disorders rarely appear all of a sudden. Many a time, the adolescent himself or their family members begin to identify subtle changes in thinking patterns and behavior of the adolescent before a disorder is expressed in its full-blown form.[22] Identifying early warning signs and intervening at the earliest can be helpful reduce the severity of a disorder, restore functionality and productivity, enables timely referral to specialist and prevent long term morbidity. Table 2 lists the early warning signs of mental health disorders in adolescence.[22, 23]

**Table 2:** Early warning signs of mental health disorders in adolescence

| |
|---|
| • Persistent sadness — at least two weeks or more |
| • Reluctant to engage in social interaction |
| • Self harm and suicidal behavior |
| • Expressing death wish |
| • Overwhelming anxiety and fear |
| • Repetitive behaviours |
| • Recurrent flashbacks |
| • Changes in eating habits |
| • Difficulty sleeping/excessive sleeping |
| • Unexplained frequent headaches or stomachaches |
| • Poor academic performance |
| • School refusal |
| • Persistent outbursts or extreme irritability |
| • Drastic changes in mood, behavior, or personality |
| • Odd behaviors |
| • Unusual marks on the body or unusual smell from the body |
| • Excessive use of technology for non academic use |

## Common Mental Health Disorders in Adolescence

It is absolutely normal for adolescents to experience a wide range of emotions, for example, to feel anxious about school or academics, or to go through a period of low mood following the death of close one. Mental health disorders, on the

**Table 3:** Common mental health disorders and their symptoms in adolescents

| Disorder | | Symptoms |
|---|---|---|
| **Emotional Disorders** | Depression | Low mood, not finding interest in previously pleasurable activities, fatigue, negative thoughts about self, others, and the future |
| | Anxiety disorder | Excessive worry about a situation or object often coupled with physical symptoms like palpitation, tremors, sweating etc |
| | Obsessive compulsive disorder (OCD) | Recurrent, intrusive thoughts that cause distress, often followed by acts to neutralize those thoughts. Eg, fear of contamination followed by repeated washing |
| | Post traumatic stress disorder (PTSD) | Disturbing memories, flashbacks, nightmares after experiencing traumatic events like accidents, sexual abuse, natural calamities etc |
| B**ehavior Disorders** | Attention deficit hyperactivity disorder (ADHD) | Continuing inattention symptoms such as easily distracted, inability to focus, careless mistakes and/ or hyperactivity manifested by fidgety, running around, excessive talking etc from early developmental period |
| | Oppositional defiant disorder (ODD) | Angry, resentful and defiant toward an authority figure |
| | Conduct disorder | Violation of rules and social norms such as stealing, lying, cruelty towards the human and animals, destroying property |
| **Eating Disorders** | | Extreme and abnormal eating behaviors, such as insufficient or excessive/ binge eating, may be accompanied by strenuous exercise, inducing vomiting or taking laxatives to lose weight, amenorrhoea |
| **Sleep Disorders** | | Inability to fall asleep, frequent night time awakenings, restless sleep, excessive sleeping, irregular sleep cycle including sleeping late and day time sleepiness, teeth grinding, snoring, bed wetting, sleep talking, sleep walking |
| **Addictions** | | Substance use like tobacco, alcohol, cannabis, illicit drug use, internet addiction |
| **Psychotic Disorders** | | Presence of delusions and hallucinations, manifested by odd behaviour, unprovoked aggression etc |

contrary, are characterized by persistent symptoms that interfere with regular activities and daily functioning in several domains, such as family life, peer relationships, school performance, biological functions like sleep, appetite etc.[21] Mental health disorders in adolescents can present with a wide range of overlapping symptoms.

## Intervention Strategies for Mental Health Disorders in Adolescence

Choosing the right modalities of intervention for an adolescent is of immense importance because treatment choices for mental health disorders vary from person to person. Even two people with the same diagnosis will have a different clinical presentation, side effect profile and goals for treatment. There is no "one size fits all" intervention.[22] The different intervention strategies include medication, psychotherapy, and a combined approach. Table 4 outlines the different intervention strategies for mental health disorders in adolescents.

**Table 4:** Intervention strategies for mental health disorders in adolescents

- Lifestyle interventions such as diet, sleep, physical activity, controlled media usage
- Provide routine and structure
- Guided self-help such as mindfulness activities, meditation, or yoga
- Skill building: Coping skills, problem solving, building self esteem
- Address family issues
- Seek school support
- Close watch & observation (follow ups)
- Medication if indicated: Start low, go slow

## Red Flag Signs: When to refer to specialist?

Red Flag signs indicate serious underlying psychopathology and require an urgent referral to a specialist for further evaluation and treatment. Table 5 summarizes the red flag signs of mental health disorders in adolescents.

**Table 5:** Red flag signs of mental health disorders in adolescents

- Persistent ongoing anxiety/fear that gets in the way of daily activities
- Persistent low mood (frequent crying, negative talks)
- Drastic changes in behavior – severely withdrawn or isolated, frequent mood swings causing difficulty in interpersonal relationship, highly aggressive, obsessive or antisocial behavior
- Recurrent self-harm
- Suicidal ideation or attempts
- Prolonged school refusal
- Risk taking behaviour jeopardizing own or others' safety
- Regular substance use
- Psychotic symptoms (suspiciousness without any apparent reason, hallucinatory behaviour)
- Catatonic behavior (posturing, mutism)
- Extreme difficulty in concentration leading to a significant academic decline
- Refusing food, using laxative, inducing vomiting
- Drastic changes in sleep pattern (not improving by sleep hygiene)
- Significant change in weight over a short period of time

## Take Home Message

Adolescence is a vulnerable period to develop various mental, emotional and behavioral disorders. It is crucial to recognize the early warning signs of mental health disorders in adolescents. Early identification and intervention is the key to achieve a better long term outcome. Timely referral to specialist should be done in case there is deterioration of behavior and functioning.

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# Media Addiction and Side Effect

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## Background

Problematic engagement in a certain irregular activity is known as addiction. Addiction can be classified in many categories like porn or sexual addiction, video game addiction, substance abuse addiction or internet addiction etc[1]. Any type of addiction could lead to deviation from normal physical, mental and social life. Excessive use of internet is a compulsive online activity which interfere normal routine activities and causes severe stress on academic and professional activities, family and social relationship. Initially goal of internet development was to facilitate educational, research and other professional activities, rapidly sharing of information, data and communication but the excessive and problematic use of the internet in modern era has led to addiction and dependency on electronic gadgets.

Globally, almost every second person has arrested in digital world. According to current medical research, users have become internet addicted due to problematic use of internet and later it will form non interactive form of society or more interactive virtual life. Excessive Internet use has also been associated with negative academic consequences such as missed classes, lower grades, and academic dismissal[2]. There has been an explosive growth of application of media not only in urban area but also across the whole rural India in the last decade. There is a growing concern about whether this media addiction is excessive and, if so, whether it amounts to social media addiction.

## Distribution of Media Addiction

Media addiction is the emerging problem in current time due to unrestricted and problematic use of electronic gadgets. Although internet is affecting all age group but our young population like adolescent and early age adults are worst affected. Male are more affected than female. Onset of media addiction in early age group is more common than other age group.

Deepak Goel et al[3] had conducted a cross sectional study among students in Mumbai among 987 adolescents who took part in the study, 681 (68.9%) were female and 306 (31.1%) were males and key findings was about 74.5% were moderate (average) users. Using Young's original criteria, 0.7% students were found to be addicts and those people associated with excessive use internet had high scores on anxiety, depression, and anxiety depression. According to a review done by Balhara YPS et al[4], The prevalence of severe Internet addiction ranged from 0 to 47.4%, whereas the prevalence of Internet overuse/possible Internet addiction ranged from 7.4% to 46.4% among students from Southeast Asia. A study was conducted by Gedam et al[5], among 846 students of various faculties from Deemed University. The total prevalence of internet addiction was 19.85% (moderate and severe addiction being 19.5% and 0.4%, respectively). Internet addiction was associated with gender, computer ownership, preferred time of internet use, login status, and mode of internet access ($P < 0.05$). It was also associated with other psychological morbidities like anxiety, depression, loss of emotional or behavioral control, emotional ties, life satisfaction, psychological distress, and lower psychological well-being ($P < 0.05$).

In current time globally, application of internet is enormous, especially in the young school going population. High internet usage pattern has poor relationship with their mental and physical health. India's internet users expected to reach 627 million in 2019, driven by rapid internet growth in both urban and rural areas. Of the total internet user, 493 million Indian populations are defined as regular users and having accessed internet services in last 30 days. Nearly 293 million active internet users reside in urban area of India, while there are 200 million active users in rural India[6].

## Various Online Activities Platform Responsible for Media Addiction

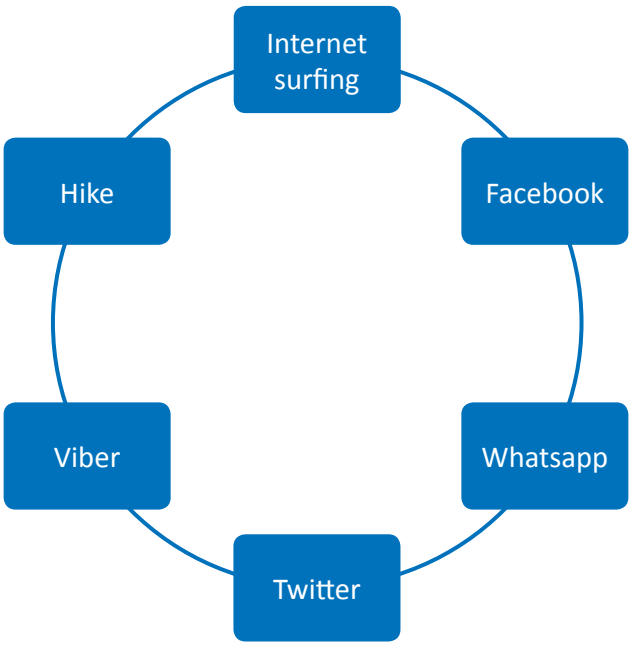


**Fig 1:**

Various gadgets like mobile, i-phone, tablets, laptop, smart television, computer, alexa devices are mainly responsible for high internet addiction. Online video gaming, cyber-relationship, online chatting, sharing of information (through photos and videos), cyber-bullying, online watching and sharing of pornographic material, MMS, task game like blue whale or Kiki challenge, candy crush, PUBG, making a Tik-Tok videos, online shopping, online video or audio chatting, unnecessary internet surfing are most common activities of internet users. Choice of various preferred technology related activity is depend on individual person. In adolescent period most people prefer chatting with opposite sex and new unknown person. (Figure 1)

## Pathogenesis of Internet Addiction

Aetiology of excessive internet use is unknown, but probably involves psychological, neurobiological, cultural and peer factors. Internet addiction is responsible for activating various areas of the brain that are linked to enjoy and pleasure activated pathway. When these pleasure pathways are activated, the brain increases production of dopamine and other neurochemical substances and it give impulse to use internet and other addiction[1]. Internet addiction is described as an impulse control disorder; it may or may not involve substance abuse. (Figure 2)

Mostly internet users may enjoy aspects of the online activities that allow them to meet and socialize with other person and exchange ideas through the use of chat rooms, sharing information/data through social networking websites but sometime social media users may develop an emotional attachment to virtual friends and activities through social media. It is very difficult to differentiate from normal internet use to abnormal internet use. An information technology professional spend minimum 7-8 hours per day for their routine office work, still it is not a case of internet addiction, on the other hand, if an adolescent is spending 2-3 hours on internet for entertainment and not giving active attention towards their school activities or daily routine activities then it could be a case of internet addiction. Therefore we can say that Problematic use of internet may become a problem when you begin to ignore important areas of your routine life, such as educational/professional activities or family and social relationships[7].

## Associated Factors

Psychiatric co-morbidities are common, particularly mood disturbance, anxiety, poor self-control and substance use disorders. Living alone or living away from family, job frustration or search of extra marital partner may aggravate the situation. Four key features like Applications of internet, Emotions of person, Cognitions of person and Life events can determine the problematic use of internet.

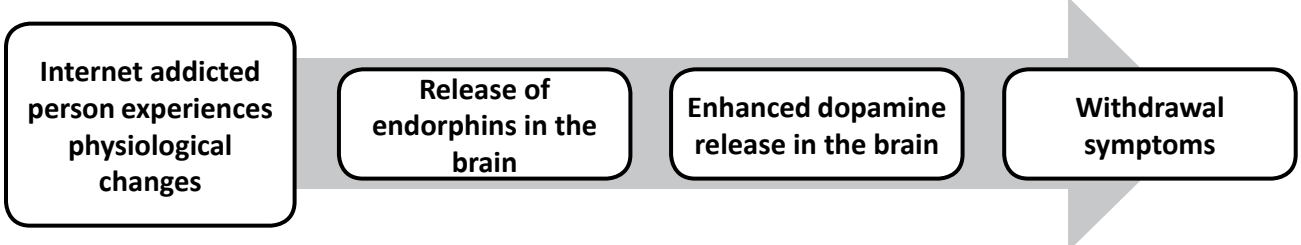


**Fig 2:**

## Comparison of Media Addiction with Other Addiction

Social media is more addictive than other addiction like drugs or tobacco. Social media addiction can be understood by comparing it to other type of addictions. Although internet do not cause painful physical withdrawal when you stop but use of internet would be considered addictive because internet addicted person being not able to get satisfaction from their daily routine things in life in absence of internet. Most common reasons of this high internet addiction are easily available internet uses devices like mobile, laptop, tablet etc. along with free or low cost availability of internet connection. You can use your internet gadgets in-front of your parents and relative but you could not use alcohol, tobacco or other harmful subjects therefore social media addiction is more severe problem than other addiction. Internet use pattern is further give positive reinforcement to repeatedly use it. Media addiction disorder reduces quality of life by causing neurological complications, psychological disturbances, and poor social life. Impairments of real life relationships are disrupted as a result of virtual life. Individuals suffering from excessive social media use spend more time in isolation or in virtual world, spend less time with real world.

## Poor Consequences of Media Addiction

Internet addiction affect personal, family, social, academic, financial issues. Various symptoms are headache, depression, cervical sleep disturbances, restlessness etc. It could lead to poor eye vision, dry and watering eye, carpal tunnel syndrome, cervical pain etc. (Table 1)

Most common adverse outcomes are Poor performances in academic activities, less attention in business and other activities, Emergence of personal financial and social problem Disturbance in quality of relationship etc.

## Missed Part...Societal Responsibilities

Internet addiction has range of characteristics, start from excessive or poorly controlled preoccupations, urges regarding computer use and internet access that lead to impairment or distress and finally lead to poor academic and professional performance. Some kids feel free to post or send whatever they want while online without considering how that content can inflict pain and sometimes cause severe psychological and emotional wounds. While parents and teachers are doing a better job supervising youth at school and at home, most of these parents don't have the technological knowledge about how to keep track of what teens are up to online. The excessive growth of the internet in last ten year has had a huge impact on interpersonal behaviour, professional and academic activities. So, Psycho-behavioural research during the current time has sought to increase understanding of this impact.

## Role of Society in Social Media Addiction Prevention

There are no evidence-based treatments for internet or media addiction. Therefore, Our society, Parents and teachers can take action when their child become addicted -

- To make sure they feel safe and secure
- To convey unconditional support
- Parents must demonstrate to their children through words and actions both
- Becoming conscious of your children's behavior and take steps to monitor pattern of internet use
- Telling your parents or school teacher about your internet use will help in managing your behavior better

**Table 1:**

| Warning Sign | Symptoms | Signs | Adverse Outcome |
|---|---|---|---|
| • Excessive social media use in order to achieve satisfaction<br>• Repeated, unsuccessful efforts to control it<br>• Virtual life longer than originally intended<br>• loss of significant social and family relationships<br>• Poor academic and professional performance | • Headache<br>• Depression<br>• Cervical pain<br>• Sleep disturbances<br>• Restlessness | • poor eye vision<br>• Dry and watering eye<br>• Carpal tunnel syndrome<br>• cervical pain | • Poor performances in academic activities<br>• Less attention in business and other activities<br>• Emergence of personal financial and social problem<br>• Disturbance in quality of relationship |

**Table 2:** Finding of Previous studies on Internet addiction – (Unpublished)

| Study name | Study site | Study type | Sample size | Results |
|---|---|---|---|---|
| Internet addiction on the rise wake up call | Middle SE status Hindi medium school in Haryana | Cross-Sectional survey | All students of 9th and 10th std - 277 | 49.8% are mildly or moderately addicted and 50.2% of the students were found to have no addiction. |
| Internet addiction - Rural areas not immune | Tibetan Hindi medium school in Uttrakhand | Cross-Sectional survey | All students from 9th and 10th std - 199 | 75.4% students had mild to moderate addiction and 24.6% s were found to have no signs of addiction |
| Digital junkies – growing addiction | School A English medium school in Uttrakhand and school B Hindi medium school from Haryana | Cross-Sectional survey | All students from Std 9th and 10th in both schools -476 | School A showed higher average scores (p=.002) and higher addiction (p = 0.000)<br>The risk factors were -<br>a. having a Smart phone(p= 0.002)<br>b. 24 hours broadband connection at home (p = 0.028)<br>c. parents using internet (p = 0.000)<br>d. graduate mothers (p=0.0002) |
| Growing Internet Addiction: A threat to our peers | Three school from Three states - Delhi, Haryana, and Uttrakhand | Cross-Sectional survey | 9th and 10th students - 718 (Delhi-320, Haryana-210 and Uttrakhand-188) | a. mean score of addiction was higher in Delhi school (43.12) vs Haryana(30.42) and Uttrakhand(37.33)<br>b. 468 (65.18%) were mildly or moderately addicted Severe addiction was in less than 1%.<br>c. The distribution of sex was statistically significant (p<.001) |

## Way Forward

Problematic internet addiction is now a global problem. In the last decade, there has been an unrestricted growth in the use of internet in all social classes India. Considering the unlimited use of internet among all age group people, it is very important to analyse the pattern of internet use among students, professional and other groups. However, it may still remain a matter of debate to define internet addiction exactly. Excessive availability of gadgets and low cost internet data are continued to rise in India. Therefore, Regular workshop, CMEs should be conducted for students, parents and teachers to overcome the existing problem[8]. A six-week group counselling program (including CBT, social competence training, training of self-control strategies and training of communication skills) was shown to be effective on 24 Internet-addicted college students in China[9]. Mostly internet users may enjoy aspects of the online activities that allow them to meet and socialize with other person and exchange ideas through the use of chat rooms. But sometime it can disturb your educational/professional activities or family and social relationships. School teacher and parents should be aware about appropriate use of internet and there should be an open platform to discuss about social media use. Parents should be aware about their children behaviour. Parents should take own responsibilities to monitor their kids and they should take professional consultation when it requires.

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# Calendar of Virtual Monthly Clinical Meetings 2020-21

| | |
|---|---|
| 14th August, 2020 | Lady Hardinge Medical College |
| 28th August, 2020 | Army Hospital- Research & Referral |
| 11th September, 2020 | Apollo Hospital |
| 25th September, 2020 | DDU Hospital |
| 23rd October to 6th November, 2020 | AOGD Annual Conference Activities |
| 27th November, 2020 | MAMC & LNJP Hospital |
| 18th December, 2020 | Sir Ganga Ram Hospital |
| 1st January, 2021 | ESI Hospital |
| 29th January, 2021 | Dr RML Hospital |
| 26th February, 2021 | UCMS & GTB Hospital |
| 26th March, 2021 | Lady Hardinge Medical College |
| 23rd April, 2021 | Apollo Hospital |

# Sexuality Education – Need of the hour!

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## Sexuality Education – Need of the hour!

Sexuality and sex are used interchangeably in common parlance. Sex has very different meanings depending on the purpose, context, occasion, and the age of the individual. Its meaning may vary from gender to the intimate relationship between the individuals. Sexuality incorporates several other aspects including its development from childhood onwards, relationships, intimacy, becoming parents and, unfortunately, the coercion and abuse.

When one grows from infant to adult the needs vary from learning socially acceptable behaviours of dressing, addressing natural calls, behaving in society, personal hygiene to enjoying various emotions and relationships and intimacy and intimate behaviours. The need of furthering the family and having children is an essential aspect of any species. Everyone has to do it in socially acceptable way. Every girl fantasizes the moment of becoming a mother and every boy also look forward to become a father. These roles are so revered in all societies and often are the reasons for community celebrations.

When it is such a pious thing then why it becomes a taboo subject when we want to learn or teach it formally? Why the society believes to keep it personal and hidden till socially acceptable union i.e. marriage in most societies? Why this is left to the individuals for 'Do it yourself (DIY)' kind of learning? Why this becomes a socio-politico-religious issue? We, the health professionals need to find the answers to these questions and also to present viable solutions for adequate, culturally appropriate, socially acceptable, scientifically correct, and feasible solutions. This article will dwell upon some of these aspects.

Sex education define as a broad program that aims to build a strong foundation for life long sexual health by accruing information and attitudes, beliefs and values about one's identity, relationships and intimacy.

## Need of the Hour for Adolescent Sexuality Education

India has the largest adolescent population in world (i.e. greater than 253 million). Every 1 in 5 persons in India is an adolescent. Nearly half of the adolescents are not in schools. Adolescent sexuality encompasses 6 different themes recognised globally. These are adolescent pregnancy, HIV, child marriage, violence against women and girls, female genital mutilation, and menstrual hygiene and health. The female genital mutilation is not a prominent issue in India. Other issues are very relevant. The issues related to adolescent pregnancy and menstrual hygiene and health are discussed here in some details.

The global adolescent birth rate declined from 63 to 44 per 1000 adolescent girls (15-19 years) from 1994 to 2017 1[1]. Maternal conditions are the main cause of maternal mortality and morbidity in adolescent girls (15-19 years). These girls have the higher rate of unintended pregnancy than any other group. This can be attributed partially to a range of supply and demand side barriers to adolescents obtaining and using contraception. Poor awareness about contraception further adds to it. Unmarried and rural adolescent girls have higher unmet need of contraception. For many adolescent girls first sexual intercourse is an act of abuse. It is pertinent to mention here that in India every other (1 in 2) child experiences at least one episode of sexual abuse in life time. Globally, nearly half of the unintended pregnancies end up in abortions, most of which are unsafe and lead to morbidity and mortality. Adolescent pregnancies are also linked to poor neonatal outcome including mortality.

Adolescent pregnancy is now considered a result of host of factors including age, education, gender norms, socioeconomic status, food insecurity and conflict. WHO has guidelines for preventing early pregnancy and poor reproductive outcomes in adolescents in developing countries[2]. Several initiatives have been taken for prevention of adolescent pregnancy, and nearly all of them

focused on raising awareness and providing **comprehensive sexuality education (**CSE) and contraceptive services.

Menstrual hygiene and health is a very important topic and is good enough to begin the conversation about adolescent sexuality. Awareness about menstruation is a basic sexual health need of all girls. A meta-analysis[3] of the studies published from India during 2000-2015 found that in nearly half girls did not know anything about menstruation before their first period, the common sources of information about menarche were mother (52%) and friends (22%). Only a quarter knew that uterus is the source of bleeding. Half of the girls considered menstruation normal. The use of absorbent during periods vary according to settings; more urban girls used commercial pads and cloth use was common in rural girls. Financial consideration was the main cause for use of cloths followed by difficulty in safe disposal, lack of awareness and personal preferences. Most (82%) participant girls (82%) bathed daily. Restrictions during menstruation were common including visiting places of worship, touching religious items or prayer, touching people or special foods, cooking, household work, exercise, playing, moving in and out of the house and attending social functions. On very important issue was school absenteeism because of menstruation. One in four girls missed one or more school days during menstruation for pain, lack of water, hygiene and disposal facilities in school toilets, fear of staining cloths and restrictions by parents and teachers. UNICEF has come out recently with a guide to menstrual health and hygiene[4]. Comprehensive sexuality education is critical to address the issues related to menstruation hygiene and health.

## When Should Sexuality Education Begin?

This is controversial issue. However, sexuality needs to be learned through life course and its perspectives, contexts and the topics change over time. The formal CSE should be part of the school curriculum and should also be taught as co-curricular activity.

## How and Where An Adolescent Prefer Sexuality Education?

It can be done in many settings. It can be formal and informal both for in and out of the school. Gender, culture, social perspective and religious sensitivity should be understood and should be incorporated as far as practicable.

Some of the adolescents' views are "sexuality education should be given by guest teacher or counsellor to avoid awkward situation or feeling, and to enable us to ask our curiosity and doubts without hesitation, because we don't have to face that person again and that person will also not be able to make judgments for us futures".

A recent study[5] amongst 74 college students from Pune found that majority of the students favoured involvement of parents and teachers in CSE ("better-informed parents lead to better-informed adolescents"), open discussion with experts, mobile app based education and need based individual counselling and guidance.

The WHO Collaborating Center for Training and Research in Adolescent Health has developed a mobile App TeenAge HealthGuide for Android [https://apps.apple.com/us/app/teenage-healthguide/id1469339488] and iOs [https://play.google.com/store/search?q=TeenAge%20HealthGuide&hl=en] phones. These can be downloaded for free and the app does not ask for any private information. The information contained in this app is based on WHO documents. The information is in simple language without any medical jargons and is made for adolescents.

## CSE Efforts in India

Several efforts were made as adolescent education programs by Central Board of Secondary Education and it faced several issues and the program had to be stopped. The national adolescent health program of India, Rashtriya Kishor Swasthya Karyakram (RKSK) has several provisions for education on these issues through Peer Education, Adolescent Health Day, and through peripheral health workers and establishment of Adolescent Friendly Health Clinics in nearly 7500 facilities. School health has been added very recently in RKSK and NCERT has prepared a new curriculum for school adolescents and it will soon be implemented in schools across the country. We hope that this program will have uninterrupted implementation and will lead to improvement in the health of adolescents of India.

## Conclusion

Sexuality education is really a need of an hour to help improve sexual and reproductive health of society and also to reduce sexual transmitted diseases, sexual abuse, gender based violence and unwanted pregnancies, abortions, injuries, etc. With support from academic organizations like FOGSI and IAP the adolescent health programs will certainly bring improvement in adolescent health.

There is no better time than now to implement CSE initiatives and also there will not be a better time for academic organisations like FOGSI to provide whole hearted support to these initiatives.

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# POCSO Act - What a doctor should know

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*The POCSO Act, 2012 is a comprehensive law to provide for the protection of children*

*from the offences of sexual assault, sexual harassment and pornography, while safeguarding the interests of the child at every stage of the judicial process by incorporating child-friendly mechanisms for reporting, recording of evidence, investigation and speedy trial of offences through designated Special Courts*. The Act has come into force with effect from 14th November, 2012 along with the Rules framed there under.

Under the Protection of Children from Sexual Offences (POCSO) Act, 2012, "Any sexual activity with a child below 18 years, whether boy or girl, is a crime.As defined by the Act, sexual offences include Penetrative sexual assault (Section 3), Non-penetrative sexual assault (Section 7) Sexual harassment (Section 11), use of a child for pornography (Section 13).

## Penetrative Sexual Assault (Section 3)

Inserting any object or using any part of body / Penis/ to cause penetration into any part of the body of the child (vagina, mouth, urethra or Anus) or making the child do so.for example, rape, buggery (anal) or oral sex.

## Non Penetrative sexual assault (Section 7)

Touching penis, vagina, anus, breast of a child with sexual intent or making the child to do so. Making physical contact to child with sexual intent or making the child do so

## Sexual Harassment (Section 11)

Making any sound or gesture or exhibiting any object or part of body, with sexual intent, so that it will be heard or seen by the child. Making a child exhibit his body or make a gesture so that it is seen by the child or other person with sexual intent. Constantly following or watching child either directly or through digital or any other means with sexual intent.

## Use of a child for pornography (Section 13)

Whoever, uses a child in any form of media (including programme or advertisement telecast by television channels or internet or any other electronic form or printed form, whether or not such programme or advertisement is intended for personal use or for distribution), for the purpose of sexual gratification, which includes (a) representation of the sexual organs of a child (b) usage of a child engaged in real or simulated sexual acts (with or without penetration (c) the indecent or obscene representation of a child.

## Aggravated Sexual Assault

A sexual assault is said 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 vis-à-vis the child, like a family member, police officer, teacher, doctor, public servant 'hospital staff ' staff of Jail / other home /Educational Institute. Gang Rape, use of dangerous weapon causing grievous injury/injury to genitals also comes in category of aggravated sexual assault.

## The Role of Health Professional

1. Informed consent for Examination, Evidence collection and Information to police.

   In case the child is under 12 years of age, consent for examination needs to be sought from the parent or guardian.
2. Taking a medical history of a child in facilitating, non judgemental and empatheic manner
3. Documentation of all details meticulously
4. Thorough and detailed examination to provide treatment and to collect forensic evidence
5. Attention should be given to diagnose keeping in mind the things which mimic sexual abuse.
6. Assessing child emotional and physical well being and make appropriate referrals
7. Formulating a complete medical report

8. Recommend required treatment including emergency care.
9. Testifying in court if needed.

## Emergency Medical Care Includes

- Treatment for cuts, bruises, and other injuries including genital injuries.
- Treatment for exposure to sexually transmitted diseases (STDs) including prophylaxis for identified STDs;
- Treatment for exposure to Human Immunodeficiency Virus (HIV), including prophylaxis for HIV after necessary consultation with infectious disease experts;
- Possible pregnancy and emergency contraceptives should be discussed with the pubertal child and her parent or any other person in whom the child has trust and confidence
- Referral or consultation for mental health professional /counselor/psychologist if needed

The following are the components of a comprehensive health care response to sexual violence and must be carried out in all cases.:

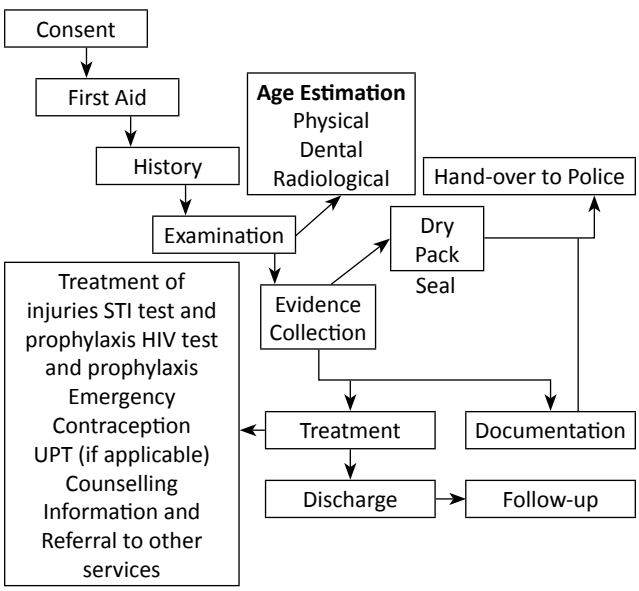


**Fig 1:** Taken from Manual for medical examination of sexual assault, centre for enquiry into health and allied themes (CEHAT) (4)

## Various Sections of Act: Important for medical health professional

**Mandatory Reporting:** Doctor or other health care professional, who has knowledge that a child has been sexually abused is obliged to report the offence, failing which he may be punished with six months' imprisonment and/or fine (Sections 19 and 21 of the POCSO Act).

**Medical Examination:** Under Section 27 of Act doctor must conduct a medical examination as per provision of section 164 A of Criminal Penal Code. Where the victim is a girl, the medical examination to be conducted by doctor. It is to be conducted in presence of parent of child or any person in whom the child reposes trust or confidence. If such a person can not be present the examination to be conducted in the presence of a woman nominated by the head of medical Institution.

**Emergency Care:** Under Rule 5 emergency care is to be provided by any medical facility either private or public and no magistrate requisition or other document is to be demanded as a precondition to providing emergency care

**Expenses:** Rule 7 of the POCSO Act provides that expenses incurred in providing medical care to the child may be recovered in the compensation awarded to the child.

The National Survey of Child Abuse commissioned by the Ministry of WCD interviewed 12500 children and conducted in 13 states across the country. Govt of India report on child sexual abuse (largest ever national study ) in 2007 showed that 50% children were sexually abused. Over 57% of these were boys. 21.90% children face severe forms of sexual abuse. 72 % said they did not report the abuse to anyone.

This explains the need for prompt and systematic multi-sectoral intervention that addresses the needs of the child effectively, help him deal with his/her trauma in every aspect and also protect him from further abuse. it also has to be ensured that the child is steered towards the path of healing, recovery and rehabilitation.

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# Puberty Menorrhagia & Management

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Abnormal uterine Bleeding (AUB) is a common condition and etiologies include anatomic changes, hormonal dysfunctions, infection, systemic diseases, medications and pregnancy complications. As a result, it affects females of all age groups. The factors that influence the incidence maximum are age and reproductive status.

AUB in adolescent age is quite different than in adult women, both for diagnostic and therapeutic management [1]. The problems in normal initiation of menarche, hematological issues, endocrinopathies and fragile emotional status have to be taken into account. The anxious parents, long term sequelae of the therapy and its effects on reproductive career of the girl are added issues to be addressed while dealing with adolescent AUB.

In therapy planning also, one needs to take a cautious path when a surgical option is considered, not acceptable easily to the girl and her parents.

Menstrual problems are perhaps the main cause for which adolescent girls seek medical advice in India. The commonest menstrual disorder observed in adolescent health clinic is puberty menorrhagia.

## Incidence and Etiology

Puberty menorrhagia occurs quite frequently in adolescent age and is usually associated with anovulatory cycles which are painless and often irregular either in amount of bleeding or duration or interval between two periods.

About 50 – 60% of cycles in first year following menarche are anovulatory, decreasing to about 18% in girls who are menstruationg for more than 4 years[1]. Fortunately, only 10% of women less than 20 years of age have an organic cause for AUB. In adolescence, AUB results from anovulation (75%) and coagulation defects (20%) at disproportionally higher rates compared with older reproductive aged women. However, in the first year after menarche 50% of menorrhagia is due to coagulation disorders[1,2,3]. The causes of puberty menorrhagia are listed in the table as shown.

**Causes of Puberty Menorrhagia**

1. Anovulatory cycles (75%)
2. Coagulopathies (20%)
3. Other causes (5%)

***Anatomic lesions***

Trauma
Foreign bodies
Sexual abuse
Cervical/ endometrial polyp
Leiomyomas
Vaginal adenosis
DES exposure
Malignancies (endodermal sinus tumor, Adenocarcinoma)
Hemangiomas

***Hypothalamic factors***

Stress
Eating disorders
Low body fat
Excessive exercise
Psychological factors

***Immunological factors***

Ovarian antibodies
Antibodies against zona, theca cells, granulosa cells.
SLE

***Pregnancy complications***

Threatened/ spontaneous abortion
Ectopic pregnancy
Hydatidiform mole
Retained products of conception

***Infections***

Cervicitis/ vaginitis
Pelvic inflammatory disease

***Systemic diseases***

Thyroid dysfunction
Adrenal disorders
Diabetes mellitus
Hepatic/ renal dysfunction

***Iatrogenic/ medications***

Tranquilizers, OCPs, Anticoagulants, Aspirin and other NSAIDs, Antineoplastic drugs, Seizure medications

## Pathophysiology

Menarche usually occurs at 11 – 13 years of age and generally coincides with Tanner stage 4 of breast and pubic hair development. Of late, a trend towards early menarche has been noticed owing to urbanization, improved nutrition and weight gain. Environmental estrogens found in chemicals, pesticides and also hair products also contribute towards early pubertal changes. However, menarchal age has remained static over the last few decades[3].

The hypothalamo – pituitary – ovarian (HPO) axis is the main mediator of menstrual cycle. Adolescent AUB occurs due to slow maturation of HPO axis and may last 2 to 5 years post menarche. Adolescents usually lack the positive feedback mechanism to induce LH surge and subsequent ovulation despite increased follicular estrogen levels. However, negative estrogen feedback is intact as evidenced by suppression of FSH, LH and GnRH levels by high estrogen. This indicates that pubertal anovulation is probably a hypothalamic malfunction rather than pituitary one[1,3].

Although most problems are explained by anovulation, other causes must be considered and excluded in a logical and cost effective method.

## Clinical Features

Enough stress should be laid on detailed history and examination of a patient presenting with puberty menorrhagia. There are some major limitations in the diagnosis of adolescent AUB. The young and sexually non active age precludes vaginal examination and trans - vaginal sonography (TVS) – the current mainstays of accurate gynecological diagnosis[2,9].

## History

The major points to be noted are –

- The age of menarche.
- Detailed menstrual calendar and cycle pattern.
- The colour and amount of bleeding.
- Pelvic pain.
- Dietary and weight loss practices.
- Medical history (chronic and systemic diseases, tuberculosis, endocrinopathies, medications).
- Family history of bleeding disorders or endocrinopathies.
- Sexual history (sexual practices, contraception, post coital bleeding, vaginal discharge, pregnancy related causes even in absence of positive sexual history). In traditional communities like ours, sexual history should be taken with empathy and with assurance of complete confidentiality, lest it may prove with dire life threatening consequences.
- Hormonal usage (OCPs, progesterone) and other medications (Coumadin, aspirin, NSAIDs).
- Symptoms of anemia (fatigue, dizziness, shortness of breath, headache, palpitations, pale skin).
- Indicators of coagulation disorders (easy bruising, epistaxis, gum bleeding).
- Recent social stressful events, recent weight changes should be noted.

A review of all pubertal milestones (thelarche, pubarche, adrenarche and menarche) and overall body growth should be evaluated.

## Examination

The examination of a young girl should be ideally carried out in presence of her mother, however the option should be left to the discretion of girl herself[9,10].

*General examination* includes body habitus, asssing the sexual development, evidence of acne and/or hirsutism (indicating PCOS or adrenal disorders), general assessment for endocrinopathies, vital signs for severity of anemia, thyroid palpation, assessment of perineum and external genitalia.

*Abdominal examination* should be performed to rule out pregnancy and neoplasms.

Although refrained upon, at times a *pelvic examination* need be performed, albeit gently with one finger to palpate cervix and fornices. A per rectal examination can also be quite useful.

*Pelvic ultrasound* is performed in almost all cases and can be of great help in confirming the diagnosis of polycystic ovaries, other ovarian and uterine anatomical pathologies. Rarely hysterolaparasoscpy might be needed for diagnostic and therapeutic purpose as in cases of endometriosis or pelvic infections[2,9,11].

*Laboratory tests* include complete blood counts, endocrine tests (thyroid, prolactin, FHS, LH and adrenal hormones), pregnancy tests, pap smear

and vaginal culture in sexually active girls and coagulation profile (PT, aPTT, INR, BT, CT) Von willebrand factor.

## Management

The objective of treatment is to stop the bleeding and prevent recurrences while simultaneously correcting anemia[4,10,11].

**Mild cases:** Treatment should be supportive. A confident reassurance and explanation of physiology will alleviate the anxiety of both the girl and her mother to a great degree. Patient should be educated about proper diet, exercise and stress management. Maintenance of menstrual calendar may be helpful in determining the necessity of detailed work up and possible use of hormonal therapy. Usually the situation resolves over period of 1 – 2 years with onset of spontaneous ovulation. These patients should be reviewed on 6 monthly basis.

Management of anemia should be simultaneously employed with diet and trace elements, oral iron preparations (injectable and blood transfusion may be needed in severe cases), vitamin A,$B^{12}$, C and E supplements.

## Hormonal Therapy

Hormonal therapy is reserved in severe cases and in those with severe anemia[4,11].

### *Arrest of acute bleeding*

Hospitalization is necessary in situations of acute heavy bleeding with altered vital signs.

Blood transfusion maybe required when hemoglobin levels are below 7 gm/dl.

For quick arrest of heavy bleeding, estrogen is the hormone of choice[6].

Estrogen stops bleeding by enhancing platelet aggregation, increasing fibrinogen levels, increasing factor V and IX and decreasing effectiveness of bradykinin[1,6,10,11]. Various ways by which estrogen can be used to arrest acute bleeding are:

- Estrogen depot preparations. A bolus of intravenous estrogen (progynon depot or premarin) 25 mg is very effective for prompt arrest of bleeding[6].
- An acute episode of bleeding can also be controlled by 50 mg estrogen containing OCP. One pill every 6 hours till bleeding stops and then gradually tapered to one pill daily.

Another time tested therapy for arrest of acute bleeding episode is use of 2 testosterone injections 12 hours apart and then switch to estrogen, progesterone or combination is made once the bleeding is arrested or significantly reduced.

### *Maintenance of cyclical regularity*

Once the bleeding ceases, progesterone alone is preferred as hormonal therapy[4,9,10,11,12]. It is antiestrogenic and induce 17 – hydroxysteroid dehydrogenase in endometrial cells to convert estradiol to estrone. They also inhibit the augmentation of estrogen cytosol receptors, which modulate estrogen action and thereby inhibit the growth of endometrium.

Medroxyprogesterone acetate can be used as 10 mg/day tablet in two ways[12].

1. It can be administered daily for 10 days from day 16 to day 25 of cycle which induces stromal stability followed by withdrawal flow. This can be used cyclically for 3 – 6 cycles.
2. A continuous progesterone therapy from day 5 to day 25 is also employed to reduce the menstrual flow significantly.

Combined OCPs are also used if progesterone therapy alone proves ineffective. They have an added advantage of regulating cycles along with reducing menstrual flow by 60%[10,11].

For those unresponsive to hormonal therapy, surgical intervention with examination under anesthesia with dilatation and curettage with biopsy is adviced, through it is required rarely[11].

## Coagulopathy

Coagulation defects can be classified into two categories:

- Platelet adherence dysfunction.
- Platelet plug stabilization defects.

Frequently identified coagulopathies include von Willebrand disease, thrombocytopenia and platelet dysfunction[2,5,7,8].

### *Thrombocytopenia*

It may be categorized as resulting from disorders that:

- Increase platelet destruction – idiopathic thrombocytopenic purpura (ITP).

- Decrease platelet production – hematopoietic malignancy.
- Increase platelet sequestration – splenomegaly.

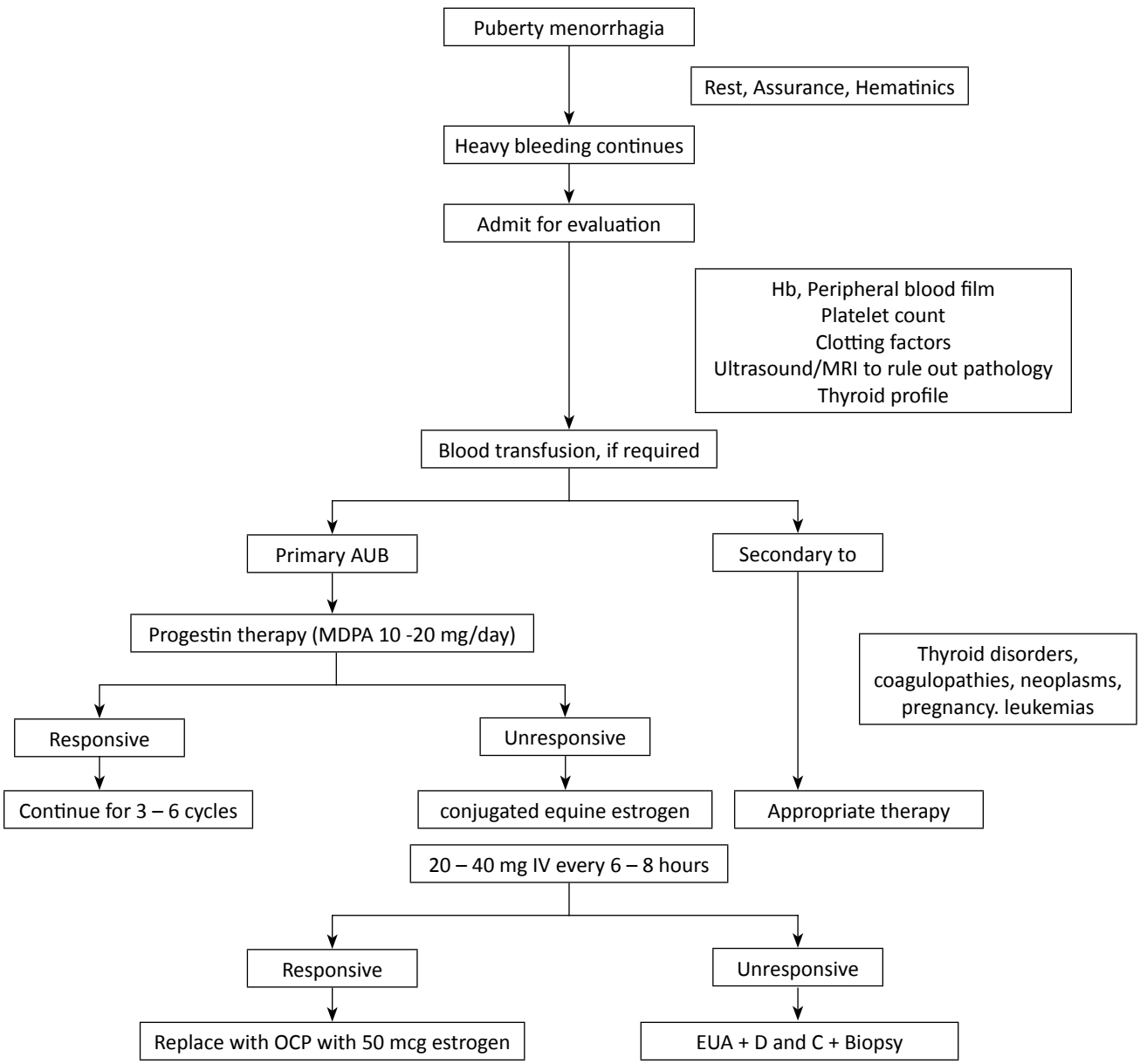
For acute severe menorrhagia, platelet transfusion is considered for counts < 20,000/µL or for those < 50,000/µL with brisk bleeding. For those undergoing procedures, a transfusion threshold of ≤50,000/µL is used, and for major surgery, ≤100,000/µL. Concurrently, treatment is tailored to the underlying cause of thrombocytopenia.

***Von Willebrand disease (vWD)***

Combined OCPs are often used as first line treatment and have been noted to arrest hemorrhage in 88% of affected patients. Other effective treatment options are LNG:IUS, DMPA, POPs, etonogestrel implant (nexplanon). Additional treatment includes tranexamic acid[2,5,7,8].

For patients not responding to hormonal therapy, hematologist opinion should be taken for desmopressin or vWF concentrate. Desmopressin available as nasal spray and intravenous preparation, is a vasopressin analogue and causes release of vWF from endothelial cells. The side effects include flushing, transient blood pressure changes, nausea or headache. Those not responsive to desmopressin are considered for vWF ccocncentrate as final modality[2,7].

The overall manangement of puberty menorrhagia is as shown in the flowchart.



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## AOGD Forthcoming Events

- On 13th August 2020 — A panel discussion on **Contraception** by Dr. Sumita Mehta under the aegis of AOGD.
- On 14th August 2020 — **AOGD Virtual Monthly Clinical Meeting** and **Executive Meeting** will be organised by Lady Hardinge Medical College, New Delhi, 04:00-06:00 pm.
- On 17th August 2020 — A webinar on **Thundering Medicolegal** under the aegis of NARCHI Delhi, ISCCP, FOGSI and AOGD.
- On 21st August 2020 — A webinar on **Working women and Pregnancy.**
- On 22nd August 2020 — A webinar on **Re-energies, Re-imagine and Reaffirm in Challenging Times** by Dr. Malvika Sabharwal under the aegis of Delhi Gynae Forum Central, under the aegis of AOGD.
- On 28th August 2020 — **AOGD Virtual Monthly Clinical Meeting** will be organised by Army Hospital Research And Referral New Delhi, 04:00-05:00 pm.

# Contraception for Adolescents

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There are approximately 1.2 billion adolescents of 10-19 years age group living across the world. Understanding and meeting their sexual and reproductive health requirements is critical and most adolescents don't have accurate information and services they need. About half of the adolescent pregnancies in developing countries are unintended and more than 50% of these pregnancies end in abortions, usually in unsafe conditions.[1]

Sexual health for adolescents is based on three important components - recognizing sexual rights, sexuality education and counseling and confidential high quality services.

Adolescent specialists can reduce the potential complications of unwanted conception by helping them to avoid unplanned pregnancies. Every adolescent should receive Comprehensive Sexuality Education (CSE) as it has been found to improve contraceptive use. Knowledge about various contraceptive methods and a desire to use protection are essential for successful contraception. Sexual Health Services for adolescents should be provided in a clinic having youth friendly atmosphere and where they can be treated with respect and dignity.[2]

WHO has produced medical eligibility criteria for contraception use (WHO MEC) providing evidence based recommendations for using appropriate methods of contraception without imposing unnecessary restrictions. (Table 1)[3]

**Table 1**: Medical Eligibility Criteria (MEC) Categories[3]

| | |
|---|---|
| MEC 1 | A condition for which there is no restriction to the use of the contraceptive method. |
| MEC 2 | A condition for which the advantages of using the method generally outweigh the theoretical or proven risks. |
| MEC 3 | A condition where the theoretical or proven risks usually outweigh the advantages of using the method. |
| MEC 4 | A condition which represents an unacceptable health risk if the contraceptive method is used. |

An appropriate history regarding past and present medical conditions, drug allergies should be documented. Blood pressure and BMI should also be documented for all patients especially before prescribing COC first time. Risk factors for cardiovascular disease e.g. obesity, hypertension, thrombophilia, hyperlipidemia and previous history of VTE should be enquired in detail.[4] Knowledge of previous contraceptive use, sexual and reproductive health will help to clinician to tailor the contraceptive advice.

## Counseling About Abstinence and Contraception

- Counseling about abstinence and postponement of sexual intercourse is an important aspect of adolescent sexual health care.
- Abstinence is 100% effective in preventing pregnancy and sexually transmitted diseases.
- Every adolescent should be counseled regarding abstinence, though perfect adherence to abstinence is low.
- Therefore all adolescents should be empowered by knowledge and access to comprehensive sexual health information.

**Table 2:** The following are the various contraceptive methods available

| **Various Contraceptive Methods** |
|---|
| 1. Abstinence and Non Penetrative Sex |
| 2. Fertility awareness methods<br>• *Rhythm & Withdrawal methods* |
| 3. Barrier Methods<br>• *Male & Female condom*<br>• *Diaphragm & Vaginal sponge*<br>• *Cervical cups* |
| 4. Hormonal Contraception<br>• *COC (combined oral contraceptive pills)*<br>• *Progesterone only pill (POP)*<br>• *Vaginal rings*<br>• *Dermal patches* |
| 5. Intrauterine devices<br>• *Cu-IUCD*<br>• *LNG – IUS* |
| 6. LARC (Long Acting Reversible Contraception)<br>• *Intrauterine devices*<br>• *Hormonal contraceptive implants* |
| 7. Injectable Contraceptives<br>• *Combined Injectable*<br>• *Progesterone only Injectable* |
| 8. Emergency Contraceptives (EC) |

**1. Rhythm and Withdrawal Method**

i. Rhythm method is unreliable as adolescents often have irregular periods.

ii. Withdrawal is a widely used method in adolescents, but it doesn't prevent pregnancy and sexually transmitted infections (STIs).

**2. Barrier Methods**

i. Male and Female condom:-

Barrier contraceptives are well suited contraceptive for adolescents, as these prevent pregnancies as well as sexually transmitted infections (STIs) including HIV.[5,6,7] Use of condom is influenced by many factors e.g. price, difficulty in buying them, unplanned sexual experience, alcohol or drug use and the willingness to take risks. The male condom is the most commonly used method of contraception in the age group below 18 years. Contraindication of condoms is sensitivity to latex proteins.

Epithelial disrruption in vagina & rectum has been noted with use of Nonoxynol-9 (N-9) spermicide.[6] As there is no added protection against pregnancy or STIs with use of N-9 lubricated condoms, therefore, the use of condoms lubricated with spermicidal is not recommended.

Condoms effectiveness depends on consistent & correct use. The failure rate for male latex condom in the end of first year use is 2% with perfect use & 18% with typical use.

The method failure rate for female condom with consistent & correct use is 5% while the typical use failure rate is 1%.[8]

ii. Other Barrier Methods

- Diaphragm, cervical cap & sponge are other barrier methods.
- Diaphragms - flexible latex cups, used with spermicide, inserted into the vagina before intercourse & must remain in place for 6 hours after intercourse.
- Cervical cups are latex /silicone cups with a firm rim which adhere to the cervix.
- Not commonly recommeded for adolescents as they do not provide HIV/STI protection & have lower effectiveness rate.

**3. Hormonal Contraception**

i. Combined Oral Contraception (COC) pills

- As per WHO guidelines, hormonal contraceptives can be used safely from the age of menarche onwards, contraindications are almost same for adolescents as for adults. [3]
- COC is widely used in adolescent population.
- COC works primarily by inhibiting ovulation.
- First active seven pills are required to inhibit ovulation & remaining pills maintain anovulation.
- Most COC pills contain ethinyl estradiol (EE2) 20 or 30 µg & one of the progestogens.
- COCs containing one of the progestogens e.g. levonorgestrel, norethisterone or norgestimate have the lowest risk off VTE. [9]
- One should be careful in prescribing COCs to girls who are on Epilepsy medications & liver enzyme -inducing drugs as these drugs significantly reduce the efficacy of hormonal contraception.

Non Contraceptive benefits of COC includes -

- Regularization of menstrual cycles.
- Reduces the amount of bleeding during periods.
- Significant reduction in dysmenorrhoea.
- Improvement in PMS symptoms and acne.

Longer continuous use of COCs is very useful in case of severe dysmenorrhoea, AUB & hematological bleeding disorders. The pill is taken continuously for 3-4 months, allowing withdrawal bleeding for 3-4 times a year. This regimen allows improvement in well being, anaemia & contraceptive efficacy. [10,11]

ii. New routes for combined hormonal contraceptives-

a. Vaginal ring –
   - good alternative for those who can't take tab daily, as it remains in vagina for three weeks without any intervention.
   - has good bleeding control

b. Dermal patch is another good alternative, should be changed weekly.

The medical eligibility criteria are the same for the combined ring, patch & for COC pills.

iii. Progestin only contraception

Two groups of progestin only pills available

- Classical low dose minipill – thickens the cervical mucus & does not inhibit ovulation. These pills need to be taken more accurately means same time of the day & has poor bleeding control.
- Higher dose progestin only pill contains 75 µg desogestrel, it works by inhibiting ovulation
- Obesity or hypertension is MEC1 category for progestin only pills (POP), migraine with aura is MEC2.

**Quick Start**

Quick start of contraceptives means to start the use of a method immediately, regardless of menstrual cycle day without waiting for the next menstrual cycle. Therefore quick start would reduce the risk of unintended pregnancy in adolescents by facilitating immediate initiation of effective contraception.

After quick start of any method e.g. OCP& LNG-IUD, additional contraception such as condom should be advised for first seven days, but there is no need of additional contraception after placement of Cu-IUD.

**4. Intrauterine Contraception (IUC)**

Opinions regarding the use of IUC for adolescents, have changed during this decade. Earlier IUC used to be considered only for parous women, now both copper & LNG IUS are recommended for nulliparous women also, as per WHO guidelines (MEC 1). Now many professional organizations such as ACOG[12] (American Congress of Obstetricians & Gynaecologists) and AAP[13] (American Academy of Pediatrics) recommend IUC for adolescents. CDC also acknowledge that LARCs are the most effective reversible methods & are appropriate for adolescents and nulliparous women.[14,15]

The new smaller LNG IUS such as Jayess & Skyla (13.5 mg LNG.IUS) are available in Europe & US. Both have insertion tube of 3.8 mm in diameter as compared to 4.4 mm for Mirena, hence placement is easier even in adolescents. These devices are licensed for 3 years where as another device (Kyleena - 19.5 mg) is for 5 years.[16]

The 52 mg LNG-IUS has a role in common ailments of adolescence such as primary dysmenorrhoea, AUB & endometriosis, where as 13.5 mg LNG-IUS is not licensed for treatment of these conditions.[17,18]

The 13.5 mg & 52 mg LNG - IUS have almost similar side effects such as acne, breast tenderness andd headache, but settle down with time. Benign ovarian cysts were reported more common with the 52 mg than lower release LNG-IUS.[19] Most cysts are asymptomatic & resolve spontaneously. Available evidence have not shown increased risk of venous thromboembolism or myocardial infarction with use of LNG-IUS.

As the contraceptive efficacy of intrauterine contraception is very good and overall risk of ectopic pregnancy is reduced in adolescent (Absolute ectopic pregnancy rate for 13.5 mg LNG - IUS 0.1 per 100 women years).[20]

The risk of expulsion of IUC is around 1 in 20 and usually within first three months of insertion.[21] Use of Mooncups & Tampoons does not increase the risk of expulsion. The rate of uterine perforation is reported as 1 per 1000 insertions & is six fold higher in lactating women.[22]

Experienced, senior gynaecologist should attempt IUS insertion in adolescents. A bimanual pelvic examination should be performed to assess the position, size, shape & mobility of uterus before inserting intrauterine device.

The cervical priming agent misoprostol has been studied regarding ease of insertion & pain. A Cochrane Review concluded that none of the cervical priming agents investigated reduced IUC insertion pain.[23]

**5. LARC (Long Acting Reversible Contraception)**

These methods of contraception can be used for a long period of time & are highly effective almost equal to those of permanent methods. Once discontinued the fertility returns after a defined period of time.

These methods include hormonal contraceptive implants & intrauterine devices (IUDs).

*i. Hormonal implants* are highly effective & work primarily by preventing ovulation and sperm entry by thickening of cervical mucus. Implants are usually provided in a facility based settings & insertion takes few minutes. Two types of rods are available -

Levonorgestrel in two rods, can be used upto 4-5 years & Etonorgestrel in one rod for 3-5 years.

*ii. The IUDs* contain either copper or contraceptive hormone e.g. Levonorgestrel. Copper containing IUDs work through a chemical reaction which damages sperm & prevent the implantation of fertilized ovum. Copper IUD can be inserted anytime even just after delivery & immediately after unprotected contact as emergency contraceptive. It is recommended for young women who are breast feeding and want a non-hormonal LARC.[24,25]

The levonogestrel intrauterine device (LNG IUD) works by preventing sperm meeting the ovum. It is effective for 5 years after insertion. It has contraceptive & other clinical uses, such as control of irregular vaginal bleeding & severe dysmenorrhoea.

**6. Injectable Contraceptives**

i. DMPA – Depot medroxy-progesterone acetate (Depo provera) classic Injectable contraceptive used when estrogen is contraindicated.

- 150 mg I/M every 3 months, freely available in India.
- It inhibits ovulation, thickens cervical mucus and leads to thinning of endometrium.
- Failure rate is 0.3%.
- Side effects – loss of bone density, chronic amenorrhoea, irregular bleeding per vaginum, eating disorders, depression, anxiety and irritability.
- This method should be avoided in adolescents of less than 20 years as they are at risk for low bone density.

ii. Norplant

- Contains six progesterone capsules
- Placed in a subcutaneous area of upper arm.
- Leads to slow release of progesterone and provides effective contraception for 5 years.
- Side effects – weight gain, irregular menses, amenorrhoea, breast tenderness and acne.

iii. Combination of progesterone and estrogen

- Mesigyna (50 mg norethindrone and 5 mg of estradiol valerate)
- Cyclofem (25 mg of DMPA and 10 mg of estradiol cypionate)
- Lunelle (25 mg of medroxy progesterone acetate and 5 mg of estradiol cypionate).
- All these combinations are given intramuscularly and monthly, added estrogen allows more normal menstrual cycles and less weight gain, but not available in India.

**7. Emergency Contraception (EC)**

EC or postcoital contraception is a method used after intercourse to prevent occurrence of a pregnancy. In most countries, three options for emergency contraception are available - Copper IUD, oral ulipristal acetate & oral levonorgestrel.

Cu-IUD is the most effective method of EC and can be considered for adolescents also. An overall pregnancy rate is <0.1% as reported by systematic review.[26] It can be inserted for EC within 5 days after unprotected intercourse & also within 5 days of the estimated date of ovulation. It is the only method of EC, which is effective even after ovulation has taken place & immediately effective on going contraception which is particularly important for adolescents.

If Cu-IUD is not acceptable then an oral EC should be taken as soon as possible. A tablet of 30 mg ulipristal acetate is more effective than 1.5 mg levonorgestrel, when taken within 5 days of unprotected contact. Ulipristal acetate can delay ovulation even if taken after the start of LH Surge, when levonorgestrel is no longer effective.[27]. The overall pregnancy rate after use of oral EC has been reported as 1-2% per single EC use.

If the condom breaks, there is still a further possibility to prevent pregnancy by emergency contraception. Adolescents need to be counseled regarding the correct use of emergency contraception. However, the preventive efficacy off hormonal EC should not be overestimated as it is much lower than regularly used contraception. Consultation for emergency contraception should be used as an opportunity to start a continuous contraceptive method.

## Follow Up

- More frequent follow up than adults are appropriate

- Follow up in 3 months after starting hormonal contraception.
- Various written materials can complement oral information.
- They should be encouraged to return at anytime if they develop problems with contraception.
- There should be a helpline number for them where they can contact in emergency.

## Key Points

i. Accurate and age- appropriate sexuality education must be combined with contraceptive service provision, which acknowledges the needs and preferences of adolescents depending on their culture, age and socioeconomic status.

ii. The contraceptive choice should be individualized.

iii. The first option for adolescents is barrier method backed up by emergency contraception and hormonal contraceptives in a longer relationship.

iv. Long acting reversible methods such as intrauterine contraception and implants are well suited for adolescents and should be emphasized as having higher efficacy.

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## Answer: August 2020 Issue

### Crossword

**Across**

1. POCSO 7. Spironolactone 8. Skyla 9. Anovulation

**Down**

1. Progesterone 2. Thirteen 3. VonWillebrand 4. Dysgerminoma 5. Physiological 6. COC

## Pictorial Quiz Answers

**Q1. What is SKYLA?**

Ans. SKYLA is a progestin releasing IUD. It contains 13.5 mg of levonorgesterol (LNG). It releases 14 mcg of LNG every day for the first 25 days after that the amount declines until after 3 years, it releases only 5 mcg/day. It is FDA approved and can be used in young girls.

**Q2. What is the duration of action of SKYLA?**

Ans. SKYLA works upto 3 Years.

**Q3. What are the indications?**

Ans. Indications:

a. Puberty menorrhagia
b. Endometriosis
c. Contraception in adoloscents

# Adolescent Acne: Dermatologist's perspective

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## Introduction

Acne vulgaris is a chronic inflammatory disease involving the pilosebaceous unit, which primarily affects the face, back and chest. It can be seen in preadolescent, adolescent, and post-adolescent age group, but it primarily affects individuals during their puberty (adolescent age group), with a prevalence of almost 95 percent in this population.[1]

## Incidence of Acne Amongst Adolescents

Acne vulgaris is the most commonly seen dermatological condition in the adolescent age group.[2] High prevalence of acne vulgaris in the adolescent age group is seen in most of the studies in different countries including India. Therefore, early identification and timely treatment of adolescent acne can reduce the future socio-economic burden of this disease and minimize the psychological morbidity caused by acne and its sequelae.

In India, in a cross-sectional study of 1032 children between the age group 11-19 years from Chandigarh, prevalence of acne was found to be 72.3%. Prevalence of acne in boys was slightly more (73.2%) in comparison to girls (71.1%). Age group between 14 to 16 years was most commonly affected, with 74.3% (531/714) children in this age group suffering from acne ($P$ = 0.01). However, prevalence of acne was not found to increase with increasing age. Earlier onset of acne was seen in girls as compared to boys, with 19.2% (59/306) girls and 10.6% (47/441) boys developing acne between 11–13 years of age.[3]

In another hospital-based, prospective, cross-sectional study done in Bangalore, India with 140 individuals between the age 13 to 18 years suffering from acne vulgaris, adolescent acne was more commonly seen in females as compared to males (ratio of 1.5:1). Majority (66%) of the patients with acne vulgaris were in the age group between 16–18 years.[4]

Prevalence of acne vulgaris in adolescent age group in various community based large studies have been found to be 96% in Brazil, 93.2% in Iran, 91% males and 79% females in New Zealand, 90.7% in Nigeria, 82.9% in Lithuania, 81.5% in Hong Kong, 59.5% in Japan, 51.3% in China, 36.2% in South Korea, 36.1% in Australia and 6% in Ghana.[3] In a cross-sectional survey of 200 Scottish adolescents (15-18 years), self-reported acne was seen in 83% of adolescents (147/178), with almost similar gender distribution (54% male, 46% female).[5] Study on 539 Nigerian students aged between 11–19 years reported prevalence of acne to be 90.7% with no significant gender difference. Prevalence of acne was noted to increase with age (76.7% affected at age 10–13 years, 88.2% between 14 to 16 years of age, and 97.1% between 17 to 19 years of age).[6] In a cross-sectional study on 1277 children aged 7–19 years in Lithuania, children were first interviewed with a self-administered questionnaire and subsequently examined by a dermatologist. With the response rate of 51.4% in the study, prevalence of acne was 82.9%. Highest rates of acne were seen in the age groups of 13–15 years and 16–19 years.[7]

## Aetiopathogenesis and Risk Factors

**Pathogenesis of acne is multifactorial**

1. Increase sebum secretion caused by androgens and hypertrophy and hyperplasia of sebaceous glands.
2. Keratinocytes retention causing blockage of the opening of hair follicle duct. This leads to dilatation of the blocked duct, resulting in formation of micro-comedones (subclinical lesion), which enlarge to become clinically visible as comedones (blackheads or whiteheads).
3. Colonization of the hair follicle with bacteria *Propionibacterium acnes (P.acnes).*
4. Increase in interleukin (IL)-1, IL-2, IL-8 and tumor necrosis factor, resulting in inflammation.[8]

Study on 1032 children in Chandigarh, India, found that there was a significant association of acne with stress and premenstrual flare ($P$ = 0.001 and $P$ = 0.000 respectively) with 21.1% girls exhibiting

acne flare before menstruation.[3] Khunger and Kumar have suggested that chronic stress leads to acne by increased androgen secretion, increased sebum production and reduction in immune status.[9] Increased stress, changes in diet and sleep habits during exam times can affect the acne severity.[10] Role of diet in acne is inconclusive. A high glycemic index diet causes hyperinsulinemia, which in turn results in increased insulin-like growth factor-1, altered retinoid signalling, and increase in androgens, thereby causing acne.[11] In this study in Chandigarh, no significant association was found between acne and dietary factors such as high fat and high glycemic index food.[3] There was no significant association of acne with weather. Summer exacerbation was seen in 19% students and winter exacerbation in 9% students.[3] Few studies have shown that smoking aggravates acne by increasing insulin/IGF-1 signaling.[12] However in the Indian study from Chandigarh, there were very few students with a history of smoking, which was insufficient to show any significant relation with severity of acne.[3] No significant association was found between acne and hygiene, family history and long term drug intake.[3] A study from Lithuania found that the main risk factors for adolescent acne were growth of facial hair in boys (OR = 4.9), menarche in girls (OR = 3.1), overweight/obesity (BMI ≥ 25 kg/m$^2$ at 18 years of age) (OR = 2.6), history of acne in both parents (OR = 2.6) and from only mother alone (OR = 2.1). No associations were found between acne and nutritional habits, smoking and consumption of alcohol.[13]

## Clinical Features

**Acne presents with polymorphic lesions as:[14]**

1. Closed comedone (white head): 1-2 mm sized, dome shaped skin coloured papule (Figure 1)

**Fig 1:** Open (black arrow) and closed (red arrow) comdeones

2. Open comedone (black head): 1-3 mm sized dome shaped skin coloured papule with a central black point (Figure 1)
3. Inflammatory skin lesions: such as papules, pustules, nodules (Figure 2 & 3) and cysts (Figure 4).

**Fig 2:** Acne vulgaris with papules and pustules

**Fig 3:** Acne vulgaris with nodules

**Fig 4:** Cystic acne

According to the type of lesions and severity, acne can be graded as either mild, moderate and severe or from Grade I-IV (Table 1 & 2)

**Table 1:** Classification of acne by the American Academy of Dermatology:[15]

| | |
|---|---|
| Mild acne | Characterized by the presence of a few papules and pustules mixed with comedones, but no nodules |
| Moderate acne | Characterized by the presence of many papules and pustules, together with a few nodules |
| Severe acne | Characterized by the presence of numerous or extensive papules and pustules as well as many nodules. |

**Table 2:** Grading system of acne[16]

| | |
|---|---|
| Grade I | Comedones, occasional papules |
| Grade II | Papules, comedones, few pustules |
| Grade III | Predominant pustules, nodules, abscesses |
| Grade IV | Mainly cysts, abscesses, widespread scarring. |

Study of 140 adolescents with acne in Bangalore, found that comedones (87.9%) were the most common type of lesions seen followed by papules (54.3%), pustules (12.9%) and nodules (3.6%). Majority of adolescents had Grade I acne (76.4%), followed by Grade II (16.4%), Grade III (6.4%) and least commonly seen was grade IV (0.7%). Severe forms of acne were more commonly seen in males as compared to females, the difference being statistically significant ($P$ = 0.013). Among those with Grade III acne, 66.7% were males. Grade IV acne was only seen in one patient, who was a male.[4] Oilier complexion and higher androgen levels could predispose men to have more severe grades of acne as compared to females.[17]

Similarly, in a study from Chandigarh, mild acne was the most common grade of acne seen in 81.9% students, moderate in 17.1%, and severe in 0.9% of the students. Papules were seen in 99.6% cases, pustules in 12%, nodules in 9.5% and cysts in 0.5% cases. Variety of comedones were seen such as open comedones, closed comedones, sandpaper comedones and submarine comedones. Acne excoriée and acne scarring were also seen. Face was the most common initial site of onset of acne in 62.7% cases. Face was also the most commonly affected site with acne in 71.4%children, followed by back 4.6% (47) and arms and chest which was involved in <1% cases.[3] Similar to both the Indian studies, mild acne was the most common presentation seen in 93.1% Nigerian students, with 6.9% having moderate to severe acne.[6]

**Psychological impact of acne vulgaris and its effect on quality of life**

Both acne and its sequale (acne scars and post inflammatory hyperpigmentation) can cause significant psychosocial and emotional disability especially since it most commonly affects the face. Therefore, early recognition and treatment of acne can reduce its pychological impact. It can lead to low self-esteem, depression, suicidal ideation and can negatively impact mood and interpersonal relationships.[18] Indian study from Bangalore reported that the mean Children's Dermatology Life Quality Index (CDLQI) score was 7.21 and the mean Cardiff Acne Disability Index (CADI) score was 4.8 amongst the adolescents with acne. Majority of the affected adolescents had only mild psychological impact. The association between CDLQI and CADI scores and severity of acne was statistically significant. The impact on quality of life increased with severity of facial acne. The impact of acne vulgaris on quality of life was similar in both males and females with no statistically significant association between the CDLQI and CADI scores and gender, indicating that males were equally concerned about their acne.[4] This is an interesting finding as it is against the general perception that facial acne has less impact on boys as reported in a study by Jankovik S et al.[19]

Study on teenage Scottish schoolchildren showed the CADI score was between 10-25 in 7.9% students, which was equivalent to severely impaired. However, since the median score of CADI was 4.9, which was low, it implied that the children were only mildly affected psychologically.[5] Hanisah *et al*. also reported a low median CADI score of 4 in school-aged adolescents in Malaysia.[17] Study by Jankovic et al on Serbian adolescents with acne reported a rather low CDLQI (4.35) and CADI (3.57), indicating mild impairment of Health Related Quality of Life.[19] Similarly low mean CDLQI score of 1.7 and mean CADI score of 1.9 was reported in a study of 200 Scottish adolescent schoolchildren.[5]

Difficulty in area of emotion (feeling aggressive, frustrated) was reported in 60.7% adolescents by Raju BP et al[4] and in 71% of adolescents by Hanisah et al.[17] Social interference or difficulties was reported in 43.6% adolescents by Raju BP et al[4] and in 58.7% of adolescents by Hanisah et al.[17] Study in Scottish schoolchildren reported that 50% children were affected emotionally, 20% were affected in their personal and social lives, and 10% children avoided swimming and other sports due of their acne.[5]

**Adolescent versus post adolescent acne**

Although acne is primarily a disorder of adolescence age group, it is seen in adult patients as either persistent acne or late onset acne (acne tarda). Adolescent acne that persists beyond 25 years of age is called persistent adult acne and acne that

develops for the first time after 25 years of age is called as late-onset adult acne. Persistent acne is either continuation of acne or its relapse from adolescence into adulthood. Indian study on 280 patients found that persistent acne was present in 73.2%, while 26.8% had late onset acne.[9]

**Adolescent acne differs from post adolescent acne in the following aspects:[9]**

1. Unlike adolescent acne, where malesare affected more commonly and have the most severe forms of acne, post-adolescent acne mostly affects women. In an Indian study, adult acne was more common in women (97.3%) than men (2.7%).[9] Skroza N et al also reported higher incidence in women (85%) as compared to men (15%) with adult acne.[20]
2. Additional factors playing a role in causing adult acne are endocrine disorders, chronic stimulation of innate immunity, genetic predispositions, use of cosmetics, drugs, chronic stress and tobacco.[21] Topical steroid use was found to aggravate acne in 11.8% cases. Family history of acne amongst first degree relative was found in 38.6% patients. Seasonal aggravation in acne was most during summer (36.4%), followed by rainy season (5.0%) and winter season (1.4%). Sunlight was reported to aggravate acne in 33.2% patients. Out of the 63.5% patients who were regularly using cosmetics, 14.3% patients had acne exacerbations caused by cosmetics. Stress aggravating acne was seen in 25.7% cases. Premenstrual flare of acne was present in 11.7% of female patients. Raised testosterone levels was seen in 3.04% female patients.[9]
3. Morphologically, adult acne differs from adolescent acne by presence of more inflammatory papulopustular lesions rather than comedones. An Indian study found that majority of patients with adult acne had grade II acne (55%) followed by grade III (28%), grade IV (12%) and grade I (6%) ie. Inflammatory acne with papules and pustules were more common than comedonal acne, which was least common. Presence of cystic acne was not uncommon and was seen in 12% patients.[9]
4. Also there is difference in the distribution of lesions. Adolescent acne usually involves the midface ie.midforehead, nose, and chin. Though most of the studies from western countries report involvement of the lower third of face especially the chin and jaw line, area below the jawline and neck in adult acne,[22,23] an Indian study reported that cheek was the most common site of involvement (67%), followed by chin (67%), mandibular area (58.3%), forehead (51.7%) and then nose (18.3%).[9]
5. Since adult acne runs a chronic relapsing course with treatment failures, it has greater impact on the quality of life with considerable psychological, social, and emotional impacts as compared to acne in adolescent age group. Prevalence of psychiatric comorbidity is seen in up to 40% cases[24] and psychological stress was seen in 52.8% patients.[9]
6. Sequale of acne is more common in adults as compared to adolescent acne. Majority of the adult patients experienced scarring (76.4%).[9]

## Management of Acne Vulgaris

**General Advice[25]**

1. Myth should be dispelled that acne is caused by dirt, and patient should be advised to avoid frequent washing of face which may cause skin irritation and limit patient's tolerance for topical medications. For patients with oily skin, washing of face should be limited to twice a day.
2. Since the role of diet in acne is inconclusive, diet restrictions should be advised only to those who have observed an apparent relationship between a particular food and flaring of acne.
3. Patient should be advised to not pick at their acne which may lead to increase inflammation, prolong the resolution of lesions, cause dyspigmentation and increase the risk for scaring.
4. Use of cosmetics and moisturizers containing oil should be discouraged. Moisturizers and cosmetics with labelling of 'Non-comedogenic or non-acnegenic' should be chosen. If at all makeup has to be used, then mineral makeup should be preferred.
5. Patient should be informed that acne is a chronic disease and that treatment is a long-term process. Also any therapy takes atleast 6 to 8 weeks before any therapeutic benefit can be seen.

**Since acne vulgaris is a chronic disease with frequent relapses, its treatment is divided into two phases:**[14]

1. **Initial phase**: in which topical and/or oral therapy is given till the time of resolution of lesions**.**
2. **Maintenance phase**: Once the active acne is controlled with resolution of acne lesions, use of topical retinoids is continued for years in order to maintain remission and minimize risk of relapse.

**Treatment of mild acne**[26]

1. First-line of treatment: application of either topical benzoyl peroxide or a topical retinoid (tretinoin/adapalene/isotretinoin/tazarotene); or a combination of topical benzoyl peroxide with a topical antibiotic (clindamycin or nadifloxacin or erythromycin); or combination of topical retinoid with topical benzoyl peroxide; or combination of topical retinoid, topical benzoyl peroxide and topical antibiotic.
2. Alternative treatment: addition of a topical retinoid or topical benzoyl peroxide if not already prescribed; or use of different type of topical retinoid (tretinoin/adapalene/isotretinoin/tazarotene); or topical dapsone.

**Treatment of moderate acne**[26]

1. First-line treatment: combination of topical benzoyl peroxide and a topical antibiotic (clindamycin or nadifloxacin or erythromycin); or combination of topical retinoid and benzoyl peroxide; or combination of benzoyl peroxide and topical retinoid and topical antibiotic; or combination of an oral antibiotic with topical retinoid and benzoyl peroxide; or combination of benzoyl peroxide, oral antibiotic, topical antibiotics and a topical retinoid.
2. Alternative treatment: different combination of medications; or change in oral antibiotic; or addition of combined oral contraceptive or spironolactone in females; or oral isotretinoin.

**Treatment of severe acne**[26]

1. First-line treatment: combination of oral antibiotic, benzoyl peroxide and topical antibiotic (clindamycin or nadifloxacin or erythromycin); or combination of oral antibiotic, topical retinoid and benzoyl peroxide; or combination of oral antibiotic, topical antibiotic, topical retinoid and benzoyl peroxide; or oral isotretinoin.
2. Alternative treatment: changing the oral antibiotic; or adding combined oral contraceptive or spironolactone in females; or oral isotretinoin.

## Topical Agents

Patient should be instructed to apply all the topical preparations on the whole face and not just the area affected by acne as acne can appear anywhere on the face. Duration of 4-12 weeks should be given to any topical agent before altering the treatment regimen.

Topical retinoids alone are used for treating comedonal acne. Topical and oral antibiotics should not be used for in patients with only comedonal acne.

Topical retinoids which are approved for treatment of acne includes tretinoin, adapalene, isotretinoin and tazarotene. Topical antibiotics for acne include clindamycin 1%, nadifloxacin 1%, erythromycin (2-3%) and dapsone 5%. Due to the growing concern of antibiotic resistance seen with the use of topical and oral antibiotics, their use as monotherapy is discouraged and they are not prescribed for a prolonged duration. Use of antibiotic in combination with either topical retinoids or benzoyl peroxide reduces the possibility of *P. acnes* resistance. Unlike topical antibiotics, benzoyl peroxide has an advantage of not causing development of antimicrobial resistance and it is active against antibiotic resistant strains of *P. acnes*. Azelaic acid is especially useful for those in which acne associated post inflammatory hyperpigmentation that occurs with inflammatory acne.

## Systemic Therapy

Systemic therapy for acne includes oral antibiotics, isotretinoin and hormonal therapy. Oral antibiotics are indicated for treating moderate to severe acne and in those cases of mild acne with inflammatory lesions (papules and pustules) who have failed topical therapy. Tetracycline group of antibiotics (doxycycline, lymecycline and minocycline) are preferred as 1$^{st}$ line agents. Macrolide group of antibiotics like azithromycin, erythromycin and roxithromycin, should be reserved as 2$^{nd}$ line because they are associated with higher incidence of development of antibiotic resistance and since they are often used in the treatment of other

serious systemic diseases, it is not desirable that the patient develops antibiotic resistance to this group. They are used where tetracycline group is contraindicated like in pregnancy, lactation and children <8 years of age. Duration of antibiotics treatment should be for the briefest possible time frame (ideally around 3 to 4 months) to prevent development of antibiotic resistance.

Despite its efficacy, use of isotretinoin may cause severe adverse effects. So, if a gynaecologist or paediatrician feels that the patient needs oral isotretinoin therapy, referral to a dermatologist is indicated.

Patients in whom acne is exacerbated by endocrinopathies like polycystic ovarian syndrome; Hyperandrogenism, insulin resistance, and acanthosis nigricans syndrome (HAIR-AN); congenital adrenal hyperplasia; Cushing's syndrome; and seborrhea, acne, hirsutism, and androgenetic alopecia syndrome (SAHA) may require treatment with combined oral contraceptive pills, spironolactone and low dose glucocorticoids.[8,14,25]

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# My Altercations with COVID-19

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To truly make the readers understand my run-in with COVID-19, I would like to give an insight into my professional and personal life. I am a young pediatric intensivist working at a tertiary care referral hospital in North India with state-of-the-art facilities. My daily professional duties involve taking PICU and ward rounds with a team of highly motivated fellows, junior residents in training and nursing staff followed by mind boggling counselling sessions with the patient attendants and subsequently attending outpatient general pediatrics as well as specialty clinics.On personal front, my beautiful wife of 5 years is a pathologist, working in the same set up and even more academically oriented than me. We are unfortunate to have had a bad obstetric history, however, our gynecologist proved to be extremely supportive and in late 2019 we conceived again.

Then began the fateful year 2020, wherein reports of a highly contagious virus causing flu like illness with unpredictable course, high morbidity and mortality across international borders started doing rounds. In late January, sporadic reports of Indians/ Delhiites testing positive for the then named novel SARS-COV2 disease came up and the government directives for screening at all international airports was issued. At this point there was slight tingle down my spine but the true fear had not yet set in. My wife and I joked that if the situation escalates, we would be greeting each other in space suit like overalls at work. By late February/ Early March, fear was settling in as more and more people started asking questions about this new "Corona" disease that had been declared a 'pandemic'. People had all sorts of questions, what is this new disease? how does it spread? who will it infect? what is its course? what should we do? In addition to answering relatives, friends, colleagues and patients, I had my own fears, answers to which I was not sure of. My elderly parents stayed away and alone. My father, is a known hypertensive and diabetic, how much information should I divulge him into as he was doing all household shopping, repairs and interacting with a lot of people. Much closer at my present rented accommodation, my wife, also a health care worker was entering her third trimester and at extremely high-risk. By this time, there was widespread media coverage on the global pandemic and directives were issued by the Indian government to practice hand hygiene, wear face masks and maintain social distancing as much as possible. I believed, I belong to the educated lot in the society, so I won't panic, practice all prescribed protective measures and keep reading so as to keep myself updated on this new disease. By the third week of March, it was difficult to maintain my daily routine both at work and home. There were media reports of an exponential rise in cases. I remember seeing an infant in my OPD for upper respiratory infection, the infant's father had a faint stamp on dorsum of his hand with glaring words "Proud to protect Delhi HOME QUARANTINED". It is surprising how ignorant and irresponsible people can be. I had an immediate surge of anger against the parent, however, on further inquiring he was remorseful and appeared helpless as there was no one else in the family to bring the child to a doctor. I calmed down and gave this unusual situation a thought. Moral dilemma of being a good citizen or being a good father. At this time, the government was still formulating policies thus, clarity on issues pertaining to people in quarantine requiring personal help was not available. I further told the patient to consult telephonically and informed the hospital administration of the situation, subsequently the out-patient area was fumigated. The whole incident was upsetting and my other doctor colleagues were also facing concerns as patients were not completely forthcoming with their travel history and history of flu like symptoms for the fear of being labelled as "Suspect COVID". That day on my way back, my wife called me to get some household items from the local mart. I reached the shop and to my surprise there was a chaos inside the shop and a queue outside. Apparently, the word on the street was that there will be an indefinite curfew and all shops will be soon closed. People had panicked and started hoarding

all sorts of items from flour bags to sanitary items in bulk as if the world is ending. Indeed a few days later, nationwide lockdown was announced on 22nd march, 2020. But being a health care worker, there was no respite for us and in fact our moral as well as social responsibilities had increased.

N-95 masks, face shields/goggles, gloves, head cover, disposable gowns and frequent hand washing had now become the new norm. Daily debates were held on WhatsApp groups regarding prophylactic measures, types of masks and drugs available with people having several different opinions. Fever clinics had been set up in the hospital premises, the hospital doors which were open for all kinds of patients, now had personnel standing with thermal monitors to screen doctors and patients alike for rise in body temperature. The casual greetings in the hospital corridors had been replaced by distant stares as it was difficult to recognize anyone under the protective layers of gowns and masks while health care workers dealing directly with COVID patients looked nothing short of aliens or astronauts out for space walk. My own experience of taking rounds while wearing level 3 personal protective equipment (PPE) gear is appalling as I was often drenched in sweat within minutes and by the end of the day my face was thoroughly bruised. Taking patient rounds was becoming challenging as we all were economizing use of PPEs, splitting duties as per COVID and non-COVID patient care, minimizing physical interaction with patient attendants without compromising patient care and at the same time taking precautions to protect each other. Amidst the changing dynamics of our livelihood, me and my wife were extremely cautious and taking all precautions so as not to bring any infection back home - from sanitizing door knobs, rigorously washing veggies and daily washing all worn garments in hot water to doing away with our proved real stubborn and escaped our protective measures.

I distinctly remember the fateful day of May, drinking tea in my house in the evening. I got a call from a very apprehensive nurse-in-charge in my ward informing that one of the staff members on duty with me a day before was running temperature and a nasopharyngeal swab sample had been sent for rapid RT-PCR testing to rule out the dreaded infection. I calmly counselled the informing sister, not to worry as we were wearing protective gear (though not the standard PPEs) at all times and since no patient in our ward was at that time COVID positive, the staff member might be having common flu. A few hours later, the swab reports came out to be positive and all hell broke loose. Most of the nursing staff, orderlies and fellows on duty in prior 3-4 days wanted to be screened irrespective of the symptoms, though they were right as per guidelines, they all did come under the asymptomatic contact category. Due to limited testing facility, samples were taken in batches over several days. To everyone's surprise, several nurses and three fellows tested positive and all were either asymptomatic or were experiencing mild symptoms like malaise or slight cough. I wondered working in PPE has been tiring for all of us and I too was experiencing fatigue of late which I had totally ignored and also recently I had taken my asthma inhalers after a long time thinking it to be an old exacerbation. Could I be COVID positive too? The question played in my mind throughout the night. Next morning, first thing, I got tested and waited for my results with crossed fingers. It felt like waiting for my exam results and positive test meant that I have failed.

I had indeed failed. And the test results came out positive. Looking back, I still have no idea how I contracted the virus. But in the initial few minutes only several thoughts passed my mind. Was I not careful enough in taking protective measures? Did I contract this via community spread? Have I infected my wife and our unborn child? My wife also underwent testing but was negative. I breathed a sigh of relief. However, the issues were far from over. Both of us had to be quarantined. Since we were aware of the risks with this disease, we opted for home quarantine so as to provide moral support to each other and decided to shift base to hospital as and when required. We monitored our $SpO_2$ and temperatures daily and tried distancing as much as possible under one roof and kept tabs on each other via mobile phone. I was lucky to have been struck by mild symptoms only; minimal cough, nasal stuffiness, anosmia and malaise which lasted for a week. During the course of my quarantine period I realized that the disease was affecting me more psychologically than physically. There was a fear of unknown, of what might happen in the next

few minutes, hours and days. Not only me, my wife, relatives, friends and parents were apprehensive and kept daily tabs on me; out of concern and out of uncertainty of the disease course. I am grateful to each one of them as 'quarantine' is a difficult period. Though I am not a political person, but I would mention that soon after I tested positive, several government officials contacted me telephonically, the calls were made out of concern, for tracing contacts and aiding for hospital admission if required. In short, the calls were not discriminatory or discomforting, rather supportive and I appreciate the governments' planning on that. However, the way the disease afflictions are shown in the media and the 24-hour disease coverage is done many a times without confirming scientific facts leading to misrepresentation, it has taken a toll on layman's mind. The common man instead of understanding that this virus can infect anyone and everyone provided hygiene steps and social distancing is maintained along with boosting one's immunity. People have attached stigma to it and invariably tend to discriminate against those inflicted. It is now the new fodder for gossip!

During our 17-day mandatory quarantine, our house owners got several calls from neighbors either trying to confirm our status or pressurizing them to evacuate us from the locality. Somehow, our days passed. My wife's gynecologist also kept tabs on her health telephonically. It felt great as if she was living our fears and dreams with us and providing reassurance when utmost needed.

At the completion of our quarantine, my wife's USG scan was due. It was a strange sight as the bustling corridors were now empty, doors to doctors' chambers were wide open and patients were nowhere to be seen. Fear of contracting the 'dreaded virus' was high and people were ready not to indulge into other systemic illnesses. Getting an antenatal scan also looked like a tedious procedure as the radiologist would put on PPE, take all universal precautions, get patient bed sanitized before and after each procedure. I sympathized with the plight of my doctor colleague as the procedure which earlier took 5 min was taking 30 min now. It's like an ongoing silent war in the hospital, the health care workers getting ready to face the faceless demon with each patient, never knowing where and how it will strike. Our scan result showed recent fetal growth restriction and a LSCS was planned. We did have an initial apprehension about where to get the surgical procedure done. Should we go to a pure non-COVID hospital? We were positively reassured by the treating gynecologist regarding safety protocols in place for all surgical procedures, putting rest to our apprehensions. By GOD's grace, we were blessed by a healthy baby.

The world is currently dealing with COVID-19 (COrona VIrus Disease 2019) pandemic. The virus is highly infectious and can be air- or fomite-borne. Nationwide lockdown and social distancing have delayed the inevitable damage at the cost of huge revenue loss. Personal protective measures like hand hygiene and face masks are of essence but can be inadequate to counter the effects of deadly virus completely. These tiny creatures have hit the human ego hard by everyone on their knees and exposing lacunas in our society, however, the human spirit has boundless energy and humbled by this threat we can take lessons for future. Impromptu advancements in the field of medical sciences, development of vaccines and a compassionate attitude towards each other can help us all overcome this adversity.

# Coping with Uncertainty and Ensuing Stress in Corona Times

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## Introduction

When was it last that we ever used a word called *'pandemic'* in the past few years? And now we have a novel virus, very infective, causes severe pneumonia, puts people not just into the hospital or the ICU but on a ventilator for days and quite a few die! And now it has *mutants*!! Sounds exactly like a lethal virus coming straight out of the science fiction movie.

We are waging a worldwide war against a virus which has invaded us. The old adage a '*Known devil is better than an unknown devil*' is true here. Humans despite being the most ingenious mind have been brought to their knees.

## Types of Stress

**Corona isn't only the physical disease we are fighting against!**

There are other hidden but known devils which are also surfacing like emotional burden, mental diseases, financial stress, digital stress, reproductive and sexual health challenges, domestic violence, reinforcement of the skewed patriarchal structure of the society with sexual division of labour and gender gap.

**Physical stress and the disease**

Am I or my loved ones going to die? This is the prevailing thought in the minds of most. The Covid meter is ticking away fast with millions of cases and thousands of deaths.

**Mental- Emotional stress**

The unpredictability, uncertainty, doubts and confusion have led to fear, panic, anxiety, phobia and stress which is so common. For some, the psychological issues have transgressed into mental imbalance and psychiatric diseases like depression, hallucinations, obsessive compulsive disorder etc. Suicide rates have increased as isolation, depression and anxiety exacerbate it.

**Financial stress and Economic burden**

With the slowing of economy and likelihood of yet another Great Depression of the Wall Street or a Lehman like crisis, despite work from home for quite a few, many have been laid off their job or have faced a pay cut. None can predict how deep or long the slump in economy will last. Add to this, the increased medical costs and of hoarding supplies.

**Digital stress**

*'Push' services'* particularly on ambient mobile devices, have added to overload, with information being constantly 'imposed' without being sought. The *always-on syndrome,* Techxiety (anxiety due to technology invasion), FOMO, Phantom Ringing, Phantom vibration. Nomophobia (No mobile phobia), Phone separation anxiety (PSA), Selfie appeasement, Pablov reflex akin like phone ring causing psychosomatic responses of stress and anxiety have surfaced. Evils have manifested as physical symptoms of postural back ache, wrist pain, headache and eye strain.

**Info-pandemic (Infodemic)**

*Too much information* (TMI) leads to *Information load*, Add to this*, misinformation load* which includes false news, conspiracy theories, magical cures and racist news;

**Academic stress**

The students and the teachers are facing challenges in resuming studies through online classes, curriculum completion, exit exams like boards and entrance exams, new modalities of teaching and assessments and a big question of a *zero year* declaration!

**Social stress**

With enforced social distancing and restrictions on gatherings and outings the question arises : How antisocial is the social distancing? Emotions are contagious. Your panic and stress is contagious too.

## Corona Virus is a Disaster for Feminism

**A. Amplification of Gender inequality and gender gap**

There is relegation of women to their gendered roles as caregivers. In India, as opposed to 36 minutes in the case of men, women spend six hours in unpaid care responsibilities in a household.

**B. Working women and job lay offs**

Women who are employed even in work from home format find themselves in an unsustainable juggling act in the wake of a health emergency like COVID-19, eventually driving them out of work, even if temporarily.

**C. Domestic and sexual violence**

Corona has escalated the statistics by 23% in 3 months. Staying home isn't safe for women/girls trapped with an abuser.

**D. Adverse effects on Reproductive and Sexual Heath of women**

The dangerous delays or cut down or closure of services like family planning, contraception, safe abortion care, delays in abortion, delays in pregnancy screenings for foetal abnormalities and safe delivery care have added.

## Early Warning Symptoms and Signs of Stress

Symptoms of increase or decrease in energy levels, more substance abuse like alcohol or smoking, trouble sleeping, irritable, argumentative, moody, bored, frustrated, isolating yourself from family members, not talking much, neglecting yourself or your responsibilities, loss of appetite- not eating or binge eating, blaming others, having difficulty understanding or making people understand, worrying excessively, crying, feeling sad, unable to remember things, poor decision making, loss of attention and many more. Psychosomatic physical signs include headache, migraine, multiple aches and pain; butterflies in stomach to name a few.

## Management of Stress

i. **Demystifying Corona Medically**

a. With presumed **underreporting** of cases or **asymptomatic** Corona cases that were never tested but recovered is assumedly three times these numbers, then death rate is way lower at possibly 1%.

b. **Comparison of Corona fatality versus other causes of death in India**

There are certainly more deaths from certain infective and non-infective diseases and causes like Infant mortality rate is 30 per 1000 live births (3%), road traffic accidents (RTA) cause 1.5 lakh deaths yearly. Total cancer deaths in India per year are 7.85 lakhs. In India due to tobacco 3500 people die per day.

c. **Pregnant women** are not more severely affected and like most patients they have mild to moderate symptoms. The **baby** is not affected from mother adversely in womb

d. **Medical treatment** is evolving with trial of regimes of *known and newer drugs.* Early development of *Corona vaccine* locally appears promising.

e. **Herd immunity** is likely to develop and **Community awareness** with screening with infrared thermometers and pulse oximeter as a routine is rising.

f. **Removal of novelty factor**, mass production of medicines, test kits, N95 respirator and other masks, personal prophylaxis equipment, pulse oximeter, infrared thermometer India manufacturing have brought down the cost.

g. **Dedicated Healthforce** including doctors, nurses, paramedics, NGOs and Covid hospitals and quarantine centers.

**ii. Self Help Tips for Stress Management**

1. **Understand your emotions**
2. **Lifestyle management like** Daily exercise, adequate sleep, balanced nutrition.
3. **Maintain a Stress diary**
4. **Thought handling**
5. **Identify and remove Negative thoughts**
6. **Do positive things** like what you longed for and desired to pursue or left in between.

**iii. Music Therapy**

Music is medicine to mind. Music is a *Complimentary alternative therapy*, a co-therapy and a green medicine. Music is a mood

elevator, a stress buster and gives relaxation. Enjoy the music of the sounds of nature like the birds chirping, the pitter patter of rain, the flowing water of the stream, the sound of the breeze, the rustling of the leaves. The holy sounds of wind chimes, bells, meditative sounds like Om, the mantras and shlokas. Raag *chikitsa* helps in issues like tension relief, acidity, insomnia, blood pressure etc. **(Click here to listen to healing music).**

iv. **Mindfulness**

A mind and body medicine form of Buddhism which helps the mind observe the ordinary in the extraordinary things and the extraordinary in the ordinary things highlighting the process of observing. Live in the here and in the now. Breathe in and calm your body. Breathe out and smile. Dwell in the present moment, it is a wonderful moment.

v. **Digital Detox**

The journey transgresses from social distancing to ***social media distancing.*** **Digital wellbeing** refers to the use of technology to support mental and/or physical health in a measurable way. Objective is to *Outsmart your smart phone! Log digital time usage.* Remove distractions like notifications pop up, sounds, beeps, vibrations etc. Try *intermittent fasting* from electronics periodically. Don't glamourise being busy. Follow the rule of thirds- 8 hours each of work, sleep and 'Me Time'.

vi. **Info-Detox**

Stay informed but don't obsessively check news.

vii. **Social Embracing**

Humans are social animals hardwired for connection. **'Social Distancing, Yes. Social Isolation, No.'**

viii. **Rapid Action of The Government**

ix. **Economic Support as Declared by Government Agencies**

## Can The Tables Be Turned? What is Being Expected of Us?

**Self discipline, regimentalisation and follow the rules** is the game!

*Social distancing*- 6 feet distance; *Hand hygiene*- soap and water hand wash for 20 seconds with; *Respiratory hygiene*- cover mouth and nose when you cough or sneeze. Avoid touching face, nose and mouth. and Wear a *mask* covering your mouth and nose. Avoid crowds.

## Conclusion

Covid is not the first epidemic or pandemic. With research, observational data, case studies, varied demography, medicines and vaccine in progress, the unknown is being studied and the unknown devil will soon become the known devil. Time is dynamic. It is never at a standstill. Times shall change. Look at the silver lining in the cloud.

There is always light at the end of the tunnel. Stay safe! Be positive!!

## AOGD Events Held

- On 12th & 19th July, 2020 — Sunday webinar series on **"Updating Skills in Cervical Cancer Prevention"** under ISCCP & FOGSI Oncology Committee in association with Oncology Committee of AOGD.
- On 12th and 18th July, 2020 — A webinar on **"Masterclass on Fertility Enhancing Endoscopic Surgery"** by AOGD Endoscopy committee & FOGSI Young Talent Promotion Committee.
- On 15th July, 2020 — A webinar on **"Current Trends in Management of Thretened Pregnancy Loss"** by Dr. Mala Srivastava under Ensuring Healthy Womanhood eCME by Abott in collaboration with Janakpuri Gynae Club.
- On 16th July, 2020 — A Virtual CME on **"Current Updates on Contraception"** by Dr Jyoti Sachdeva, Dr. Shobha Gudi and Dr. Anita Rajorhia.
- On 17th July, 2020 — A webinar on **"ART Medicolegal Aspects"** moderated by Dr. Geetendra Sharma and **"Near missed situations based on case scenario"** moderated by Dr. Geeta Mediratta.
- On 18th July, 2020 — e-CME and Panel discussion on **"Early Detection of Cancer in Menopause"** moderated by Dr. Sunita Malik.
- On 19th July, 2020 — A panel discussion on **"HELLP Syndrome: Recognition and Perinatal Management"** under the aegis of Safe Motherhood Committee AOGD, NARCHI, Delhi, food Drug and Medico surgical Equipment Committee FOGSI.
- On 21st July, 2020 — A eCME on **"Role of Luteal Support in IUI"** by Dr. Sunita Kumar & **"Role of Luteal Support in IVF"** by Dr. Ruma Satwik and **"Updates in Dydrogesterone Use in Clinical Practice"** by Dr. Gautam Arora.
- On 21st July, 2020 — A Monsoon webinar on **" Demystifying Infertility Management"** by FOGsd (Forum of OBSTETRICIANS and GYNECOLOGISTS of south Delhi) under aegis of AOGD, NARCHI Delhi and ISCCP.
- On 22nd July, 2020 — A web CME on **"Fetal Medicine & Medicolegal Webinar".**
- On 22nd July, 2020 — A web CME on "Managing Pain-Brightening Life" by FOGSI Food Drug Medico-Surgical Committee & AMOGS Endocrinology Committee with Moradabad, Gorakhpur, Raipur, Greater Noida, Delhi, Ratlam, Lucknow OBG Societies.
- On 23rd July, 2020 — A webinar on panel discussion on **"Current Scenario in management of Preterm Labor"** moderated by Dr. Chitra Setya.
- On 25th July, 2020 — A webinar on **"Family Welfare Committee Emergency Contraception"** and Panel discussion on **"Stratergies for reducing unintended pregnancies: Clinician Perspective"** under the aegis of FOGSI and AOGD.
- On 26th July, 2020 — A webinar on **"Solving Enigmatic Endometriosis – My Way"** moderated by Dr. Kuldeep Jain and Dr. Sudha Prasad.
- On 27th July, 2020 — A CME webinar on **"Revisiting role of progesterone preconception & post-conception"** moderated by Dr. Anita Rajorhia under aegis of ICOG, FOGSI Endocrinology committee & Reproductive Endocrinology Committee, AOGD.
- On 28th July, 2020 — A webinar on **"Safe Motherhood"** by Safe Motherhood Committee AOGD Delhi Gynecologist forum Outer Delhi (DGFOD).
- On 28th July, 2020 — A webinar on **" Conquering the Menace – UTI in women"** by Dr. Mala Srivastava and Dr. Sachin Kathuria
- On 29th July, 2020 — A webinar on **"Masterclass on PCOS and Infertility"** Under the aegis of infertility committee AOGD.
- On 31st July, 2020 — A webinar on **"Induction Of Labor"** and **"Tranexemic Acid in Obstetrics"** moderated by Dr. Tarini Taneja and Dr. Jyoti Malik.
- On 31st July, 2020 — A panel discussion on **"PPH".**
- On 31st July, 2020, 04:00-06:00 pm**,** AOGD Virtual Monthly Clinical Meeting organised by AIIMS, New Delhi.
- On 1st August, 2020 — A e-CME on **Pre term Labor & Tocolysis** by Dr. Manju Khemani.
- On 2nd August, 2020 — A webinar on **Diagnostic and Management of Dilemmas in Infertility** moderated by Dr. Surveen Ghumman Sindhu and Dr. Shalini Chawla Khanna under the aegis of IVF Department Max Panchsheel Hospital and AOGD.
- On 4th August, 2020 — A webinar on **Non Communicable Diseases-Special Reference to Obstetrics** by Dr. Sadhana Gupta under the aegis of SAFOG and AOGD.
- On 5th August, 2020 — A webinar on **Case Based Challenging Situation in Breastfeeding** by Dr. Jyotsna Suri.
- On 8th August, 2020 — A webinar on panel discussion on **Contraception: Making the Right Choices** by Dr. Asmita Rathore organised by Department of Ob-Gyn Maulana Azad Medical College under the aegis of NARCHI & AOGD.
- On 10th August, 2020-A certified training session on **Minimizing infection risk and communication with patients during Covid-19** by Dr. Reddy's Lab under the aegis of AOGD.

# Journal Scan

**Ruma Satwik**
Consultant, Centre of IVF and Human Reproduction, Sir Gangaram Hospital, New Delhi

## Elagolix for Heavy Menstrual Bleeding in Women with Uterine Fibroids

**William D. Schlaff, M.D., Ronald T. Ackerman, M.D., Ayman Al-Hendy, M.D., Ph.D., David F. Archer, M.D., Kurt T. Barnhart, M.D., Linda D. Bradley, M.D., Bruce R. Carr, M.D., Eve C. Feinberg, M.D., Sandra M. Hurtado, M.D., JinHee Kim, M.D., Ran Liu, Ph.D., R. Garn Mabey, Jr., M.D.**

**N Engl J Med 2020; 382:328-340**

### Abstract

**Background:** Uterine fibroids are hormone-responsive neoplasms that are associated with heavy menstrual bleeding. Elagolix, an oral gonadotropin-releasing hormone antagonist resulting in rapid, reversible suppression of ovarian sex hormones, may reduce fibroid-associated bleeding.

**Method:** We conducted two identical, double-blind, randomized, placebo-controlled, 6-month phase 3 trials (Elaris Uterine Fibroids 1 and 2 [UF-1 and UF-2]) to evaluate the efficacy and safety of elagolix at a dose of 300 mg twice daily with hormonal "add-back" therapy (to replace reduced levels of endogenous hormones; in this case, estradiol, 1 mg, and norethindrone acetate, 0.5 mg, once daily) in women with fibroid-associated bleeding. An elagolix-alone group was included to assess the impact of add-back therapy on the hypoestrogenic effects of elagolix. The primary end point was menstrual blood loss of less than 80 ml during the final month of treatment and at least a 50% reduction in menstrual blood loss from baseline to the final month; missing data were imputed with the use of multiple imputation.

**Results:** A total of 412 women in UF-1 and 378 women in UF-2 underwent randomization, received elagolix or placebo, and were included in the analyses. Criteria for the primary end point were met in 68.5% of 206 women in UF-1 and in 76.5% of 189 women in UF-2 who received elagolix plus add-back therapy, as compared with 8.7% of 102 women and 10% of 94 women, respectively, who received placebo ($P<0.001$ for both trials). Among the women who received elagolix alone, the primary end point was met in 84.1% of 104 women in UF-1 and in 77% of 95 women in UF-2. Hot flushes (in both trials) and metrorrhagia (in UF-1) occurred significantly more commonly with elagolix plus add-back therapy than with placebo. Hypoestrogenic effects of elagolix, especially decreases in bone mineral density, were attenuated with add-back therapy.

**Conclusion:** Elagolix with add-back therapy was effective in reducing heavy menstrual bleeding in women with uterine fibroids.

### Comments

Elagolix, an orally active GNRH antagonist is being tried for the indications of fibroid associated menorrhagia or endometriosis associated pain. The doses used have varied from 150 mg, 300, 400 and 600mg daily. This trial looks at the safety and efficacy of a higher dose of 600mg. This study was funded by ABBVie, the makers of Elagolix.

# Proceedings of AOGD Monthly Clinical Meeting held at AIIMS, New Delhi on 31st July, 2020

## Chronic ITP in Pregnancy: Atypical presentation, unusual management

**Rajesh Kumari, Ritu Yadav, Neerja Bhatla**

Thrombocytopenia, defined as platelet count <150,000/mm$^3$, is the second most common haematological disorder in pregnancy after anaemia, with an incidence of 7 to 10%. Immune thrombocytopenic purpura (ITP) is the most common cause of isolated thrombocytopenia in the 1st and 2nd trimesters of pregnancy, seen in 1-2/1000 deliveries. Pregnancy with ITP usually has a stable course and is managed well with steroids. Rarely, second line treatment in the form of IVIG and splenectomy is required for refractory ITP.

A 23-year-old G3P2L0 case of ITP with history of previous two stillbirths and PPH in both pregnancies, was referred to us at 14$^{+4}$ weeks of gestation with platelet count 5000/mm$^3$. She was started on oral prednisolone 20mg once daily and received IVIG 1g/kg/day for 2 days. During pregnancy she required multiple admissions in view of low platelet counts and epistaxis, for which prednisolone was increased to 50mg daily. She received multiple courses of IVIG and random donor platelet transfusions. At 27 weeks, she developed severe bilateral lower limb pain, which progressed to hip pain and developed an antalgic gait. It was diagnosed on MRI as avascular necrosis (AVN) of femur with osteomyelitis, likely steroid-induced. This was managed with intravenous antibiotics and analgesics. Steroids were tapered off. A newer drug, romiplostim, a thrombopoietin receptor agonist, was started, which is an FDA category C drug. It has been reported in only 9 cases in pregnancy, of whom it was successful in 8 cases, with no reported fetal adverse effects so far. It was started at 3µg/kg/weekly subcutaneous, and increased to 10 µg/kg/weekly. Platelet count increased to 50,000/mm$^3$. At 35 weeks' gestation she had APH and fetal bradycardia and underwent emergency caesarean section with single and random donor platelet transfusions. She delivered a female baby weighing 2.1kg with no postpartum hemorrhage. Postpartum, she recovered well and her gait and pain improved. The neonate manifested refractory thrombocytopenia, which responded to multiple platelets, steroids and double volume exchange transfusion.

Cases with ITP on high dose steroids may manifest with atypical presentations such as AVN, which, when diagnosed and treated promptly can have a good outcome. Romiplostim is a new drug in the armamentarium for management of refractory ITP as a second line alternative to steroids.

## Unusual Metastasis from A Usual Cancer

**Sunesh Kumar, Lalit Kumar, Aarthi Jayraj**
**Seema Singhal, Jyoti Meena**

Ovarian malignancy most commonly spread through trans-coelomic route to peritoneum, through lymphatic route to pelvic, para aortic or mediastinal nodes and less commonly to liver and lungs. We present two rare cases of metastasis to unusual sites.

### Case 1

A 48 yr old Mrs X, a known case of carcinoma ovary IV A (HGSC) presented with complaints of shortness of breath and swelling and discolouration over right breast x 20 days. She completed her primary therapy for carcinoma ovary in 2014 but had multiple relapses and received several lines of chemotherapy. She had 2X2 cm right axillary lymph node. Her right breast was erythematous with peau d'orange appearance and small satellite nodules were seen on chest wall. Mammogram was BIRADS 0. Biopsy confirmed ovarian malignancy metastasising to breast. She received 3 cycles of single agent paclitaxel, but succumbed to her illness 6 months after diagnosis.

### Case 2

A 42 year old Mrs Y, k/c/o CA ovary Stage 1A (endometrioid histology) diagnosed and treated in December 2018 and was referred to us with a scalp swelling. Examination showed a 1.5x1.5 cm

hard, indurated, tender mass on scalp overlying left parietal bone. Biopsy showed a poorly differentiated adenocarcinoma. MRI brain showed a left parietal subgaleal soft tissue lesion with enhancing altered marrow signal and PET/CT body showed a lung nodule. She received 3 weekly cisplatin + paclitaxel.

Metastasis to unusual sites is associated with poor outcome. Intention of treatment is predominantly palliative with management of symptoms and care of quality of life. Surgery has limited role.

## A (fetal) Heart Touching Story!

**K Aparna Sharma, Anita Saxena**
**Jeeva Sankar, Nilofar Noor**

### Background

Fetal tachyarrythmias require multi-disciplinary approach and yet pose a diagnostic as well as therapeutic challenge to each member of the treating team. We report a case of fetal atrial flutter managed successfully through various routes.

### Case Report

A 21 years old primigravida, with level II ultrasound suggestive of echogenic intracardiac focus and fetal ECHO showing a fetal heart rate of 220 bpm, presented to our centre and was admitted at 29 weeks and 4 days. On admission M mode doppler revealed fetal atrial flutter and the patient was started on transplacental therapy with a combination of digoxin and sotalol. In addition, she required two doses of direct fetal intramuscular digoxin therapy. Fetal heart rate returned to normal with sinus rhythm after 18 days of treatment and remained so till 37 weeks when she delivered. The new born remained in sinus rhythm and both the mother and baby were discharged in a healthy condition.

### Conclusion

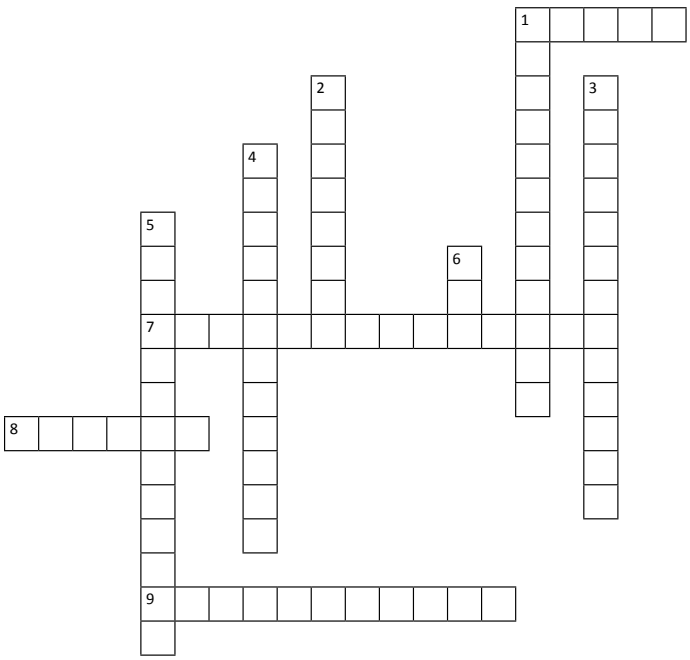
Multidisciplinary team involving obstetrician, paediatric cardiology, neonatologist and anaesthetist is vital for a favourable outcome in pregnancies with fetal tachyarrythmias.

# Cross Word Puzzle

**Ruma Satwik**
Consultant, Centre of IVF and Human Reproduction, Sir Gangaram Hospital, New Delhi

## CROSSWORD

Test your knowledge of Reproductive Anatomy and Physiology




### Across

1. Act meant to prevent Child Sexual abuse
7. Used in treatment of hirsutism
8. Newer small LNG IUCD
9. Commonest cause of heavy menstrual bleeding amongst adolescents

### Down

1. Preferred treatment for chronic menorrhagia in adolescents less than fifteen years of age
2. HPV vaccine is routinely administered to girls between nine and ------- years of age
3. Haematological Disease responsible for menorrhagia
4. Ovarian tumour with high frequency of prevalence amongst adolescents
5. Common cause of vaginal discharge amongst adolescents
6. Used to control endometriosis associated symptoms

## PICTORIAL QUIZ

SKYLA

Q1. What is SKYLA ? What is the dose of levonorgestrel in this?

Q2. What is the duration of action of SKYLA?

Q3. What are the indications?

Answer to August Crossword and Pictorial Quiz given on Page No. 40

# 42nd Annual Conference of Association of Obstetricians and Gynaecologists of Delhi

## 1st E-Conference 2020

***Date***

**30th - 31st October & 1st November, 2020**

***Organised by***

**Institute of Obstetrics & Gynaecology, Sir Ganga Ram Hospital, New Delhi**

***Theme***

**Women's Health Care in the Current Challenging Scenario**


# 42nd Annual Conference of Association of Obstetricians and Gynaecologists of Delhi 30th - 31st October & 1st November, 2020

## Registration Form

First Name: ..... Middle Name: ..... Last Name: .....

Qualification: ..... Designation: ..... Speciality: .....

Department: ..... Institution .....

Category: (Tick any) Delegate ( ) PG Student ( ) Faculty ( )

Address:..... City: ..... Pin Code: .....

Mobile No.: ..... Landline No.: ..... E-Mail: .....

AOGD Membership No.: .....

### Conference Dates

**30th October 2020, 31st October and 01st November 2020**

### Pre-Conference Activities

23rd October 2020 - E-Quiz & E-Slogan Competition

24th October 2020 - E-Poster and Free Papers

### Pre & Post Conference Workshops

26th October 2020 - Gynae-Oncology

27th October 2020 - Gynae-Endoscopy

28th October 2020 - Medico legal aspects in Obstetrics and Gynaecology

28th October 2020 - Infertility & ART

29th October 2020 - CTG Workshop

02nd November 2020 - Quality Improvement in Obs and Gynae

03rd November 2020 - Reproductive and Sexual Medicine

04th November 2020 - Critical Care Obstetrics

05th November 2020 - Fetal Medicine: Care Bundle for Multiple Pregnancies

06th November 2020 - Urogynaecology

### Registration Fees: (Inclusive of 18% GST)

| Category | Early Bird (Till 30th September 2020) | 1st October 2020 Onwards... |
|---|---|---|
| AOGD Member | 3000 | 3500 |
| PG Student | 2000 | 2000 |
| Non-AOGD Member | 3500 | 4000 |

## Note

- Registration for the conference is mandatory and is inclusive of all the pre and post conference events including workshops from 23rd October 2020 till 06th November 2020.
- AOGDIANS above the age of 70 years are exempted from registration fees. Kindly submit copy of your Aadhar Card.

## For Offline Payment

All DD/Cheque payable at New Delhi & should be made in favour of **"Association of Obstetricians and Gynaecologists of Delhi".**

Write your Name and Contact No. at the back of DD/Cheque.

Cheque should be deposit in **AOGD Secretariat, Gynae Office, Institute of Obstetrics & Gynaecology, Sir Ganga Ram Hospital, Sarhadi Gandhi Marg, Old Rajinder Nagar, New Delhi - 110 060**

Tel: 011 42251768, 1799, 1789, Email: secretaryaogdsgrh2020@gmail.com

## Offline Payment Details

**Please find enclosed herewith**

DD/Cheque No.: ..... Dated: .....

Drawn on (Name of the Bank):..... Branch: ..... For Rs.: .....

## For Online Transfer Through NEFT/RTGS

Name of Bank: **Central Bank of India**

Branch: **Lady Hardinge Medical College Branch**

Branch Name of Account: **Association of Obstetricians and Gynaecologists of Delhi**

Account Number: **3674596638**

IFSC Code: **CBIN0283462**

MICR Code: **110016067**

## Registration Guidelines

1. Conference registration is mandatory and is inclusive of all the pre and post conference events including workshops, from 23rd October 2020 till 06th November 2020.
2. AOGDIANS above the age of 70 years are exempted from registration fees, please submit a copy of your Aadhar card as age proof along with the duly filled registration form.
3. Post Graduates to attach a certificate from HOD and also should be an annual member of the AOGD in order to attend and present a paper.
4. Conference registration includes all 15 days access.

## Cancellation & Refund Policy

1. All cancellation should be made in writing and sent to AOGD secretariat.
2. All cancellation received before 31st August 2020 will be entitled for 75% refund of the amount paid.
3. All cancellation received between 01st September 2020 to 15th September 2020 will be entitled for only 25% refund of the amount paid.
4. No refund for cancellation made after 15th September 2020.
5. The refund process will begin only 30 days after the completion of the conference.

**Secretariat**
Institute of Obstetrics & Gynaecology
Sir Ganga Ram Hospital
Sarhadi Gandhi Marg, Old Rajinder Nagar, New Delhi - 110 060
Tel: 011 42251768, 1799, 1789, Email: secretaryaogdsgrh2020@gmail.com

# Submission Guidelines for Competition Papers

- **Candidates should be less than 30 years of age.** Place of study should not be mentioned anywhere in the paper.
- Only members of AOGD are entitled for paper & poster presentation (Proof of membership should be enclosed)
- Registration for Conference is Mandatory for Abstract Submission
- Competition Papers & Abstract to be sent by email at **aogdabstract2020@gmail.com** with the Pre-registration details for the conference.
- **Last Date for Competition Paper & Abstract Submission 15/09/2020**
- Please follow the Submission guidelines.

  All the papers should be original manuscripts and not already published anywhere else.

## Guidelines enclosed

1. Title- PLEASE DO NOT INCLUDE THE ABSTRACT TITLE IN THE ABSTRACT TEXT-IT WILL BE ENTERED SEPARATELY. Text will be formatted in BOLD UPPERCASE CHARACTERS.
2. Authors and Disclosures- PLEASE DO NOT INCLUDE AUTHORS OR INSTUTUTIONS IN THE ABSTRACT TEXT- THEY WILL BE ENTERED SEPARATELY. UP TO 12 Authors and corresponding contact details may be entered into the submission system.
3. Title must be in capital letters. It should be short and concise.
4. The name of authors should follow immediately under the title in one line. Type initials and family name of authors in BLOCK letters and underline the presenter's name. DO NOT include degrees or professional designations.
5. The name of institution, city and country should be in lower case, following immediately after the authors, on a different line.
6. Leave one line between the title/ authors/ institution block and the body of the abstract.
7. Please use the required headings listed below to construct your abstract:
   - Introduction: Describe the background supporting the relevance of the research question
   - Objective: State the purpose of the study or investigation.
   - Methods: State details on study subjects, techniques, and/or observational/analytical methods.
   - Results: Include your main findings, noting statistical data.
   - Conclusions: Summarize principal conclusions, emphasizing new and important aspects.
   - **Full text should follow the above structured abstract in 3000 – 4000 words.**
   - All tables and graphs in the full text should be appropriately labelled & numbered.
   - References: As per the Vancouver style.
   - Use of standard abbreviations is desirable. Please write special or unusual abbreviation in brackets after the full word, the first time it appears. Use numerals to indicate numbers, except to begin sentences.
   - Do not include graphs and references in the abstract.
   - Use single-line vertical spacing and leave one line between paragraphs.
   - E-mail your abstract to aogdabstract2020@gmail.com.
   - Students must attach a student certificate forwarded by their Head of the Department.
   - One must be life/annual member to present oral/poster in the conference.
   - Submission should include all the details of your competition papers.

**Note:** Only registered delegates are entitled to present the selected posters/papers.

In e-mail correspondence, please mentions 'Abstract' in the subject line. Abstracts will be reviewed and rated by scientific committee prior to final decision on acceptance.

Decision for acceptance as oral presentation or poster presentation rests with the Scientific Committee.

# Abstract Submission Guidelines for Free Papers + E-Poster

1. **Abstract Submission Deadline is September 30, 2020.**
2. Only registered delegates are entitled to present the selected posters/papers.
3. Abstracts may be submitted online at aogdabstract2020@gmail.com
4. All further correspondence will be sent only to the contact email entered for the designated abstract Presenter.
5. Students must attach a student certificate forwarded by their Head of the Department.
6. One must be life/annual member to present oral/poster in the conference.
7. Abstracts may be submitted on the following topics:
    a. High Risk Pregnancy
    b. Benign Gynaecological Conditions
    c. ART- Recent Advances
    d. Gynae-Oncology
    e. Miscellaneous
8. All Case Presentations to be kept for Poster Presentation.
9. Title- Please do not include the abstract title in the abstract text-it will be entered separately.
10. Title will be formatted in BOLD UPPERCASE CHARACTERS, should be concise and short.
11. The names of authors should follow immediately under the title in one line. Type initials and family name of authors in BLOCK letters and underline the presenter's name. DO NOT include degrees or professional designations.
12. Authors and Disclosures- PLEASE DO NOT INCLUDE AUTHORS OR INSTUTUTIONS IN THE ABSTRACT TEXT- THEY WILL BE ENTERED SEPARATELY. UP TO 12 Authors and corresponding contact details may be entered into the submission system.
13. The names of institution, city and country should be in lower case, following immediately after the authors, on a different line.
14. Leave one line between the title/ authors/ institution block and the body of the abstract.
15. Body of abstract: approximately 500 words: Text should be in lower case, black only, Font: Times New Roman, Font size: 12.
16. Please use the required headings listed below to construct your abstract:
    a. Introduction: Describe the background supporting the relevance of the research question
    b. Objective: State the purpose of the study or investigation.
    c. Methods: State details on study subjects, techniques, and/or observational/analytical methods.
    d. Results: Include your main findings, noting statistical data.
    e. Conclusions: Summarize principal conclusions, emphasizing new and important aspects.
    17. Use of standard abbreviations is desirable. Please write special or unusual abbreviation in brackets after the full word, the first time it appears. Use numerals to indicate numbers, except in the beginning of sentences.
18. Do not include graphs and references in the abstract.
19. Use single-line vertical spacing and leave one line between paragraphs.

E-mail your abstract to aogdabstract2020@gmail.com. In e-mail correspondence, please mentions 'Abstract' in the subject line. Abstracts will be reviewed and rated by scientific committee prior to final decision on acceptance. Decision for acceptance as oral presentation or poster presentation rests with the Scientific Committee