

ADOLESCENT HEALTH

Dr. Roselin
Dept. of Community Medicine
SRMC&RI, SRU

OVERVIEW

- Adolescence
- Importance of adolescent health
- Stages in adolescence
- Adolescence- worldwide & India
- Growth- physical, psychological & sexual growth
- Adolescent health issues
- Health problems
- Prevention
- Adolescent health programmes

ADOLESCENCE

- Origin from Latin word – adolescere – to grow into maturity.
- Phase of human development encompassing the transition from childhood to adulthood.
- WHO – age period between 10 – 19 years for both sexes, married & unmarried people.

ADOLESCENT

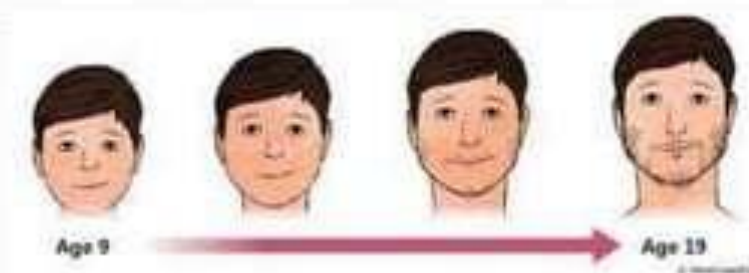
- Adolescence : 10 – 19 years
- Early Adolescence : 10 – 13 years
- Middle adolescence : 14 – 16 years
- Late adolescence : 17 – 19 years
- Youth : 15 – 24 years
- Young people : 10 - 24 years

STAGES OF ADOLESCENT

- **Early adolescence (10-13):** is characterized by a spurt of growth, and the beginning of sexual maturation. Young people start to think abstractly.
- **Mid-adolescence (14-15):** main physical changes get completed, while the individual develops a stronger sense of identity, and relates more strongly to his or her peer group. Thinking becomes more reflective.

STAGES OF ADOLESCENT

- **Later adolescence (16-19):** the body takes its adult form, while the individual now has a distinct identity and more settled ideas and opinions.



WHY ADOLESCENT HEALTH

- Major physical, psychological and behavioural changes take place.
- Sexual maturity & onset of sexual activity.
- Development of adult mental process & adult identity.
- Healthy responsible parenthood.
- Great human resource for the society.
- Growth spurt and physical activity.
- Menstruation.
- Pregnancy.

ADOLESCENT WORLDWIDE

- Around 1 in 6 persons in the world is an adolescent, that is 1.2 billion people aged 10 to 19.
- Most are healthy, but there is still significant death, illness and diseases among adolescents.
- Promoting healthy practices during adolescence, and taking steps to better protect young people from health risks are critical for the prevention.

GLOBAL ADOLESCENT HEALTH

- An estimated 1.3 million adolescents died in 2015, mostly from preventable or treatable causes.
- Road traffic injuries were the leading cause of death in 2012, with some 330 adolescents dying every day.
- Globally, there are 49 births per 1000 girls aged 15 to 19 per year.
- Half of all mental health disorders in adulthood start by age 14, but most cases are undetected and untreated.

GLOBAL ADOLESCENT HEALTH

- Complications linked to pregnancy and childbirth are the second cause of death for 15-19-year-old girls globally.
- Some 11% of all births worldwide are to girls aged 15 to 19 years, and the vast majority are in low- and middle-income countries.

ADOLESCENT IN INDIA

- 23% of population in India are Adolescent.
- Half of the group is sexually active before marriage.
- Fertility rate is high in adolescent



unsafe motherhood
MMR & IMR

- Low knowledge about family planning & healthy sexuality

ADOLESCENT IN INDIA

- NFHS -3 : 19.8% of women in age group of 15-19 are pregnant.
- Age specific fertility rate for 15-19 is 107/ 1000
- 59% knows about condom.
- 49% knows about OCP.
- Contraceptive use among married adolescent 15-19 is 7%

ADOLESCENT IN INDIA

- Half of them suffer from nutritional anemia.
- Young people between age of 10-25 years make up 50% of all new HIV infection.

TOP KILLERS OF ADOLESCENTS IN INDIA

SPECIFIC CAUSE	15-19 YEARS
Suicide	23.5%
Drowning	28.6%
Vehicular accidents	22.5%
Anaemia	13.9%
TB	7.0%
Burns	13.2%
cancer	6.1

Source: RGI 2002

PHYSICAL GROWTH

SKELETAL GROWTH

- Secondary growth spurt – 25% of adult height

BODY COMPOSITION

- Weight gain
- Increase in adipose tissue in girls
- Increase muscle mass in boys

PSYCHOLOGICAL GROWTH

- Less interest in parental activities.
- Mood swings.
- Intense relationship with same & opposite sex friends.
- Increased cognition.
- Increased need for privacy.
- Lack of impulse control.
- Increased intellectual ability.
- Risk- taking behaviour.



SEXUAL GROWTH

GIRLS	BOYS
Breast bud 8-12 years (Thelarche)	Testicular enlargement by 9 years
Development of pubic hair 11-14 years (Pubarche)	Development of pubic hair 10-15 years
Growth spurt begins by 10	Enlargement of larynx, pharynx-voice break
Menarche by 9-16 years	Weight gain and increased muscle mass by 11-16
Enlargement of ovaries, utreus, clitoris	Growth of facial and body hair
Underarm hair by 13-16 years	

ADOLESCENCE & FAMILY LIFE

- FAMILY LIFE EDUCATION

- Educate the growing children, especially the adolescent regarding various aspects of living in a society and interacting with others at different levels along with imparting age appropriate knowledge of biological and sexual development.

- TWO KINDS OF NEEDS

- Their current normative needs associated with changing physical, sexual, cognitive, social and emotional development.
 - Future family-related needs.

ADOLESCENCE & FAMILY LIFE

- Human relationships
- adolescent development
- Values, morals, ethics
- Family as a basic unit of society
- Decision making and problem solving
- Career goals and planning
- Diet and fitness

ADOLESCENCE & NUTRITION

- For apparent growth, nutrition is the most important factor.
- The major growth during adolescence are
 1. Height: nearly one-fifth (20%) of the adult height is gained during adolescence.
 2. Weight gain: About 25–50% of the final adult weight is gained during adolescence.
 3. Almost 50% of bone mass is accumulated by the end of 2nd decade of life.

ADOLESCENCE & NUTRITION

- Early adolescence is marked by rapid growth phase and pubertal changes during which time the nutrient requirement is different as compared to late adolescence when growth has stabilized and the micronutrients have an important role.

Table 15.3.1 Dietary requirements for adolescents (Indian Council of Medical Research, 2010)

Gender	Age (years)	Proteins (g)	Calories	Fat (g)	Calcium (mg)	Iron (mg)	Zinc (mg)
Boys	10-12	39.9	2,190	35	800	21	9
Girls	10-12	40.4	2,010	35	800	27	9
Boys	13-15	54.3	2,750	45	800	32	11
Girls	13-15	51.9	2,330	40	800	28	11
Boys	16-17	61.5	3,020	50	800	28	12
Girls	16-17	55.5	2,440	35	800	26	12

ADOLESCENCE & NUTRITION

- The national nutrition Monitoring Bureau (NNMB) Survey (2002) had shown that 30–40% of girls and 33–66% of boys consume less than 70% of the recommended daily allowance (RDA) for calories. Protein intake is also significantly less.

ADOLESCENT COUNSELLING

- Adolescents are diverse in their age and developmental stage.
- Despite all variations, adolescence is a period of exaggerated physical, emotional, social, intellectual and spiritual growth with their complexities often resulting in a need for counselling.
- Adolescents might require preventive and therapeutic counselling to address their mental health needs.

ADOLESCENT COUNSELLING

- **Early adolescence** (10–13 yrs) -concrete thinkers and are unable to clearly understand the cause and effect between their behaviours and their health.
- **Mid-adolescence** (14–17 yrs) - think more abstractly. typically, they are capable of complex logical thinking.
- **Late adolescence** (18–19 yrs)- have a longitudinal understanding of how their behaviours affect their health. Counselling focus on risky behaviour and coping skills.

ADOLESCENT MENTAL HEALTH

- Non communicable diseases and mental health illness result in high levels of medical, social and economic burden.
- Most of the adult mental health disorders have their onset during their childhood or adolescence.
- In low and middle income countries, including India, adolescents with mental health needs often remain outside the safety of any health care system.
- An effective way to address is by enhancing the primary-care paediatrician (PCP) in the recognition, treatment and referral of the adolescents to mental health specialists.

ADOLESCENT SEXUALITY

- Sexuality encompass whole range of thoughts, feelings, fantasies, emotions, desires and language besides action, sexual behaviour is only a part of it.
- Sex education is important at all ages, but it is more important than it is imparted during childhood and adolescence.

SEX EDUCATION

- Sex education on self-awareness, personal relationships, human sexual development, reproduction and sexual behaviour.
- Human sexuality is a function of the total personality, attitudes toward being a man or woman, and relationships among members of the same sex and the opposite sex.

SEX EDUCATION

- Help adolescent to understand their sexuality, learn to respect others feelings and to make responsible decision.
- Sexual relationship involves respect, trust and caring of the partner, perceiving the needs of the partner and feeling free to communicate desires and feelings.



ADOLESCENT HEALTH PROBLEMS

NUTRITIONAL ADOLESCENT PROBLEM

- UNDERNUTRITION

- leads to impaired growth, anemia, iodine deficiency.

- IRON DEFICIENCY ANEMIA

- prevalence in adolescent girls range from 22-91%

- NFHS 3: prevalence in 15-49 women 56%

- prevalence in 15-49 men 24%

- reason for iron deficiency in adolescence is

1. increased requirement for growth
2. menstrual loss
3. dislike of iron rich food
4. frequent dieting

NUTRITIONAL PROBLEMS

- OBESITY

- prevalence of obesity and overweight is 11.1% and 14.2%.
- prevalence is higher in boys.

- EATING DISORDER

- Bulimia nervosa
- Anorexia nervosa
- Binge-eating

REPRODUCTIVE PROBLEMS

- Teenage pregnancy (16-19% of total pregnancy)
 - genital tract infection
 - preterm labour
 - intrauterine growth restricted babies
- Abortion related problems
 - unsafe abortion
 - girls from problem family are 11 times at high risk

REPRODUCTIVE PROBLEMS

- Acne
- Reproductive tract infections
- Irregular menstrual cycles
- Vulvovaginitis and Urologic issues

SEXUALLY TRANSMITTED DISEASES

- - HIV/AIDS – young people between 10-25 make 50% of new HIV infection.
 - syphilis
 - gonorrhoea
- 1 out of 20 adolescents in India – STD
- A report on world contraception day 2011 shows 28% young people had sex and 32% of them did not use any contraception

MENTAL HEALTH PROBLEMS

- Depression & suicide
- Psychosis
- Mania
- Conduct disorder
- Anxiety disorder

BEHAVIOUR PROBLEMS

- Drug experimentation
- Substance abuse
 - tobacco, alcohol, illicit drug
- Risk behaviour
 - having knife, rods , rash driving
- Violence
- Bullying

SOCIAL FACTORS IN ADOLESCENT HEALTH

- Parents perceptions, awareness about adolescent plays major role in adolescent health.
- School drop outs.
- Less female literacy.
- Economically weaker society.
- Health seeking behaviour was neglected and adolescent where not told, whom to consult about the health problems.

PREVENTION OF ADOLESCENT HEALTH PROBLEM

- Primary prevention : policies, information & education.
- Secondary prevention : identification & reduction of risk
- Tertiary prevention : treatment & rehabilitation

ADOLESCENT HEALTH PROGRAMMES

- Kishori Shakti Yojana: to improve the health and nutritional status of women.
- Balika Samridhi Yojana: To Delay the age of marriage.
- Reproductive and Child Health Programme
- Adolescent Friendly Health Services
- National AIDS Control Programme

RMNCH+A STRATEGY

Priority intervention area on adolescent health

1. Adolescent nutrition & IFA supplementation.
2. Facility based adolescent reproductive and sexual health services.
3. Information & counseling on adolescent sexual reproductive health & other health issues.
4. Menstrual hygiene.
5. Preventive health checkups.

ADOLESCENT NUTRITION & IFA SUPPLEMENT

- Nutritional education system to generate awareness on balanced diet, nutritious food, and effects on malnutrition.
- Nutrition education sessions through kishori diwas, ICDS, school curriculum and also linkage with Sakshar Bharat Abhiyan.

CHILD HEALTH SCREENING & EARLY INTERVENTION SERVICES

- Screening of adolescent for low body mass index and counseling at adolescent health clinics.

IFA TABLET

- National Iron + initiative programme
 - for management of anemia.
 - adolescents (10-19 yrs) within school weekly iron and folic acid supplementation (WIFS).
 - out of school will be reached through AWCs.

IFA for Adolescent BLUE
COLOUR TABLET



WIFS

- WIFS scheme is community based intervention address nutritional anemia among adolescents.
- Covers adolescent in class VI-XII.
- Key features
 1. weekly supervised administration of IFA iron-100 mg FA 500 microgm.
 2. screening of target group for anemia and referral .
 3. biannual deworming.
 4. information & counseling for improved dietary intake and prevention of worm infestation.

ADOLESCENT FRIENDLY HEALTH SERVICES

LEVEL OF CARE	SERVICE PROVIDER	TARGET	ACTIVITY
Sub center	Health worker/ ANM	Married Unmarried	During routine sub center clinics
PHC & CHC	Medical officer	Adolescent unmarried boys & girls	Once a week teen clinic organized for 2 hours.

SERVICES IN ADOLESCENT CLINIC

- CLINICAL SERVICES

- general examination
- nutrition advise
- detect & treat anemia
- easy & confidential assess to MTP
- antenatal care and advise regarding child birth
- RTIs/ STIs detection and treatment
- HIV detection and counseling
- treatment of psychosomatic problems
- deaddiction

- COUNSELLING SERVICES

INFORMATION & COUNSELLING ON ADOLESCENT SEXUAL HEALTH

- LIFE SKILLS

“ the abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life” – WHO

“ a behaviour change or behaviour development approach designed to address a balance of three areas: knowledge, attitude and skills” - UNICEF

LIFE SKILL EDUCATION

- Teaching through participatory learning methods like games, role plays , group discussion and practicing skills through experimental learning in a non threatening setting.
- It provides individual with wide alternative and creating way of solving problems pertaining to drug use, sexual abuse, teenage pregnancy, early sexual experimentation, bullying.
- It's a promotional program which improve positive health & self esteem.

LIFE SKILLS

- To be taught at school level
 - critical thinking & creative thinking
 - decision making & problem solving
 - communication skills & interpersonal relation
 - coping with emotion and stress
 - self awareness & empathy
- Life skills and education are incorporated through schools, ICDS and community outreach session.
- Teachers, AWW, ANM are to be trained in counseling.



SCHEME FOR MENSTRUAL HYGIENE

- Scheme promote better hygiene and ensure adequate knowledge and information about use of sanitary napkins.
- Sanitary napkins are provided by NHM in the name 'free days'



PREVENTIVE HEALTH CHECKUPS

- New approach in the implementation of school health programme
- Mobile School health camps by a team consisting of two medical officers(MBBS/ dental/ AYUSH) and two paramedics (one ANM any one of following : pharmacist/ ophthalmic assistant/ dental assistant)

SABLA



- Rajiv Gandhi Scheme for empowerment of AG
- 200 selected districts
- OBJECTIVES
 - Enable self development & empowerment of AG.
 - Improve the nutrition & health status.
 - Awareness about health hygiene and ARSH & family child care.
 - Upgrade home based skill and vocational skill.

KISHORI SHAKTI YOJANA

- Redesign of the already existing Adolescent Girls Scheme being implemented as a component under the centrally sponsored ICDS Scheme.
- Aims at empowerment of adolescent girls, so as to enable them to take charge of their lives.
- Adolescent girls who are unmarried and belong to families below the poverty line and school drop-outs are selected and attached to the local Anganwadi Centers for learning and training activities.

KISHORI SHAKTI YOJANA

Scheme- I (Girl to Girl Approach)

- Age group of 11-15 years
- Belonging to families whose income level is below Rs. 6400/- per annum

Scheme-II (Balika Mandal)

- Age group 11-18 years irrespective of income levels of the family
- Younger girls 11-15 years and belonging to poor families

KISHORI SHAKTI YOJANA

- IFA supplementation along with deworming
- Education for school dropouts and functional literacy among illiterate adolescent girls
- Non-formal education to adolescent girls. Emphasis on life education aspects including physical, developmental and sex education is given.

BALIKA SAMRIDI YOJANA, 1997

OBJECTIVES:

- To change negative family and community attitudes towards the girl child at birth and towards her mother.
- To improve enrollment and retention of girl children in schools.
- To increase the age of marriage of girls.
- To assist the girl to undertake income generation activities.

BALIKA SAMRIDI YOJANA, 1997

Benefits: A post birth grant amount of Rs. 500/-

Class	Amount of Annual Scholarship
I-III	Rs. 300/- per annum for each class
IV	Rs. 500/- per annum
V	Rs. 600/- per annum
VI-VII	Rs. 700/- per annum for each class
VIII	Rs. 800/- per annum
IX-X	Rs. 1000/- per annum for each class

Procedure for obtaining the benefit

- ICDS infrastructure in rural areas and Health Department in urban areas.
- The application forms are available with Anganwadi Workers in the villages and with Health functionaries in urban.

NATIONAL AIDS CONTROL PROGRAMME

- Under NACO Adolescent Education Programme developed which focuses primarily on prevention through awareness.
- The Adolescent Education Programme is one of the key policy initiatives of NACP II.
- Relevant messages on safe sex, sexuality and relationships are developed and disseminated for youth via posters, booklets, panels and printed material.

THE ADOLESCENT EDUCATION PROGRAMME(AEP)

- Co-curricular adolescence education in classes IX-XI.
- Life skills education in classes I- VIII
- Inclusion of HIV prevention education in pre-service and in-service teacher training and teacher education programmes.
- Inclusion of HIV prevention education in the programmes for out-of-school adolescents and young persons.
- Incorporating measures to prevent stigma and discrimination against learners/students and educators and life skills education into education policy for HIV prevention.

YUVA

- **YUVA (Youth Unite for Victory on AIDS)**
 - Yuva comprising seven youth organisations.
 - AIDS prepared Campus, AIDS prepared Community and AIDS prepared Country.
 - Prevention, education and life skills for promoting healthy and safe behaviour and practices amongst them young people.
- **Red Ribbon Club (RRC)**
 - This club is established in every school and college to provide youth with access to information on HIV/AIDS and voluntary blood donation.



SUMMARY



• THANK YOU

REFERENCE

- IAP textbook of Paediatrics 5th edition
- Community medicine with recent advances 3rd edition AH Suryakantha.
- National health programmes of India 11th edition J.Kishore's
- Textbook of community medicine revised 3rd edition by Sunderlal, Adarsh, Pankaj
- AFMC textbook by Rajvir Balwar 1st edition
- RMNCH+A strategy Ministry of Family Welfare, Government of India, January 2013
- WHO - Adolescent health and adolescent pregnancy pdf.

REFERENCE

- Promoting Adolescent Reproductive Health in Uttarakhand and Uttar Pradesh, India MARCH 2012- USAID
- Adolescents in India: desk review of existing evidence and behaviours, programmes and policies- UNICEF
- Park textbook of preventive and social medicine 23rd edition