INDIAN ACADEMY OF PEDIATRICS

Awesome Adolescent Young Adult Program

Awesome AYA

Under IAP Presidential Action Plan 2020

In collaboration with

Adolescent Health Academy IAP

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IAP President's Page

It gives me great pleasure to announce the launch of Awesome Adolescents Young Adults program- **Awesome AYA**under IAP Presidential Action Plan 2020. In India, healthcare of adolescents and young adults (AYAs) is often neglected as most health professional are unaware of their health needs and fail in providing developmentally appropriate medical services. In our country, AYAs face the challenges of poverty, gender discrimination, child marriage, poor school and college enrolment, easy availability of drugs, physical, sexual and emotional abuse, excessive media usage and poor law enforcement, which has resulted in an increase in physical and mental disorders in recent times. Due to the immaturity of prefrontal cortex until late twenties, adolescents and young adults face similar risks to health and are grouped together as AYAs. For the first time, IAP has included young adults in a Presidential Action Plan.

Awesome AYA program has 4 training modules- for paediatricians, parents and teachers, adolescents and young adults. The module for paediatricians focuses on basic health care and management of common physical and mental disorders. The Family Life Education (FLE) module motivates parents, teachers and adolescents to follow a healthy lifestyle and prevent diseases. Important aspects of pre-marital conselling are covered in the FLE module for young adults.

I congratulate Adolescent Health Academy, Dr PreetiGalagali and the writing committee for preparing a practical evidence based module for the Awesome AYA Program. This program would surely make 'life awesome' for the young people of India.

Dr Bakul Parekh

President IAP 2020

Honorary Secretary General IAP Message

It is said that “It is easier to build healthy children than to mend broken adults.” Adolescent pediatrics forms one of the biggest chunks of pediatrics and despite being challenging with several grey zones, it is often not given its due importance. The various disorders of adolescent period, if not addressed promptly may result in significant morbidity having substantial impact on the overall health indicators of a developing nation like ours.

The clinical presentations of various disorders in adolescents have evolved with time. A number of novel diagnostic techniques, changing epidemiological scenarios and the social sensitivity of certain issues in this age group makes adolescent medicine a challenge. Hence it is the need of the hour for pediatric residents and practitioners to update their knowledge in this domain from time to time.

Dr Preeti M Galagali has done an outstanding job of condensing voluminous information and presenting it in a very concise manner highlighting the issues in the forefront.

I wish the team all the very best in this endeavor, hoping this edition will benefit medical students, pediatric post graduates, faculty and practitioners, throwing light on several grey zones, emphasizing various aspects that are often overlooked in adolescents.

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Honorary Secretary General IAP 2020-2021

From the Desk of the Editor

Adolescence is the most fascinating period of life extending from 10 to 19 years. It is characterised by autonomy bids, greater need for privacy, identity crisis with great peer affiliation and sometimes conflicts with family. It is also an age for learning new skills, academic and extra academic achievements, acquiring a healthy lifestyle, building strong nurturing relationships, experimentation, questioning, emotional highs and lows, impulsivity and a tendency towards risk taking behaviour. Young people from ages 18 to 24 years comprise the youth or young adults. As youth sets in, a new set of 'movements' start away from the family to pursue higher studies or employment. The health challenges faced in emerging adulthood are mainly due to poor parental supervision and monitoring and weak consequential thinking. These may include adjustment problems in marriage or in a new place of residence, bullying, poorly regulated sexual desires, dating violence sexually transmitted infections, substance use, unhealthy media usage and unemployment. 40% of the Indian population and 50% of world population is below 24 years.

Neurobiologically, the brain undergoes rapid pruning, myelination and maturation from 10 years onwards until 24 years. Hence adolescents and youth are often grouped together as AYAs (adolescents and young adults) or young people. In this age group, the limbic system that is concerned with emotions is relatively mature compared to the prefrontal lobes (that control emotions and impose judgment). This makes the AYAs behave in an emotive and impulsive manner. In recent times, with breakdown of the joint family system, inadequate parental guidance, unmonitored media exposure, increased competitiveness, materialism, consumerism and individualism, the adolescents as well as their parents are exposed to 'new' risks and stresses in the form of drug addiction, non communicable diseases, sexual promiscuity and internet addiction.

In the current era, there is a dire need for a nonjudgmental, trustworthy and knowledgeable adult to guide and counsel AYAs and their parents. A paediatrician, who has looked after the adolescent since childhood and enjoys his/her respect and confidence, fits into this role perfectly. Hence every paediatrician should master the art and science of communicating effectively with AYAs, manage their physical and mental health issues, promote health, prevent diseases, give parental guidance and advocate for their health at all levels.

We appreciate the vision of Dr Bakul Parekh, President IAP 2020 for designing a program on essentials of healthcare for AYAs- for the very first time in IAP. On behalf of Adolescent Health Academy (AHA IAP) and writing committee of the Awesome AYA manual and module, I thank, him, Dr Basavaraja GV, Honorary Secretary General IAP, CIAP OB and EB Team 2020 for giving us the opportunity to contribute to this unique program. We are sure that the Awesome AYA program, shall reach a large number of paediatricians, parents, teachers and young people and improve the overall health of the nation.

Dr Preeti M Galagali

Editor, Awesome AYA Manual

Chairperson Adolescent Health Academy IAP 2019

Contents

Physical Growth and Development in Adolescence

Dr Sarala Premkumar

Objectives

To discuss the following:

1. Definition of puberty
2. Physical Changes associated with puberty
3. Somatic growth during puberty (Growth Spurt)
4. Hormonal changes and its impact on the puberty
5. Assessment of growth and development during puberty in office practice
6. Nutritional advice to teens in office practice

Adolescence is the period of development from 10-19 years of age. Puberty is defined as the process of appearance of secondary sexual characters, increase in stature and weight and development of reproductive capacity. It is also associated with changes in cognition and psychosocial domain.

Physical changes during puberty

Primary and secondary sexual characteristics

Enlargement of genitalia in both male and female happens during puberty. The primary sexual characteristics in male adolescents are enlargement of penis, scrotum and testicular maturation. In female adolescents, vagina vulva and external genitals enlargement happens with maturation of ovaries.

The secondary sexual characteristics in males are lowering of voice pitch, redistribution of muscle tissue and fat with the development of pubic, facial, body and axillary hair growth. In females this is associated with breast development, pubic and axillary hair growth.

Puberty in girls begins with thelarche (breast development) followed by pubarche and menarche. In boys increase in testicular volume (4ml) is the earliest change followed by pubarche and spermarche. Menarche is the girl's first menstrual period. Spermarche is boy's first ejaculation.

Growth Spurt

The peak growth velocity in girls occurs before menarche. But in boys it occurs during later stages of puberty. The average peak height velocity in girls is 9 cm/year at age 12 with total gain in height of 25 cm. In boys it is 10.3 cm/ year (2 years later than girls) with total gain in height of 28 cm. Also 50% of adult body weight is gained during adolescence.

The proportions of water, muscle, fat, and bone results in typical female-male differences. In adolescence, bone mineral content and muscle mass increases along with the deposition of fat. The changes in the distribution of body fat (central compared with peripheral, subcutaneous compared with visceral, and upper compared with lower body) is characteristic of adolescent period. Adult males have 150% of the lean body mass of the average female and twice the number of muscle cells. As height velocity declines, fat accumulation resumes in both sexes but is twice as rapid in girls. The increase in skeletal size and muscle mass leads to increased strength in males.

Hormonal Changes during Puberty

The activation of hypothalamo – pituitary –gonadal (H-P-G) axis results in production of gonadotropins, luteinizing hormone, follicle stimulation hormone, sex steroids, estrogen and testosterone. The adrenal androgen causes sexual hair, acne and underarm odor. There is gonadostatic effect during infancy and early childhood. The pulsatile secretion of GnRH gradually activates H-P-G axis (Gonadarche). The extra gonadal growth hormone helps in the somatic growth during puberty. Hence the major determinants of height are growth hormone, IGF – growth factor,sex steroids, nutrition and exercise .Cognitive and social development takes place during adolescence with subtle structural changes and differential growth in adolescent brain.

Assessment of growth and development during puberty in office practice

The assessment of sexual maturity is done as per Tanner classification. As there is variability in time of onset, progression of puberty needs the assessment by sexual maturity rating. The somatic growth can be assessed by the weight, height, body mass index and skin fold thickness. The revised IAP 2015 growth charts can be used for the assessment. The waist circumference adds to the assessment of overweight and obesity.

Nutritional advice to teens in office practice

Adolescents are in need of adequate protein and energy requirement. Other important nutrients are calcium, iron, zinc, vitamins and fiber. Nutritional status assessment begins with good diet history of the teen. The nutritional deficiencies during adolescence can have long term consequences like short stature, sexual maturation delay, osteoporosis, hyperlipidemia and obesity. Vitamin B12 deficiency especially in a vegetarian adolescent needs to be assessed. Other nutrients like iodine, vitamin D and essential fatty acids deficiencies also should be assessed. A good balanced diet provides adequate calories and nutrients to meet the needs of these adolescents.

Key Messages

- Pubertal assessment done by Sexual Maturity Rating is important to assess progression of puberty
- Physical growth should be assessed using IAP height, weight and BMI charts

Basics of Adolescent Counselling

Dr Sushma P Desai, Dr Preeti M Galagali, Dr Atul Kanikar

Objectives

1. To understand the basics of counseling an adolescent client in office practice

2. To learn the components and steps of the counseling process

Counseling is a process of client and counselor interaction which helps the counselee to gain insight into their situation and understand their adaptive and maladaptive coping strategies (e.g anger outburst, breakdown of communication, addictions). The counselor attempts to empower the counselee to find solutions and coping strategies for enhancing emotional wellbeing.

Technically, counseling is the process that helps people to identify their problems, helps them to make decisions and then gives them the confidence to put their decisions into the practice. The counselor should provide accurate information, ensure strict confidentiality and take into account psychosocial, financial and spiritual needs of the client to guide them through the steps of decision making.

The counseling process could include provision of health education, ventilation of emotions, identifying problems, exploration of situations and identifying adolescent's perspective that is contributing to the problem. The counselor assists the adolescent to generate situation specific solutions and use adaptive skills and motivation to enhance self-development and empowerment. Extra time needs to be set aside for counseling. Distressed adolescents are looking for non-judgmental, unconditional and respectful support from the counselor. Behavioral change interventions and counselling during adolescence will have a long term health benefit.

Skills required for counseling include:

1) Confidentiality
2) Empathy
3) Nonjudgmental attitude
4) Active listening
5) Professional ethics
6) Goal directed counseling with defined end points or referrals.

World Health Organization's (WHO) **GATHER** approach defines the basic steps to be followed while counseling an adolescent.

- **G**reet and introduce : The counselor should greet the adolescent and introduce himself / herself.
- **A**sk and listen actively : Counselor should focus completely on the adolescent while talking to him/ her.
- **T**ell relevant information : Counselor should share scientific information and facts with the client.
- **H**elp in exploring various options and making an action plan : Counselor should discuss pros and cons of various options with the client and help him to choose the best plan.

- **E**xplain and review key points : The plan of actions, the goals to be achieved should be discussed and doubts clarified before closure of the counseling session.
- **R**eturn for the follow up or **R**eferral : The client is given an appointment for the follow up and / for the referral to other professionals as per the individual case requirement.

Psychosocial history taking in the form of HEADSSS screening is an extremely crucial part of the counseling. HEADSSS screening provides wealth of information about adolescent's emotional wellbeing, determines strengths, screens for high risk behavior and psychiatric disorders and indicates the area of therapeutic intervention.

As adolescence is the turbulent phase of rapid psychosocial changes, many adolescents pass through the period of temporary maladjustments. They may need counseling to resolve personal problems, improve personal effectiveness through life skills, to be motivated for change in behavior(adopting healthy lifestyle /quit smoking) or for improving scholastic performance.

During counseling, all adolescent concerns should be addressed and treatment plan should be outlined. The management plan should be discussed first with the adolescent and then (with their permission) with the parents. The adolescent should fully understand the plan and its relevance. The risk and rewards should be highlighted, with motivates the adolescent to adhere to the plan. It is very important to address all the roadblocks to the compliance.

Though the principles of counseling remain the same the process of counseling an adolescent differs considerably from that of a child or an adult. Adolescents are in their transition between childhood and adulthood with physical, emotional and social challenges to face. The maturity level of each adolescent differs and that decides the pace and contents of each session. The counselor sets the context in a non judgmental manner so that the adolescent feels the ease and eagerness to self disclose. Privacy and confidentiality are two key issues that have to be taken care of during counseling.

Parental Counselling

Parents are the partners in the health care of adolescents. It is important to work hand in hand with them to get the best results. Parental counseling forms a part of family therapy and interpersonal therapy for anxiety and depression in adolescents.
The parents of adolescents should be given anticipatory guidance regarding :

1) Adolescent physical growth and development as well as areas of concern regarding psychosocial health,at least once during early, middle and late adolescence.
2) Positive parenting tips and importance of parental harmony, limit setting and consistency while dealing with adolescents.
3) Topics to be discussed with the adolescents during 'teachable moments' : Family values, expectations and responsibilities, sexuality, drug use, spirituality, nutrition, physical activity, sleep , safety issues , emotional health (especially anger management) and life skills.
4) Overcoming challenges of compliance and adherence to the treatment of chronic illness like asthma, diabetes, epilepsy, depression

Counseling is an important component of comprehensive medical care for adolescents. It may be the only treatment component for psychological distress or mild psychiatric illness. Counseling complements conventional medical treatment for all adolescents. Pediatricians should learn the science and art of adolescent counseling.

Key Messages

- Counseling is an important part of comprehensive adolescent health care.
- HEEADSSS screening and parental counseling are important components of adolescent counseling process.
- Confidentiality, active listening skills, nonjudgmental attitude and empathy are important counseling skill.

Adolescent Parenting

Dr Sushma P Desai

Relax! The horror stories you have heard about adolescence are false. … Like it or not, your child is trying to grow up. The adolescent doesn't want you to solve every problem anymore. When parents welcome signs that their child is growing up and expect the best from their child, they often find adolescence the most rewarding time in their parental career."
– Laurence Steinberg

Objective

To discuss essentials of adolescent parenting

It is important for pediatricians to give anticipatory guidance to parents regarding developmental changes in adolescents, normative adolescent behavior, positive parenting and flag signs of mental disorders. This chapter gives the essentials of anticipatory guidance for parenting adolescents.

Adolescence is the most dynamic phase of life**.** It is important for the parents to understand the characteristic features of all three stages of the adolescence to deal with them in the most appropriate manner. A few characteristic features of the stages are enumerated below:.

Early Adolescence (10-13 years)

- Argumentative
- Seeks privacy, autonomy
- Self conscious
- Body image concerns
- Tendency to return to 'childish' behavior when emotionally disturbed.
- Same gender friends. Curiosity in Opposite sex.

Middle Adolescence (14-17 years)

- Parental conflicts and questioning authorities
- Symbolic movement away from the family
- High peer influence
- Opposite gender attraction, dating
- Sexual surge and experimentation, risk taking behavior
- Abstract thinking starts, shifts back to concrete thinking during crisis
- Mood Swings, emotionally unstable
- Struggle between high expectation and poor self-concept.

Late Adolescence (18-21 years)

- Growth slows down. Stable body Image.
- Self identity consolidates
- Increased emotional stability
- Future planning: career goal
- More serious relationships: intimacy, possible commitment
- Peer influence reduced, increased concern for others.
- Adult-adult relationship with parents

Parenting Styles

There are 4 types of Parenting Styles

1. Positive parenting with high expectations, high nurturance, high respect
2. Dominating parenting with high expectations, low nurturance, low respect
3. Permissive parenting with low expectations, high nurturance, moderate respect
4. Unengaged parenting with low expectations, low nurturance, low respect.

Positive parents provide limits, set clear rules and boundaries and at the same time encourage independence. It is supposed to be the best parenting style. Research says that teens raised by positive parents do better in schools, have lower rates of depression and stress, are less likely to engage in risky behavior, have better social skills, are respectful and deal better with conflicts. To strengthen relationships with young adults, parents should share at least one meal daily with them and engage in shared activities with them on a regular basis. Opportunities for parents and teens to talk and discuss important values and concerns increase with consistent involvement and time together.

For raising teens, parents should follow four key concepts as follows:

1. Nurture connectedness. Adolescents who express a sense of connectedness to parents, family and school are at reduced risk for unhealthy behavior. Parents should express affection frequently with hugs, approval, etc., express encouragement and interest i.e talk to children, support activities and spend time in shared activities, including recreation.

2. Express parental expectations and monitor behavior. Generally high expectations about behavior are protective against risky behavior. Clear expressions of high parental expectation (e.g., get good grades) actually reduce emotional stress in youth. Setting clear expectations for behavior is called ‘regulation’. Regulation helps teens learn which behaviors are acceptable. Parental regulation assists emotional regulation. Regulation shows parental concern. Adolescents appreciate it from within, though outwardly they may protest. Parents should involve the youth in establishing family rules and framing consequences, if the rules are broken. They should enforce consequences when rules are broken. Parents should monitor both online and offline behavior.

3. Enable decision making and autonomy. One of the most important parental tasks is to establish autonomy in teens, as a part of preparation to function as independent adult in future. To develop healthy decision making and autonomy in adolescents, parents should encourage independent thinking and respect teen's ideas, validate the feelings of the adolescent and express unconditional love.

4. Encourage positive peer relationships. Parents should provide a positive, friendly atmosphere for peers of adolescents. They should get to know the parents of peers and communicate with them about expectations. They should assist and coach your child in making friends, keeping friends and appreciating friends. Parents should help teenagers find a supportive peer network to reinforce good behavior

Parents should seek professional help when teen continually acts dangerously without regard for safety, regularly abuses food, sex , uses drugs, steals or damages property, misses social cues, unable to listen or concentrate, has problem monitoring his or her behavior, has no friends or frequently fights with peers, has academic decline and indulges in self harm and suicidal behaviour.

Key Messages

- Parents should understand normative adolescent development
- Positive parenting style nurtures healthy adolescence
- Parents should seek early professional help for distressed adolescents

Approach to Pubertal Issues

Dr Chandrika Rao

Objectives

1. To discuss common pubertal issues
2. To explain a practical approach and management of pubertal disorders

Puberty is defined as a period characterised by the physical changes associated with sexual and reproductive maturation. Hypothalamic–pituitary–gonadal (HPG) axis regulates the control of puberty.

Commonly seen pubertal issues are: physiological problems related to growth like delayed puberty, obesity, precocious puberty; social issues like peer pressure, temporal discounting and anxiety, eating disorders, depression.

Growth disorders

Obesity is a growing childhood problem. It is defined as Body mass index (BMI) >95thcentile .(weight in kilograms divided by height in meters squared).Other systemic involvement like metabolic disease, delayed puberty, hypertension, hypertriglyceridemia, insulin resistance and cholelithiasis must be ruled out.

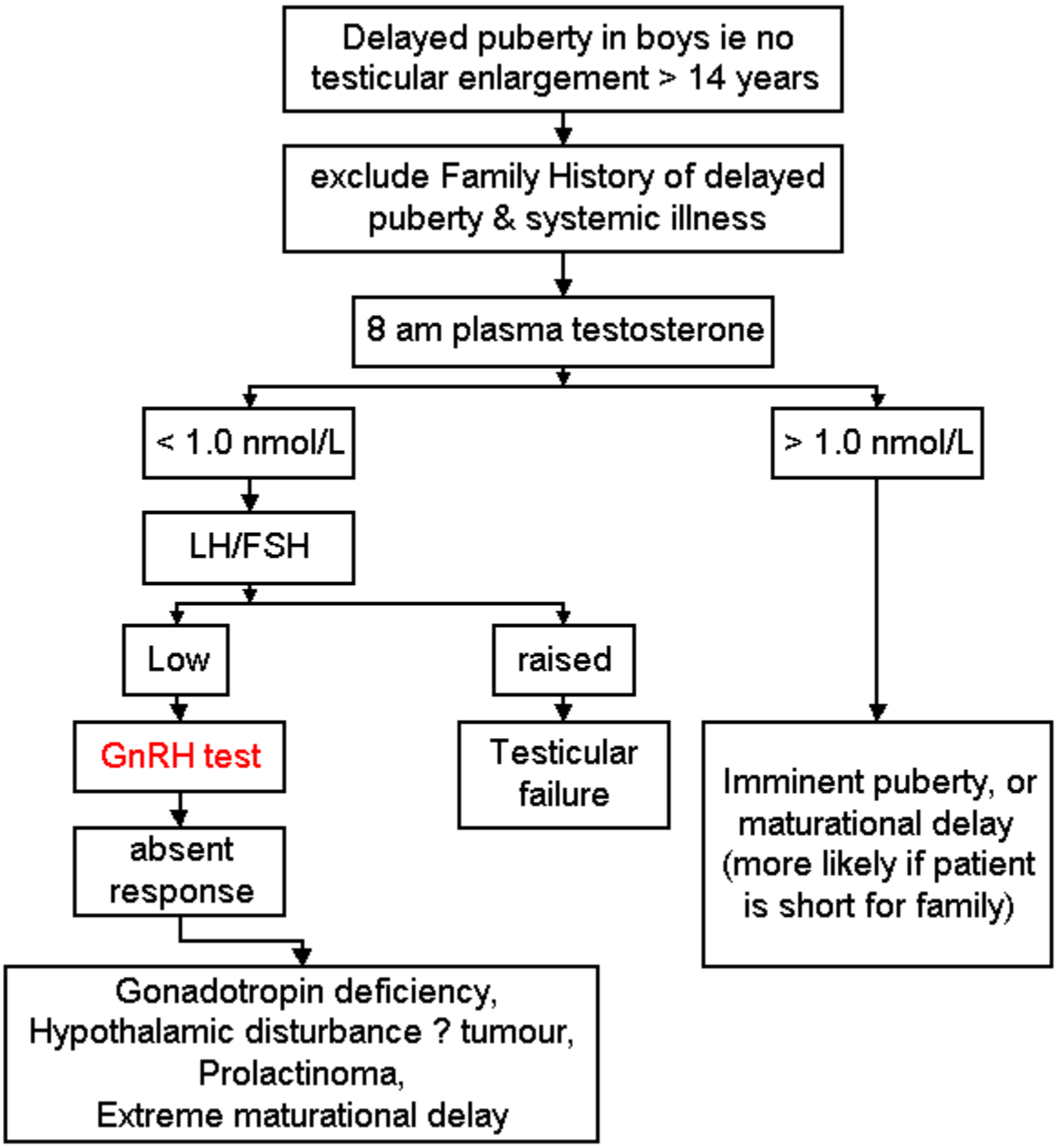
Delayed puberty is defined as the lack of pubertal development by 2 SD above the mean age for the general population. An absence of an increase in testicular volume (less than 4 mL) at 14 yers in a boy or absence of any breast development at 13 years in a girl, delay in the onset, progression or completion of puberty is sufficient to cause concern to the adolescent, parents or physician. Causes of delayed puberty according to presenting history and examination findings are shown in Table1. Evaluation of delayed puberty in boys and girls is shown in figures1 and 2. Referral to a pediatric endocrinologist may be warranted after the initial evaluation.

Table 1.Delayed Puberty: History and Physical Examination Findings

Findings	Possible diagnoses
Abdominal pain	Gastrointestinal disease
Anosmia	Kallmann syndrome
Asymmetric testes	Oophoritis or orchitis
Body mass index and weight (on growth charts)	Low: eating disorder, caloric insufficiency, gastrointestinal or other systemic disease
Chemotherapy, radiation treatment, brain tumor	Hypogonadism
Cryptorchidism or orchidopexy	Hypogonadism
Dysmorphic features (webbed neck, short stature,	Turner syndrome

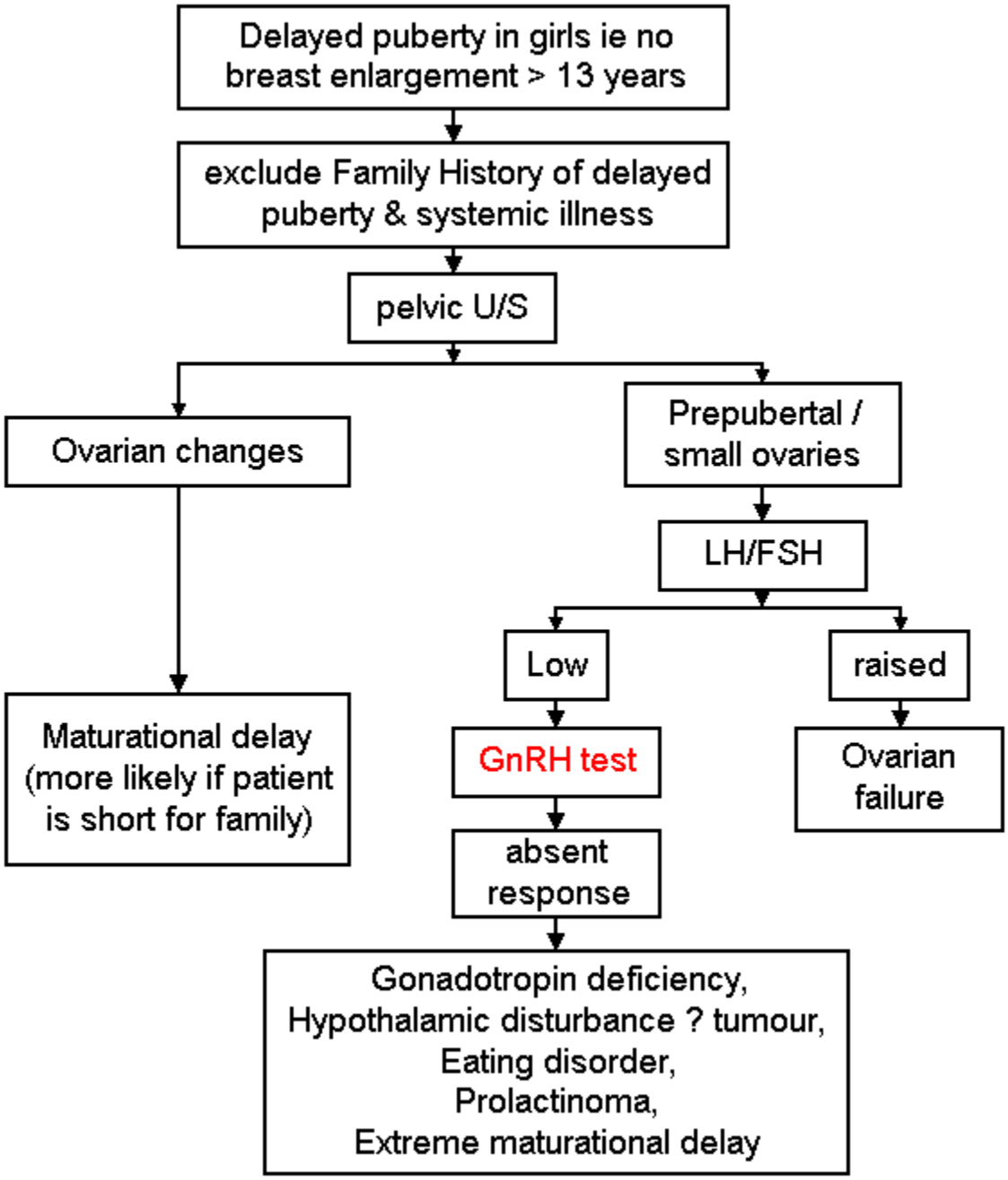
Findings	Possible diagnoses
low hairline)	
Enlarged thyroid	Hypothyroidism
Family history of late puberty	Constitutional delay of growth and puberty
Galactorrhea	Hyperprolactinemia
Growth velocity	Peripubertal growth slowing, pathologic growth due to underlying condition
Height (growth chart)	Short stature: Turner syndrome, constitutional delay of growth and puberty Tall stature: Klinefelter syndrome
Joint pain	Inflammatory disorder
Neurologic assessment (abnormal examination findings or symptoms such as headaches, vision changes)	Intracranial pathology
Red (vs. dull pink) or thin vaginal mucosa	Lack of estrogen exposure (hypogonadism)
Sexual maturity rating	Delayed pubertal development (unspecified)
Small, firm testes	Klinefelter syndrome
Temperature intolerance, gastrointestinal symptoms, tremor, depression, palpitations	Thyroid disease
Trauma (head)	Hypogonadism
Vasomotor symptoms in girls	Ovarian insufficiency
Weight loss, stress, excessive exercise, inadequate nutrition, fatigue	Eating disorder, caloric insufficiency

Fig 1- Delayed puberty in males



Ref-www.ispae.org.in and Mark R. Palmert, Leo Dunkel ,Delayed Puberty,N Engl J Med 2012; 366:443-453.

Fig 2. Delayed puberty in females.



Management of delayed puberty

The following drugs can be used in boys:

Low-dose Oxandrolone (0.1 mg/kg/day, 2.5 mg/day for 3–12 months) causes mean increment of height growth velocity. Aromatase inhibitor: letrozole (2.5 mg/PO) increases height velocity to reach mid-parental height. Dihydrotestosterone (DHT) (50 mg IM every 2 weeks, for 4 months) is associated with appearance of secondary sex characteristics (Tanner II), increased lean body mass and decreased percentage of body fat .

Recombinant growth hormone treatment for constitutional delay of growth and puberty is used for boys with height 160 cm or less

Estrogen replacement for delayed puberty in girls is for attainment of secondary sexual characteristics, attainment of menses, stimulation of pubertal growth spurt, acquisition of bone mineral mass and uterine development. The replacement is initiated at age of 10-12 years and is continued over 3 years. Once dose of 10-15mcg of ethinyloestradiol has been reached, breakthrough bleeding becomes apparent and then progesterone is added on a cyclic basis to prevent endometrial hyperplasia and later OCP is started. Dosing- 0.3mg conjugated estrogen daily or 5mcg of ethinyl estradiol daily or transdermal estrogen 25mcg twice weekly. Increase q6-12 months until maximum (20 mcg). GnRH is used for inducing fertility.

Precocious puberty is defined as secondary sexual characteristics development at an age earlier than 2.5 SD mean for that age. It results due to abnormalities in HPA axis due to abnormal levels of hormones, CNS lesions i.e tumors (eg, astrocytomas, gliomas, germ cell tumors),hypothalamic hamartomas, surgeries trauma which lead to CNS injury, congenital anomalies (eg, hydrocephalus, arachnoid cysts, suprasellar cysts)

Social Disorders

‘***Risk taking behaviour’*** occurs due to dopamine receptor overproduction in adolescence
Negative peer influence *can lead to* violence, eating disorders, decline in academic performance and drug use

Mental Disorders

During adolescence, there are dramatic shifts in social behaviour and emotional reactivity due to the oestrogen and testosterone receptors in amygdale. Depression, anxiety and eating disorders may manifest at this age.

Medical Disorders

Problems like refractive errors, acne, headache, musculoskeletal problems, chronic medical illnesses like diabetes, asthma etc may be present in adolescent age as a new issue or a chronic illness from childhood.

Approach to Pubertal Issues

1. History of presenting complaints, HEEADSSS , family history, birth and developmental history is elicited
2. Physical examination: Primary and secondary sex characteristics along with anthropometry are noted. Evidence of hypertension , congenital anomalies like microphallus, cryptorchidism, midline defects, synkinesia, or renal agenesis and obesity, acanthosis nigricans, skeletal problems like bowed tibias and slipped femoral epiphysis are also looked for. Sexual maturity rating is done in detail

Management of Pubertal Issues

Physicians have the opportunity for early identification of pubertal problems like obesity and delayed puberty through routine physical examination. Mangaement of delayed puberty has already been discussed. Precocious puberty would present before 10 years and hence has not been discussed in detail in this chapter.

Lifestyle interventions focus on diet, physical activity and behavior modification. These are family-based and target both parent and adolescent behaviors. Adolescents are advised increased consumption of fruits and vegetables, whole grains, low-fat and non-fat dairy products, beans, fish and lean meats with emphasizing the need for reducing high-fat and high calorie foods and eliminating or limiting sugar sweetened beverages such as soft-drinks and fruit drinks. A regular exercise routine of 60–90 min of moderate to vigorous activity per day is advised . These could include running, jumping, muscle building like sit ups, push ups or free play like basket ball. Total non-academic screen time should be kept to a minimum. Replacement of screen time with physical activity should be encouraged. Sleep should be around 8 to 9 hours , all at once and no napping during the day . Hypertension and hypertriglyceridemia due to obesity are managed mainly by weight and dietary restriction of refined carbohydrates. Anxiety, depression, acne and eating disorders require specific therapeutic management..

Annual health screening is recommended for all adolescents. Conditions such as hypertension, hypertriglyceridemias, chronic illness require initial weekly followed by monthly or greater interval. Anthropometry, diet charts and immunisation must be reviewed at each visit. Mental health screening must be done using HEADDSSS questionnaire. Anticipatory guidance should be given.

Key Messages

- Pubertal issues affect physical, psychological, social and emotional well being
- Management of delayed and precocious puberty depends on the cause
- Annual health screening is recommended for all adolescents for early detection, evaluation and management of pubertal issues

Common Mental Health Issues in Adolescence

Dr Amitha Rao

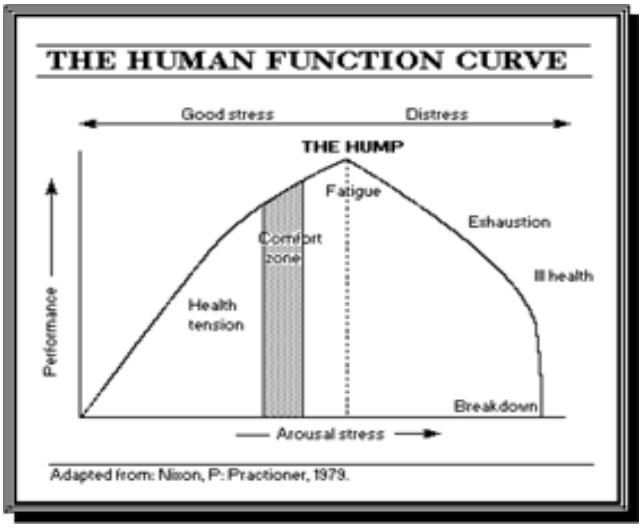
Objective

To discuss etiology, clinical features and practical management of adolescent distress, anger, defiance and internet addiction disorders

Pediatricians should screen for mental disorders in adolescents. 50% of mental disorders present before 14 yrs. There is poor health seeking behaviorof adolescents and pediatricians may be the first and only point of contact. Common mental health issues encountered in office practice are poor school performance, stress, anger outbursts, defiance, media addiction, depression, anxiety and suicidal behavior.

Stress

Stress can be defined as mental, physical, emotional and behavioral reaction to any perceived demand or threat. Hormonal changes and immaturity of the brain causes heightened stress response in adolescence. Imbalance in the development of amygdala in relation to pre frontal cortex is responsible for the heightened emotionality. Stress experienced is more when adolescents perceive a situation as dangerous, difficult or painful and they do not have the resources to cope. Too much stress can have negative consequences like anxiety, withdrawal, aggression, physical illness, drug use and suicide. Broadly, the stress is classified into **eustress** (good stress) and **distress** (stress that harms). As illustrated in the figure below, increased stress results in increased productivity – up to a point, after which things go rapidly downhill. However, that point or peak differs for each teen, so we need to be sensitive to the early warning symptoms and signs that suggest a stress overload.



Common stressors in adolescents include:

- School demands and frustrations
- Negative thoughts or feelings about themselves
- Changes in their bodies
- Problems with friends and/or peers at school
- Separation or divorce of parents
- Chronic illness
- problems in the family
- Death of a loved one
- changing schools

Clinical presentation

Stress can present with various physical, mental and emotional symptoms as shown in the table below

Physical Symptoms	Mental Symptoms	Emotional Symptoms
Headache Nervousness Abdominal pain Perspiration Fast heart beat	Lack of concentration Forgetfulness Decline in scholastic performance Carelessness	Bored Sad/depressed Anger outbursts Nightmares Withdrawn Aggression

Warning signs of stress overload in teens

Distressed teens may present to the pediatrician with the following

- Increased complaints of headache, stomachache, muscle pain and/or tiredness.
- Withdrawing from people and activities.
- Increased anger or irritability.
- Crying more often and appearing teary-eyed.
- Feelings of hopelessness.
- Chronic anxiety and nervousness.
- Changes in sleeping and eating habits
- Difficulty concentrating.
- Experimentation with drugs or alcohol.

Clinical assessment

HEEADSSS psychosocial history should be elicited from both the parent and adolescent. Privacy and confidentiality must be assured. Stress is considered to be severe if it effects the functioning of the adolescent in academic and social domains. Objective assessment of stress could be done using perceived stress scale, sleep scales, heart beat variability and salivary cortisol levels.

Management

Stress is a part of normal life. It is impossible to completely eliminate stress rather teenagers should be taught to cope up with stress and avoid buildup of high levels of stress causing distress.

Techniques to manage stress in adolescents:

- Life skills to cope up with stress - problem solving and managing emotions
- Healthy diet and regular exercise.
- Good sleep hygiene.
- Avoid excess caffeine, illegal drugs, alcohol, and tobacco.
- Relaxation exercises –deep breathing, muscle relaxation techniques,yoga,meditation.
- Rehearse and practice situations which cause stress.
- Take deep breaths, saying “I can handle this”
- Break a large task into smaller, more attainable tasks.
- Help set realistic attainable goals
- Decrease negative self-talk.
- Changing the attitude: Learning to accept things that cannot be changed. To find other ways to think about the stressful situation with positive talks.
- Find a support system and talk about feelings
- Counseling the caretakers regarding active listening, open communication and aiming for realistic goals

Referral to psychologist and child psychiatrist may be considered in cases of severe distress with depression, anxiety, substance abuse and suicidal behavior.

Anger

Anger is a powerful response, triggered by another negative emotion,that results in an attack of variable intensity that is not always appropriate

There are five key points to note in this definition:

1. Anger is a POWERFUL emotion
2. It is a RESPONSE to some other factor or factors.
3. It requires a TRIGGER
4. It varies as to its INTENSITY; it is nonetheless INTENSE
5. It is NOT always APPROPRIATE, which is to say that there are times when it is appropriate

Following emotions could result in ager:

- Hurt due to rejection and / or sense of injustice
- Fear due to perceived insecurity i.e fear for safety, fear of change and/ or fear of not being in control.
- Protection of 'self' that includes protecting self-image and self-esteem
- Frustration due to blocked goals, failed plans and injustice

Due to various stressors, many adolescents experience anger. It is often the way in which anger is expressed, rather than the anger itself that becomes a problem for many students. Anger becomes a problem when it is felt too intensely or too frequently or expressed inappropriately. Uncontrolled anger may be associatedwith aggression. Anger is a feeling, and aggression is an action. Aggression is a behavioral act that results in harm or hurt to others. It is an externalizing behavioural manifestation of anger. Aggression is related to mental health problems including externalizing disorders (oppositional defiant disorder and conduct disorder) as well as internalizing disorders(depression and anxiety). Teenage is the period of life with uncertainty, self-consciousness, moodiness, conflicted emotions and irrational urges. Anger and aggression may be a part of larger psychological problem (like conduct disorder or anxiety disorder) or as an independent problem.

Many factors might contribute to uncontrolled anger in adolescents.Important ones are as follows:

- Distress
- Harsh parenting
- Poor role modeling
- Social skill deficits

- Learning disabilities
- ADHD
- Mood disorder
- Body dissatisfaction
- Sexual, physical and emotional abuse

Adverse consequences of uncontrolled anger are the following

- Aggression
- School violence
- AHA (Anger,Hostility,Aggression)Syndrome
- Depression
- Substance abuse
- Suicide

Management

Goal of anger management should not be to get rid of anger but to make sure that the response is appropriate

- Screen for underlying mental health illness
- Screen for hidden primary emotions
- Identify triggers and cues- identify the events that trigger anger, as well as the physical (increased heart rate, flushing), behavioral (raising voice, clenching fists), emotional (fear, hurt, jealousy) and cognitive (negative talks, aggression) cues.
- Monitor anger- use of anger meter to rate anger
- Develop an anger control plan that works the best for the client. For example to talk about their feelings with a supportive friend ,time out and deep breathing, channelise energy into a physical activity, accept situations which cannot be changed, improved time management, follow a healthy life style
- Behavioral interventions

  Relaxation training Most angry people have heightened emotional and physical arousal. As they reduce their anger through relaxation, they feel calmer and more in control.

  Homework assignment Adolescents may be assigned to engage in self-monitoring of their thoughts and/or behaviours, keep an anger log

Assertiveness training and Social skills training This enables appropriate verbal expression of anger

Distraction techniques After learning to identify cognitiveand/or bodily cues that are precursors of anger, adolescents can be taught a variety of distraction techniques, including counting to 10 and removing themselves from the environment

Problem solving skills This life skill helps to deal with the anger triggers

- Partnership with parents and parental training forms an important component of anger management in adolescence

Defiance

Oppositional defiant disorder (ODD) belongs to a group of behavioral disorders called disruptive behavior disorders (DBD). The most common behaviors that children and adolescents with ODD show are defiance, spitefulness, negativity, hostility and verbal aggression. Adolescents can be uncooperative and hostile at times but those with ODD show a constant pattern of angry and verbally aggressive behaviors, usually aimed at parents and other authority figures. If left untreated, ODD can develop into conduct disorder (CD) and later juvenile delinquency. ODD and CD are at risk for substance use.

Exact etiology is unknown. Acombination of biological, psychological and social factors are known to have a role. There may be family history of conduct or mood disorder.

Clinical features

Questioning and arguing may be a part of normal adolescent development. Sometimes it may be difficult to distinguish ODD from normative behaviour.

Children with ODD show an ongoing pattern of hostility and defiance that:

- Is constant
- Lasts at least 6 months
- Is excessive compared with what is usual
- Is disruptive to the family and the school
- Is usually directed toward an authority figure (parents/ teachers)

They might present with behaviours like excessive arguments with adults, often questioning rules, deliberately annoying others,often touchy or annoyed by others, blaming others for their mistakes and frequent outbursts of anger

Diagnosis

It is important to differentiate between normal development process and ODD. To diagnose ODD, it has to meet certain specific criteria mentioned in DSM 5. Detailed history and examination has to be done to rule out any physical cause for the behavior. Also efforts should be made to screen for mental health disorders which may coexist/responsible for the defiant behavior like ADHD/learning disability/depression/anxiety.

Treatment

Treatment depends on the severity of the behavior as well as the coexisting mental health condition. Child can be taught positive ways of responding to stressful situations as well as to peers in school. Other therapies which may help are cognitive behavior therapy, assertiveness training, communication skills, anger management and relaxation techniques. Parents need to be counselled to increase positive parenting practices and reduce negative parenting practices like harsh punishments/focusing on negative behaviours. Punishment should be consistent for the disruptive behaviours. Psychiatric referral has to be done for further evaluation and management if there is poor response to counselling.

Internet Addiction Disorder (IAD)/Problematic Internet Use (PIU)

Most teens communicate through the internet and largely stay connected with one another and society through smartphones. Excessive internet usage may simply be a part of teen life. It is said to be problematic usage if it leads to sleeplessness, struggles with regular human interaction, inability to keep up with responsibilities and an intense compulsion to use the phone inspite of adverse consequences. All adolescents should be routinely educated about healthy media use during anticipatory guidance.

Internet addiction is a broad concept. The appropriate definition of internet addiction disorder (IAD) is currently controversial. Some investigators have linked Internet addiction to addictive disorders, grouping it alongside alcohol and drug use disorders. Addiction to a substance and addiction to a behavior may look similar in their effects on behavioral patterns, emotions and physiology. Others have linked Internet addiction to obsessive compulsive disorder or to the impulse control disorders. Internet addiction is often related to conditions of anxiety , depression as well as to social isolation. Under DSM 5 and ICD-11 internet gaming disorder (IGD) has been classified as a mental disorder.

A suggested definition of IAD is persistent and recurrent use of internet causing clinically significant impairment or distress as indicated by five or more of the following:

1. Preoccupation with internet

2. Tolerance

3. Unsuccessful attempts to control or stop internet use

4. Withdrawl- restless/moody/depressed or irritable when attempting to cut down or stop internet use

5. Uses it as a way to escape from problems

6. Lies to family members/therapist regarding the time spent on internet

7. Continued excessive use of internet despite knowledge of psychosocial problems

8. Jeopardizes social relation /education

IAD can be mild, moderate or severe depending on disruption of normal activities.

Subtypes of IAD

1. Video game addiction

2. Social network site addiction. Here online relationships become more important than real life relationships. Teens who are addicted constantly check ones wall posts, post updates and comment on pictures and posts

3. Online entertainment addiction. Excessive web browsing and watching online videos are the features of this addiction

Etiology

Like for most psychiatric disorders, it is hypothesized that IAD follows the bio-psycho-social model. Individuals who develop internet addiction may have genetic vulnerability for addictive disorders (e.g., substance use disorders, pathological gambling) and other psychiatric conditions such as ADHD and depression. Teens who spend significant amount of time online present with

depression. It is not clear whether being online for longer periods produces depression or teens with depression seek internet related recreational activity.Teens with ADHD are drawn to internet especially gaming. They are drawn to dopamine producing activity on internet mainly due to deficit in functioning of pre frontal cortex.In social anxiety, in addition to producing pleasure it allows teens to engage in social relation with online friends and this makes them feel confident and popular. Interaction between environmental and genetic factors plays an important role in the development of IAD. The current understanding of addiction suggests that some individuals may be more susceptible to IAD than others due to their genetic vulnerabilities. The following may predispose to IAD:

- Feeling curious/bored/lonely/depressed/anxious. May decide to go online to kill time. Feels better on the social media.
- Feeling disconnected from family/friends. Might feel like a misfit in society but feels at ease on social media
- Loneliness/Low self-esteem. May go online to connect with others
- For introverts and those with social anxiety, it gives a platform for social interaction

Clinical features

Warning signs that the child is heading towards Internet Addiction Disorder are:

1. A preoccupation or obsession with Facebook, gaming, YouTube, porn, etc.

2. Lying or hiding online gaming and internet use.

3. Disobedience to time limits.

4. Diminished interest in other activities (that used to be pleasurable).

5. Social withdrawal from family and non-virtual friends.

6. Psychological withdrawal from the game (when player stops) or the Web (when offline).

7. Using gaming as a psychological escape from depression/ anxiety.

8. Continuing to game or be online despite the negative consequences to sleep, physical or emotional health, relationships, school, or work.

9. Engaging in illegal activities, such as cyber-bullying or hacking

Screening

Usually a child struggling online is also struggling offline due to psychiatric illness or developmental challenges.The internet provides a powerful solution to offline problems but further increasing the vulnerability.

Unlike alcohol and other addictive substance, which is not an essential part of our lives, internet offers benefits in everyday life. So considering an individual as internet addict in a single interview is impossible. Adolescents may come to professional help with the complaints of depression, anxiety, obsessive and compulsive disorder, later on while eliciting a detailed history underling internet addiction can be diagnosed.Internet addiction test and problematic internet use questionnaire are used for assessment of internet addiction.

Treatment

Treatment goal of IAD cannot be total abstinence. Goal should be to normalize network use

- Careful clinical evaluation and assessment of comorbid conditions
- Reality therapy (RT) is a behavior therapy which include sessions to show clients that addiction is a choice and to give them training in time management and encourage them to change their behavior by introducing alternative activities
- Behavioural therapy
  Help to identify patterns of net use using a log book and suggest new schedule
  Set clear goals (with regulation to time)
  Limit and shorten internet usage time
  Use external stoppers as activities prompting the patient to log off
  Abstain from a particular application that the client is not able to control
  Use reminder cards (cues to remind costs of IAD and benefits of breaking it)
  Develop a personal inventory (all actions patient used to engage in and cannnot find time because of IAD)
  Computer free day at least once a week
  Support groups

- Family therapy may be necessary among addicts whose family relationships have been disrupted and negatively influenced by IAD. Intervention with the family should focus on following main areas: (a) educate the family on how addictive the internet can be, (b) reduce blame on the addict for behaviors, (c) improve open communication about the pre-morbid problems in the family which drove the addict to seek out psychological fulfillment of emotional needs on-line, and (d) encourage the family to assist with the addict's recovery such as finding new hobbies, taking a long over-do vacation, or listening to the addict's feelings.

Key messages

- Stress can have varied manifestations and warning signs of stress overload should be identified in daily practice.
- All adolescents should be taught stress management techniques
- Maladaptive response to stress can lead to depression, anxiety, drug use and suicide
- It is important to understand the hidden emotion behind anger in adolescents
- Adolescents should be educated regarding healthy expression of anger and trained regarding anger control methods which suits them the best
- It is important to distinguish between normal developmental changes and ODD
- Diagnosis of ODD is as per DSM 5 criteria
- Internet addiction is similar to substance abuse in pathophysiology and manifestations
- Those with internet addiction should be screened for coexisting mental disorders
- Family counseling forms an integral part of management of adolescent behavioral disorders

Practical Tips for Conducting Family Life Education,

Teacher's Orientation and Parenting Programs in Schools and Colleges

Dr Atul Kanikar

Objectives

1. To discuss challenges of conducting family life education programs (FLE) in schools and colleges
2. To outline a practical approach for conducting FLE programs
3. To enumerate components of a FLE program

An adolescent care pediatrician has a golden opportunity when he/she is asked to conduct a school/college program for teenagers or the gatekeepers. The entire process is immensely rewarding, enjoyable and fruitful if carried out in a professional yet friendly and empathetic manner. The principal aim of such a program is psycho-educative, preventive and frequently curative. Multiple unending queries arising in the developing brain of teenagers and their baffled caretakers are best addressed in such 'group' activities. The information, experience and explanation given to a single person's query enlighten the entire group. Sharing of individual stories gives useful insights to many.

The pediatrician has a crucial role of "directing" the discussion in a particular way. Conflicting and debatable issues need tactful midways and non-hurting words. Hyperactive participants need to be tamed and shy or quiet participants necessitate encouragement to open up. Humor (without humiliation or ridicule) is very useful in dealing with controversial and delicate issues. The key is in sticking to authentic and scientific facts.

Various styles and techniques for imparting this vital information are employed by the experts. What works best is what the pediatrician is comfortable and 'confident' with. Interactive sessions, role plays, reverse role plays, case scenarios, debates, power point slides followed by question and answer session, peer educator's interviews, giving away pamphlets, home work assignments etc are few such methods. The art is in inculcating the current burning problems like teen suicide, drug abuse, cyber harassment, bullying, sexual experimentations, family conflicts in the talk. For girls, the primary concerns are cyber safety, inappropriate touch, parental conflicts and menstrual pain. Boys tend to worry more about masturbation, size, muscle power, performance anxiety and impressing girls.

Some teenagers who are timid actually have hidden stress, which they try to resolve by keenly listening to your answers to such queries on delicate issues. As professionals, we have to spot such teens and include them in these discussions. Anonymous chits with questions collected during the talk are very useful**.** If it is felt that discussion over certain issues like suicide, bullying, inappropriate touch etc are absolutely vital, the trainer may add self written chits to the question box. The introductory part should instruct the participants about the same along with assurance of confidentiality and secrecy. *In real life, teenagers hardly get a listening ear, hence it is the duty of the facilitator to provide one.*

One must highlight the positive and promising aspects of teenage rather than the 'problematic' ones. The introduction and the concluding remarks have to leave a sense of confidence in the minds of participants. This applies equally to the talks with teachers and parents. Case scenarios (real or fictitious), news paper or TV stories, an adverse incidence in the school or college offer readymade opportunity to initiate the discussion. Pediatrician's talk should introduce each and every vital issue in a didactic way and generate interests and queries in the minds of participants. Asking open ended questions, keeping eye contact and a friendly poise garnishes the session. This comes with practice and consistency and each session becomes a new learning opportunity and gives positive reinforcement.

Only after adequate experience and confidence, one can attempt to take combined sessions for boys and girls. Such sessions are usually productive if the participants are college going students. For younger teenagers, it is advisable to take separate sessions. The presence of a male sports teacher sitting on the back bench helps to keep boys under control. Girls usually are more receptive and calm. Handling a hyperactive teenager needs tactics and patience. Such a child may be asked to take the lead role in answering the queries that keeps him/her occupied constructively.

A typical school/college program starts with obtaining official invitation. Parent teacher meetings, a patient's school, news paper articles, letters from local IAP or IMA office, are good entry points. After few sessions, other schools/colleges begin to invite the facilitators by word of publicity. One program annually should be the target for each school. Every session must be followed by session for caretakers. The program for teenagers should cover following topics:

1.	Introduction	Characteristics of teenage (expanding, experiencing, experimenting).
2.	Growth and nutrition	Normal variations, anemia, hazards of "health tonics".
3.	Personal hygiene	Cleanliness, cosmetics, menstrual hygiene, menstrual abnormalities
4.	Common health issues	Acne, dandruff, caries, headache, refractive errors, body odor etc.
5.	Media use and hazards	Screen time, Physical and psychosocial hazards, cyber safety, POCSO
6.	Road traffic accidents	Safe driving, road etiquettes
7.	Peer influence	Good and bad, ways to say "No", assertiveness versus aggressiveness
8.	Substance abuse	Evolution of a habit, stages of drug abuse, hazards, prevention
9.	Sexuality	Healthy expressions, true love, abuse, experimentations, contraception, premarital counseling for young adults
10.	Mental health	Life skills, helping self and others, stress management

The orientation program for teachers and parents should include following topics:

1.	Introduction	Parenting (5 basics)* (see below)
2.	Brain development	Teenage behaviors and hazards, various risk taking behaviors
3.	Communication skills	Dos and don'ts, non verbal communication, conflict resolution
4.	Case scenarios	Social media, depression, drug abuse, teenage rebel, scholastic setback
5.	Conclusions	Question answers and feedback

*The 5 basics of parenting as coined by the Harvard school of psychology are as follows:

1. **Love and connect:** Caretakers should 'unconditionally' love the teenagers. In case of a mischief or misdeed by teens, the parents and teachers must not blame the child and label him/her as wrongful and stupid or lazy. Instead, they should separate the child from the misbehavior and suggest areas for improvement. Any slightest act of improvement must be appreciated genuinely. Nonverbal cues like smiling, patting on the back or fluffing through the hair show and connect their love for the teenagers. This positive reinforcement encourages teens to exhibit desired behaviors in future.
2. **Guide and limit:** Disciplining children is a joint responsibility of parents and teachers. Teenagers with a fixed daily routine are less likely to break rules. Parents and teachers must clearly demarcate the limits of permissible behaviors in mutual agreement with teens. Such family and school rules may need periodic modifications. Means to follow these rules should be discussed openly and with everyone's agreement. Smaller mistakes should not be exaggerated and over-criticized. Humiliation and punishments may lead to rebellious behavior. Vigilance and periodic surveillance is necessary at least initially. In school, the group leaders and at home, elder sibs can assist the adults in this task.
3. **Monitor and observe:** Caretakers have to monitor children for any deviation from the desired behavior and progress. A regular communication between parents and teachers is mandatory for a coordinated effort. Parents should know the peer group and even the parents of peers of their teenagers for useful and effective monitoring. Any subtle change in teenager's behavior should be acknowledged and necessary steps must be taken early. Resourceful personnel like school psychologists, teen friendly teachers and peer educators should be involved in this process
4. **Model and consult:** Parents and teachers must demonstrate better means of communication and behaviors to the teenagers. It is said that children may not be good listeners but they are good observers and tend to copy the way adults behave and react to various instances. Depiction of any dislike, failure, emotional outburst and safer ways to do so should be first practiced by adults. This is particularly true about eating habits, use of social media, gender empowerment and drug abuse. An adolescent care pediatrician or a psychologist should be consulted early in case the parents or teachers fail to mange such a teenager on their own.
5. **Provide and advocate:** Parents have to make provisions for education and other activities of their children. Adequate means and time for such (unending) provisions is at

times troublesome. Ideally, the efforts must begin before the child is born. Day by day, bringing up children is becoming difficult. Every possible effort should be made by the parents to bring out the best in the child. The school has to provide adequate premises for sports and cultural activities in addition to dedicated and well trained staff. Safety and overall development of the students should be the priority. Advocacy and guidance for other teens in the society, teens of friends and relatives will complete the above five basics of parenting and teen care.

The principal aim of these programs is not to resolve caretaker's whole list of issues, but offer them a new insight and methods to handle teens in a compassionate way. Active role of both father and mother along with consistency and unanimity should be emphasized. Although most 'problematic' teenagers present with scholastic deterioration as their presenting symptom, it is some other problem (e.g. drug abuse, media addiction, broken heart, cyber harassment, depression etc) which pilfers adolescent's interests in studies. The pediatrician plan should be to identify and deal with such 'problem around the problem'. Once this obstacle/s is removed, the teen will regain his/her academic capacities and everyone in the family will be benefited. Pure academic deterioration without any obvious cause warrants the appraisal of learning skills and teacher's help.

Family life education programs can be renamed as 'teenager's wellbeing program', 'being healthy, being happy' and 'growing up with responsibility' etc. One can coin the term as per current burning issues. Some schools may object to "sexuality education program". The preparation of a particular program needs L.C.D. projector (if available), banners, posters, pamphlets, chits for queries, mike system (for a larger group), drawing sheets with pens (for parenting program case scenarios) and a properly ventilated hall. Formalities like inaugural function, valedictory speeches cause boredom and distractions in the audience and are best avoided. The real problems cases and chits mentioning alarming issues are discussed with the school authorities at the end and pediatrician has to offer appropriate guidelines and follow up. Family life education program can help to reveal hidden stress, give healthy choices to manage it and thereby ensure physical, emotional and social wellbeing of all adolescents.

Key Messages

- FLE programs in schools are essential for adolescent health and well being
- Facilitators should be aware of the challenges and roadblocks of organizing FLE in schools and colleges
- Pediatricians should partner with school management, teachers and parents to conduct FLE programs
- Both physical and mental health concerns of adolescents should be addressed through these programs

Reproductive Health Issues of Young Adults

Prof (Dr) MKC Nair

Objectives

1. To discuss prevalence of common reproductive health problems of young adults in India
2. To outline a community health package for reproductive health care of young adults

A young adult is generally a person ranging in age from their late teens or early twenties to their thirties, although definitions and opinions, such as Erik Erikson's stages of human development, vary. United Nations, for statistical purposes, defines those persons between the ages of 15 and 24 as youth without prejudice to other definitions by Member States. Adolescence (10 – 19 years, WHO), starts with a period of very rapid physical growth accompanied by the gradual development of reproductive organs, secondary sex characteristics and menarche in girls and in boys, adolescence is generally longer than girls (1).

Changes in population growth and distribution, the rise of telecommunications, the increase in travel and a decline in the family, as well as a generally earlier start of menarche and late age of marriage are contributing to an increase in unprotected sexual relations before marriage. This, combined with risks from early marriage, result in too early or unwanted pregnancy and childbirth, induced abortion in hazardous circumstances and sexually transmitted diseases, including HIV infection leading to AIDS. With more than half the world's population below the age of 25, and 4 out of 5 young people living in developing countries with inadequate access to prevention and care, there is an urgent need for action. Young people generally lack adequate knowledge about their own development and information on how to get help. Policy and legislation relating to sexual and reproductive health issues are often contradictory, and unclear or unenforced.

Reproductive Health

The International Conference on Population Development (ICPD) defines ‘reproductive health as a state of complete physical, mental and social well-being in all matters relating to the reproductive system and to its functions and processes’. It implies that people have the capability to reproduce and the freedom to decide if, when and how often to do so. Implicit in this is the right of men and women to be informed and to have access to safe, effective, affordable and acceptable methods of family planning of their choice. Reproductive health care also includes sexual health, the purpose of which is the enhancement of life and personal relations (2).

Sexual and reproductive health needs of young adults

The sexual and reproductive health needs of young adults differ from those of adults, and are inadequately served in many parts of the world. WHO supports research to help countries

understand what young adults need and how best to reach them to encourage responsible sexual behaviour and help them protect and promote their sexual and reproductive health (3). An intervention study conducted among Lucknow slum boys have shown that approximately 15-17% of youths reported intercourse outside of marriage, including about 3% who reported intercourse with a prostitute and 3% who reported oral or anal sex with another male. After the intervention, awareness that STIs including HIV/AIDS could be acquired from women other than prostitutes increased significantly from 50% to 76% in the intervention group. However, young men's awareness that they were personally at risk of acquiring STIs changed little during the intervention (4).

Healthcare providers can provide important information on sexuality and reproductive health, and need to be able to communicate this information without restriction to patients in private. This includes the provision of sexuality information and healthcare to minors without parental consent or notification.Comprehensive school-based sex education that is appropriate to students' age and developmental level is an essential part of education programs for every age. Effective programs respect the diversity of values and beliefs represented in the community and complement and augment the sexuality education children receive from their families. In this way, comprehensive sexuality education programs help young adults develop positive views of sexuality, give them accurate information regarding health and sexuality, and assist them in acquiring the skills to make healthy decisions regarding their own sexuality now and in the future.

Organizing Adolescent Reproductive Sexual Health (ARSH) Services

A cross sectional community survey in three districts of Kerala, among adolescents and youth (10-24 years) showed that the main problems faced by the young people were financial, substance abuse in family, poor academic performance, difference of opinion, disease in self/family, mental problems, lack of talent, strict parents, difficulty in mingling, love failure, broken family, loneliness and problems at school/office in the descending order. As the age advances a higher percentage of both boys (43.4%) and girls (61.7%) discuss reproductive sexual health issues among themselves. A statistically significant difference was observed in the following personal hygiene practices between 10-14, 15-19, and 20-24 years age group with higher percentages in the older groups; (i) changing napkins/cloths more than once a day (94.3%), (ii) cleaning genital organs with soap every day (71.7%), (iii) washing after urination (69.2%), (iv) washing from front to back after defecation (62.2%) and (v) washing hands with soap after defecation (73.2%) (5).

A comparison between boys and girls of 10 to 24 years, showed; (i) a higher percentage of boys knew about condoms whereas higher percentage of girls knew about copper-T, (ii) girls had a better knowledge of legal age of marriage, that both the partners are equally responsible for the problem of infertility and that the gender of the baby is determined by male sperm, (iii) above 90 % of boys and girls demanded adolescent care services and facilities for counselling (6).

Comparison among young married men and women between (15-24 years) revealed that more proportion of males had statistically significant knowledge about masturbation, night emission in boys, no relation between size of penis and sexual performance and condom prevents pregnancy and HIV/AIDS. There were no married males below the age of 20 years and only 24 females below the age of 20 years in the sample. Among the married 20-24 years group higher proportion of males had knowledge on safe period and condom use, whereas higher proportion of females had knowledge on copper-T (7).

Parent-Young adult dyad discordance

Eliciting areas of discordance between 3625 parent-young adult dyad, using similar questions for both showed that there was parental attitudinal difference towards their sons and daughters on selected parenting issues. With regard to the following: (i) anxious about young adults' physical and mental changes, (ii) received information on reproductive sexual health (RSH) from mother, (iii) do not have any abnormal vaginal discharge, (iv) parents taken precautions to prevent sexual abuse, (v) have been sexually abused, agreement with unmarried young adults' response was low. With regard to (i) knew about menstruation before menarche, (ii) got information on hygiene practices from home, (iii) have menstrual problems, agreement with adolescent response was high (8).

The perceptions of program managers and service providers using in-depth-interview technique, revealed that nearly half of them pointed out that pain and psychological disturbances like anxiety, tension and anger were the important menstrual problems faced by adolescents. Again nearly half of the program managers and service providers of adolescent programs opined that the important problems faced by adolescents were issues related to sexuality, psychosocial conflict, identity crisis, adjustment problems and scholastic problems (9). Most of the community stakeholders also suggested family life education sessions at schools and colleges for younger ones and premarital counselling for older ones, apart from counselling services and adolescent clinics (10).

The important barriers in the utilization of services for young adults are lack of awareness of parents, stigma to utilize services, economic factors, facility available at faraway places, and non-availability of services. The majority of community stakeholders felt that adolescents get knowledge regarding personal hygiene from their family itself and that they have poor knowledge about genital hygiene. Pain and associated problems are the most important difficulties faced by adolescent girls during menstrual periods. The need for adolescent friendly health services and premarital counselling services in the community attached to health facilities, has been highlighted (10).

Community Intervention Models

Interventions for young adults can be broadly divided into; (i) behavioural interventions, which seek to change the knowledge, skills and attitudes of individuals and (ii) structural interventions,

which aim at tackling broader societal issues within the family, school and the community as a whole. The two approaches are not mutually exclusive and it is likely, for example, that individual behaviour change will best be sustained within a community that is broadly supportive of those behaviours. In addition, the broader cultural perspective of the community will greatly influence the feasibility of delivering an intervention within that community and will also affect how the recipients respond to it.

Adolescent Sexual Reproductive Health Education (ARSHE) Package

An ARSHE package approved by ICMR taskforce group was administered among 1,586 school students. It was seen that as compared to boys, girls had much poorer knowledge about prevention of pregnancy and after intervention; there was a statistically significant increase in the knowledge in both boys and girls. Among girls percentage of poor knowledge had reduced significantly from 64.1 to 8.3% and among boys from 37.7 to 3.5%. The pre and post intervention knowledge regarding reproductive sexual health matters showed that in the pre-intervention period, majority of adolescents were poorly informed about reproductive sexual health matters, particularly about contraceptives (11).

Community adolescent health care

A study conducted to create a community adolescent health care and education initiative with an innovative approach of educating all community stakeholders involved in promoting adolescent health showed that ASHA workers and anganwadi workers could be important link persons between adolescents and the health providers. The steps involved in implementing project were;

Step I: Conceptualization and strategy planning for combined training

Step II: Preparation of teaching module, flip charts and pamphlets in local language

Step III: Hands on training of community trainers

Step IV: Sensitization of leadership to ensure the cooperation of all stakeholders

Step V: Formation of Teen clubs – a facility for them to come together

Step VI: The combined health education programs at community outlets

Step VII: Detection of adolescent health issues by ASHA and anganwadi workers

Step VIII: Setting up of adolescent clinics at CHCs as a community referral facility.

It may be highlighted that, under this project involving 1060 programs, 34,851 community stakeholders could be trained together including 15,777 mothers, 14,565 adolescents, 2,236 ASHA workers, 2,021 anganwadi workers, and 252 community leaders, the concept of combined training of community stakeholders was found to be feasible and acceptable to the participants(12).

Taluk model for ARSH services

Considering the extent of problems of adolescents, adolescent care counselling services at Community Health Centre and specific ARSH clinics were organized at Taluk (sub district) hospitals. Scholastic problems included poor concentration, poor study habits and low intelligence quotient. The psychosocial problems ranged from minor anxieties, sadness and adjustment problems to psychiatric disorders. The medical and reproductive problems observed among adolescent girls attending ARSH clinics were; anaemia, underweight, dysmenorrhoea, menstrual irregularities and symptoms of poly-cystic ovarian syndrome (PCOS), whereas among boys problems were mostly related to concerns about masturbation and its perceived ill effects (13).

Reproductive Tract Infections (RTIs) among unmarried girls

A study conducted to validate clinical diagnosis of lower reproductive tract infections (RTIs) against the microbiological diagnosis as gold standard among unmarried adolescents and young adults between 15 and 24 years. The observed high 0.96 negative predictive value, suggests that external genital examination is enough to rule out lower reproductive tract infections among unmarried adolescents in a clinic setting. Results of the study have shown 62.69% sensitivity, 97.78% specificity, 0.76 positive predictive value, 0.96 negative predictive value and 92.27 overall accuracy (14).

Poly Cystic Ovary Syndrome (PCOS) among young adults

Menstrual disorders are common in adolescence and can have significant consequences on future reproductive health. Results of a study among girl students in the age group 15-17 years revealed that 21.1% girls had menstrual disorders and among them 72.4% had dysmenorrhoea and 11.3% oligomenorrhoea . Only 11.5% of the girls who had menstrual problems sought treatment and majority from a gynaecologist (15). After a gap of 2 years, 136 adolescent girls from the cohort of 301 girls between 15 and 17 years of age with confirmed menstrual irregularity, with or without ultrasound diagnosed polycystic ovaries, were assessed in detail. Of the 136 cases reported, 36.0% cases were found to have PCOS and 63.9% cases were normal. PCOS was diagnosed using Rotterdam's consensus criteria and a comparative analysis was done among cases with and without PCOS and it was observed that there was a statistically significant lower percentage of irregularities in menses, acne and enlarged thyroid, but a statistically significant increase in hirsuitism as compared to assessment 2 years ago (16).

Pregnancy among unmarried young adults

A case–control study done over a period of 2 years among 181 unmarried abortion seekers and 181 unmarried non-pregnant controls (≤24 years), suggested that family-related matters, namely family problem, poor intra-family relationship, and lack of appropriate parental supervision and control have independent association with unmarried adolescent pregnancy. The study also pointed out that lack of engaging in any productive activity and lack of knowledge about sexual and reproductive health have significant roles leading to unmarried pregnancy (18). Premarital

counselling centers should be organized at Taluk and District hospitals under National Health Mission to guide parents in improving intra-family relationship, appropriate parental supervision in managing adolescents, and to give correct information on sexual and reproductive health issues. Adolescent Pediatricians have a huge role play to play in providing age appropriate evidence based comprehensive sexuality education to adolescents, parents and in training allied health professionals (17).

Key Messages

- Current change in the social milieu has led to an increase in reproductive health problems in young adults
- Age appropriate comprehensive sexuality education for young people is the need of the hour
- Community and hospital based adolescent friendly sexual and reproductive health services should be established all over the country

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