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Review Article

Adolescent health problems and strategies to improve them

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ABSTRACT

Adolescent as any person between ages 10 and 19. It is a transitional stage of physical, physiological and psychological development from puberty to legal adulthood. The data about important adolescent's health issues in different areas are limited. Hence detailed investigation and reports on adolescent's health issues is the need of the hour. To achieve wholesome adolescent health, we need to have a multidimensional approach covering all the adolescent health problems with special emphasis on mental health, behavior change communication towards healthy lifestyle and positive social environment to acquire life skills. Availability of good quality care and healthcare workers trained to deal with adolescents is critical for delivering effective health interventions. Providing health care to adolescents presents a dual challenge: the treatment of immediate health problems, and the opportunity through health promotion and disease prevention, to influence health habits, lifestyle choices, and health status in adulthood because health behaviors originating in adolescence may well have long term health consequences.

Keywords: Adolescent health, Reproductive health, National health programs, Counseling

INTRODUCTION

The WHO defines an adolescent as any person between ages 10 and 19. It is a transitional stage of physical, physiological and psychological development from puberty to legal adulthood. They are no longer children yet not adults. It is characterized by rapid physical growth, significant physical, emotional, psychological and spiritual changes. Today, 1.2 billion adolescents stand at the crossroads between childhood and the adult world. Every 1/5th of total world population is adolescence and in that 1 in every 5 humans on this planet is Adolescent. 85% of them live in Developing Countries. Around 243 million of them live in India.[1,2]

Composition also varies by age and sex as of the total population, 12.1% belong to 10-14 age group and 9.7% are in the 15-19 age group. Female adolescents comprise 46.9% and male adolescents 53.1% of the total population. More than 1.1 million adolescents aged 10-19 years died in 2016, over 3000 every day, mostly from preventable or treatable causes. About 1.3 million adolescents died from preventable or treatable causes during 2012 as per WHO reports.[4-6] The data about important adolescent's health issues in different areas are limited. Hence detailed investigation and reports on adolescent's health issues is the need of the hour.[3]

Road injury is by far the leading cause of adolescent boys' mortality, with about a quarter of all deaths in male adolescents aged 15-19 years are due to road injury.[7] Top 5 causes of death in adolescent males are road injury, interpersonal violence, drowning, HIV/AIDS, self harm, diarrheal diseases etc.[8] According to WHO Global Health Estimates (GHE), 2016 Leading causes of adolescent girls' deaths in 2016 were maternal conditions, self-harm and road injury.[4]

EXISTING PROBLEMS/ SHORTCOMINGS IN ADOLSECENT HEALTH

Nutritional and micronutrient deficiencies

Adolescents have increased nutritional requirements demanding diet rich in protein, vitamins, calcium, iodine, phosphorus, and iron due to rapid growth spurt and increased physical activity. NFHS-4 data show, in the age group 15–19 years, 47% girls and 58% boys were thin, 56% girls and 30% boys were anemic, 2.4% girls and 31.7% boys were overweight, and 2/1000 adolescent girls and 1/1000 adolescent boys suffer from diabetes. They are also highly prone for eating disorders such as anorexia nervosa or binge eating due to body dissatisfaction and depression. The prevalence of anemia among Indian girls has seen little improvement in 10 years, witnessing a rather small decline from 55% in 2005-06 to 53% in 2015-16, (National Family Health Survey - 4)[5,3]

Undernutrition and obesity

Globally, in 2016, over one in six adolescents aged 10–19 years was overweight. Prevalence varied across WHO regions, from lower than 10% in the WHO South-East Asia region to over 30% in the WHO Region of the Americas (28).

According to Aggarwal et al, childhood obesity is an important public health issue worldwide. Urbanization, sedentary lifestyle and change in food habits are the chief reasons behind this pandemic. The etiology of obesity in children, including individual behaviors, macro- and micro-environmental influences, and endocrine causes have been discussed, and an approach to etiological assessment of obese children has been presented.[3]

Physical activity

WHO recommends for adolescents to accumulate at least 60 minutes of moderate- to vigorous-intensity physical activity daily, which may include play, games, sports, but also activity for transportation (such as cycling and walking), or physical education. Globally, only 1 in 5 adolescents are estimated to meet these guidelines. Prevalence of inactivity is high across all WHO regions, and higher in female adolescents as compared to male adolescents. Use of mass media is higher among adolescents (male 88.2% and female 71.5%). It plays an important role in habit picking and decides their lifestyle pattern. The high prevalence of adolescents exposed to excessive screen time is a matter of concern because of its association with several health problems, such as overweight and obesity, alterations in blood glucose and cholesterol, poor school performance, decreased social interaction, and lower levels of physical activity.

Lyngdoh et al found that one-third of them have Facebook and WhatsApp accounts. Only 5.8% were eating a healthy diet. Females and day scholars were less physically active. Males those staying in a nuclear family, less family income, and more number of siblings were found to have unhealthy dietary habits.[5]

Satija et al conducted a study in New Delhi and the study highlights the need for further investment in physical activity within schools and for gender-sensitive policies for encouraging physical activity participation among adolescents in India.[5]

Mental health issues

Mental health problems are one of the most neglected issues among adolescent. Mortality and morbidity due to mental disorders in adolescents increased and topped in recent years. In India, suicide among adolescents is higher than any other age groups, that is, 40% of suicide deaths in men and 56% of suicide deaths in women occurred in 15–29 years of age. The reporting systems of psychiatric disorders in children are found to be inadequate.[3]

Reproductive and sexual health issues

Adolescents have diverse sexual and reproductive health problems. As per NFHS–4 data, 2.7% boys and 8% girls reported sexual debut before the age of 15. Even though contraceptive awareness is 94% among girls aged 15–19, only 23% of the married and 18% of the sexually active unmarried girls in this group, used a contraceptive once at least. Strengthening of menstrual hygiene management programmes in India is needed. Education on awareness, access to hygienic absorbents and disposal of menstrual hygiene management items need to be addressed.[7,8]

Early pregnancy and childbirth

The leading cause of death for 15-19 year-old girls globally is complications from pregnancy and childbirth. Past decade, India has successfully reduced the proportion of pregnancy between 15-19 years to half (16% during NFHS 3 in 2005-06 and 7.9% during NFHS 4 in 2015-16) but still, it IS HIFH. At national level 27% of 15-19 year old girls (33% rural and 15% urban) are already married as compared to only 4% rural and 1% urban men in same age group According to NFHS-4, 47% of currently married women aged 20-24 were married before 18 years of age. An early marriage inevitably put the adolescent girls at the risk of being pregnant with low contraceptive awareness. High fertility and discontinued education after marriage remain the other facets of concern but the greatest threat of teenage pregnancy is higher rate of pregnancy-related complications, leading to high mortality.[7]

HIV/AIDS

An estimated 2.1 million adolescents were living with HIV in 2016 worldwide. According to a report ‘Children, HIV and AIDS: The World in 2030' India has highest

number of children, teen's with HIV in South Asia with a population of 120,000 children and adolescents.[9]

Other infectious diseases

Diarrhea and lower respiratory tract infections are estimated to be among the top 10 causes of death for 10–19 year olds. These two diseases, along with meningitis, are all among the top five causes of adolescent death in India and other low and middle-income countries.[3]

Accident

Accident is first and Interpersonal violence is the third leading cause of death in adolescents. NFHS-4 data show, in the age group 15–19, about 11% of adolescent boys and 1% of adolescent girls had consumed alcohol, in that 3% consume it daily.[10]

Tobacco use

Globally, at least 1 in 10 adolescents aged 13 to 15 years uses tobacco, although there are areas where this figure is much higher. Tobacco use prevalence in India is 19% for males and 8% for females. The average age at tobacco use initiation is earliest at 12.3 years and alcohol usage at 13.6 years among adolescents.[3,4]

Accidents and violence

In India, in 2001–2003, deaths due to injuries constituted nearly 20% of the total deaths in 5–29 age groups. About 77.5% of adolescents are at risky behaviors, ignore traffic rules leading to road traffic accidents and deaths.[10]

Sexual violence

According to the World Health Organization (WHO), approximately 150 million girls and 73 million boys under age 18 experienced sexual violence and exploitation in 2002, the most recent year for which comprehensive data are available.[11]

Domestic violence

Intimate partner violence, the most common form of violence against women in developing countries, occurs frequently in adolescent relationships. A 2005 WHO study on women's health and domestic violence found that adolescent girls aged 15–19 were more likely than older women (aged 45–49) to have experienced partner violence.[11]

Peer violence

In numerous countries, large percentages of students aged 13–15, boys in particular, report having been involved in physical fights or having been the victims of physical attacks or bullying within the past month. Bullying, whether physical or emotional, typically takes place at school and affects many adolescents. Cyber bullying, or bullying that takes place using various digital forums and technologies, is common in both industrialized and developing countries.[11]

STRATEGIES TO IMPROVE THE SITUATION

According to AAP, the critical first steps that the medical profession needs to take to realize the vision of a family-centered, continuous, comprehensive, coordinated, compassionate, and culturally competent health care system that is as developmentally appropriate as it is technically sophisticated. To ensure adolescents have a voice, choice, and control over their bodies and are enabled to develop the capabilities required for a productive, healthy, and satisfying life, global efforts should focus on reducing adolescent deaths and morbidity and creating a supportive legal and social climate for positive adolescent development.

To respond to the diverse needs of adolescents, different interventions are needed and they are:

Mobilizing family and community

Mobilizing family and community through local NGOs and adolescent clubs. This approach is also useful to reach adolescents who are hard-to reach, such as out-of-school adolescents, street children etc. This not only helps in reaching the intended audience but does so cost-effectively Adolescents who have good communication and are bonded with a caring adult are less likely to engage in risky behaviors. Parents who supervise and are involved with their adolescents' activities are promoting a safe environment for them to explore opportunities. The children of families living in poverty are more likely to have health conditions and poorer health status, as well as lower access to and use of health care services.[12]

School based interventions

Student health and academic achievement are linked. Healthy students are more effective learners. Academic success and achievement strongly predicts overall adult health outcomes. Proficient academic skills are associated with lower rates of risky behaviors and higher rates of healthy behaviors. High school graduation leads to lower rates of health problems and risk for incarceration, as well as enhanced financial stability and socio-emotional well-being during adulthood. The school social environment affects student attendance, academic achievement, engagement with learning, likelihood of graduation, social relationships, behavior, and mental health.[18]

The students are a captive and interested audience for institutionalizing health education programmes in schools and colleges. The advantage of going through the school system is that the students can be exposed to the content in a structured way right from the primary stage all the way to the secondary stage and even in the college setting.

Train the school teachers and build their skills and sensitivities towards the needs of Adolescents. Remove the myths and help teachers overcome their hesitation to discuss the subjects related to sexuality, reproductive health, and contraception.

Develop a suitable curriculum and integrate it with the teaching of other subjects like sociology, civics, economics etc.

The use of an interactive and participatory approach is likely to be more effective than a didactic approach. However, this requires more skills, innovation and motivation among teachers.

Actively involve the students through debates, elocution contests, slogan competitions, drawing and painting competitions.

Consider regular visits by trained health workers to help in assessment of health Status; implementation of public health programmes e.g. vaccination, mid-day meals, micronutrient supplementation, provision of sanitary napkins etc. as well as provision of counselling services.

Trained health workers can also conduct group sessions with students and teachers periodically to answer their questions related to 'sensitive' issue of sexuality that teachers may feel shy to deal with.

Referral linkage with the adolescent friendly health services must be established to provide access to desired services when needed.[10,12,13]

Neighborhoods

Adolescents growing up in distressed neighborhoods with high rates of poverty are at risk for exposure to violence and a variety of negative outcomes, including poor physical and mental health, delinquency, and risky sexual behavior.[12,13]

Media exposure

Adolescents exposed to media portrayals of violence, smoking, and drinking are at risk for adopting these behaviors. Although social media use offers important benefits to Adolescents, such as health promotion, communication, education, and entertainment, it also increases risks for exposure to cyber bullying depression.[12]

Behaviour change through communication

Behaviour change through communication (BCC) is a multi-level tool for promoting and sustaining the desired behaviour in individuals and communities by using a variety of communication channels and creating demand for information and service.[13]

Regular assessment of adolescence

Regular nutrition assessment should be inbuilt in all nutritional interventions for adolescents. This includes anthropometry (weight and height) for assessing under-nutrition and stunting on one hand and obesity on the The results of the assessments should be used for counseling the adolescents and their families for taking corrective action. Schools and Adolescent Friendly Health centres would be the suitable settings for regular assessment.[14]

Linkages to adolescent friendly health services

Adolescent Friendly Health Services (AFHS) are the ones which are accessible, acceptable and appropriate for adolescents. They are in the right place, at the right time, at the right price (free where necessary) and delivered in the right style to be acceptable to young people. The gold standard for AFHS is that they are effective and meet individual needs of young people who return when they need to and recommend these services to friends Universal coverage of Adolescent friendly clinics is highly recommended. Through that, routine screening of adolescent for health problems, and their risk factors by creating a standardized protocol can be initiated and the services required can be provided.[14]

Immunization

HPV vaccination for 10-14 year olds protects them from developing cervical cancer as adults. HPV vaccination is also an opportunity to reach adolescents with other interventions such as menstrual hygiene, deworming, and malaria prevention. Other critical vaccines include tetanus booster, rubella, and hepatitis B (if not previously vaccinated), measles, and meningococcal disease (depending on epidemiology).[14]

Health programmes

Adolescent health programmes are implemented by various ministries under the government of India are described in Table 1.[14]

Guidance and counseling services

The major aim of guidance counseling services is to encourage students' academic, social, emotional and personal development. To reach this aim, guidance counseling services help students get to know themselves better and find effective solutions to their daily problems. They also help students improve themselves in all areas and be full-functioning individuals. Counselors monitor students' development and according to their needs they give students necessary support such as helping them to understand themselves and their needs, to solve their problems, to make realistic decisions, to improve their abilities and skills, and to adjust themselves and their environment in a healthy way.[15]

Table 1: Adolescent health programmes, ministries and their services.

S. no.	Ministries and adolescent health programmes	Services	Launch year
1	**Ministry of health and family welfare**		
A	School health programme	Nutritional interventions, promoting health lifestyle, counseling and immunization.	1981
B	National AIDS control programme phase –IV	Appropriate referral of HIV/AIDS and RTI/STI cases	1992
C	WIFS (weekly iron folic acid supplementation	Weekly iron folic acid supplementation	2012
D	Adolescent reproductive and sexual health (ARSH)	Preventive, promotive, curative and counseling services for reproductive and sexual problems	2013
E	Rashtriya Kishor Swasthya Karyakram (RKSK)	Improve Nutrition, Improve Sexual and Reproductive Health, Enhance Mental Health, Prevent Injuries and violence, Prevent substance misuse	2014
2	**Women and child development**		
A	Balika Samridhi Yojana	Iron and Folic Acid supplementation, nutrition and health education, ARSH, life skill education and vocational training for girls aged 16 and above under National Skill Development Program	1997
B	Kishori Shakti Yojana	Services to raise the age of marriage and to improve enrollment and retention of girls at school	2000
C	Integrated program for street children	Shelter, nutrition, education, health care and recreation facilities to street children. Child Help Line Service (1098)	2009
D	Rajiv Gandhi Scheme for Empowerment of Adolescent Girls	Services improving health, nutritional and educational status of girls	2011
3	**Human resource development**		
A	Mahila Samakhya Programme	Provides equal educational opportunities for women age group	1989
B	Sarva Shiksha Abhiyan	Free and compulsory education to 6-14 years	2001
C	Adolescent education program	Creates awareness and positive attitude to develop skills to enable them to respond to real life situations	2005
4	**Youth affairs and sports**		
A	The National Service Scheme	Personality development of students through community service	1969
B	Nehru Yuva Kendra Sangathan	Empowerment of rural youth	1972
C	National Program for Youth and Adolescent Development	Leadership qualities and personality development of youth	2008
5	**Others**		
A	Narcotic Drugs and Psychotropic Substances Act, 1985- AH Strategy	Prohibition on sale to minors	1985

Focusing on gender and equity

Better adolescent health also requires focusing on gender, since strategies that are effective and appropriate for girls may be less effective for boys, and vice versa. In addition, considering the impact of interventions on equity is critical. For example, school-based interventions may increase inequity, as they do not reach adolescents who are not in school. Addressing gender disparities in access and targeting more resources to disadvantaged adolescents (including ethnic minorities; lesbian, gay, bisexual, or transsexual youth; persons with disabilities; and persons who are homeless or in juvenile detention) are critical to closing equity gaps.[12,14]

Intersectoral linkages at the community level

The role of other sectors, in addition to the health sector, in improving the nutritional status of adolescents is critical. There are different sectors involved directly or indirectly with programmes addressing the needs of adolescents. Some of these include education, sports, youth welfare, social welfare, employment, social justice, agriculture and horticulture etc. For school going adolescents, involvement of the education sector is important since life skills education and nutrition related activities are primarily addressed. Similarly for out-of-school adolescents, non-formal education and

employment opportunities are addressed by other relevant sectors.[14]

Food and agriculture sector

Fortification of food with micronutrients, which is a cost effective approach in overcoming micronutrient deficiencies, especially among the economically deprived population. Giving emphasis to conducting operational research and behavioural studies for finding new and innovative ways with which to approach the nutrition problems during adolescence.[14]

Policies and laws protecting the health of adolescents

Adolescents are neither children nor adults; their needs can be easily overlooked in policies. Health interventions for adolescents cannot be effectively implemented without the appropriate policy and legal environment and its effective application. In this regard following actions need to be taken: (1) enable access to health services—Examine and potentially revise current policies to remove mandatory third party authorization for sexual and reproductive health services and adopt flexible policies to allow adolescents to be considered "mature minors", (2) control exposure to unhealthy products— Enact and enforce laws on use of tobacco, alcohol, and illegal substances and food policies to reduce exposure to dangerous and unhealthy substances (such as raising taxes on tobacco and alcohol, prohibition of sale to people below an appropriate minimum age, prohibiting smoking in public spaces, setting lower maximum blood alcohol concentration levels for young drivers, and regulating marketing of foods high in saturated fats, trans-fatty acids, sugar, or salt), (3) revise and implement laws on child marriage—The minimum age at marriage should be universally set at 21 for both boys and girls. Exceptions to marry with consent from parents should not be included in marriage laws. As part of civil registration and vital statistics efforts, birth and marriage registration should be made mandatory and (4) make adolescents visible in policy formulation and monitoring—Use existing data on adolescents from censuses, demographic and health surveys, and multiple indicator cluster surveys to formulate policy and deliver programmes. Dedicated surveys such as the global school-based student health surveys are needed to overcome the lack of data, especially on younger adolescents and other subpopulations of adolescents, such as head of households, those living without their parents, domestic workers or migrants, refugees, those living with disabilities, and trafficked adolescents.[16]

NURSING IMPLICATION

Nurses care for adolescents in a variety of settings, including communities, schools, and public health and acute care clinics, which affords them many opportunities to improve adolescents' sexual and reproductive health and reduce the rates of unplanned pregnancy and sexually transmitted infections.

Nurses can work as Educator, counselor, direct care provider, advocate, administrator, Researcher to meet the health needs of the adolescents. Most of the adolescent health problem is preventable and they need proper guidance from the health care team including nurses.

Nurses can improve equity and access to care by provision of care as close to communities as possible.

To ensure that adolescents have access to sexual and reproductive health care (which includes both preventive counseling and treatment) in all nursing practice sites, nurses need to gain the knowledge and hone the skills required to deliver evidence-based counseling and services to adolescents and parents. Collectively, nurses can use their unique combination of knowledge and skills to make a positive impact on adolescent sexual and reproductive outcomes.

Nurses have the capacity and opportunity to disseminate information about sexual and reproductive health to adolescents and their parents in communities, schools, public health clinics, and acute care settings.

Pediatric nurses are well-positioned to develop and implement evidence-based programs for adolescents. It is essential that pediatric nurses, in conjunction with other professionals and parent groups, take the initiative in implementing peer education programs in schools and community centers to promote healthy behaviors among adolescents.[17]

Health teaching is an integral part of nursing practice; it should be developed systematically based on the needs of adolescents. CHN can identify the level of knowledge and utilization of adolescent health services among the adolescents.

Innovative teaching can be used to impart the knowledge to the adolescents and it will help to improve the utilization of services. Nurse educator can give more focus to raise awareness regarding various national adolescents' health programmes.

Research may be conducted to find new and innovative ways with which to approach the health problems of adolescents. The research must be broad and encompass a complex range of factors.

Research priorities are: Development of a database on the nutritional status of adolescents and development of national standards (cut off points for indicators, including BMI based on functional and health-related outcomes)

Review of existing policies and programmes addressing adolescent nutrition.

Qualitative studies on adolescents' diets and eating behaviours. Beneficial effects of calcium supplementation during adolescence.

Research on emerging micronutrient deficiencies-folate, zinc and calcium.

Role of gender issues in adolescent health and nutrition.

Strategies for community mobilization/establishing family support for adolescent nutrition.

CONCLUSION

To achieve wholesome adolescent health, we need to have a multidimensional approach covering all the adolescent health problems with special emphasis on mental health, behavior change communication towards healthy lifestyle and positive social environment to acquire life skills. Availability of good quality care and healthcare workers trained to deal with adolescents is critical for delivering effective health interventions. Efforts to improve adolescent health require health systems that are responsive to adolescents. Closing the gaps, both in research and in action, would benefit society as a whole, resulting in improved health of adolescents and help in harnessing their full physical and mental potential for overall improvement of the populations and economies.

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