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ADOLESCENT HEALTH IN INDIA AND DEVELOPMENT IMPLICATIONS

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ABSTRACT

Constituting more than one fifth of the country's population, adolescents in India, as a group, have not yet received the deserved attention. This paper examines the health status of adolescents in India based on existing studies and highlights the implications for development of adolescents as well as for national development. It has a special focus on some of the neglected aspects of adolescent health: nutritional situation, substance use and mental health. The review shows that the nutritional situation of adolescents is probably diagonally opposite to what we would perceive based on their mortality rates. A majority of them do not get adequate nutrition, not necessarily always because they cannot afford it. Many suffer from nutritional deficiency diseases, and eating habits are unhealthy. Substance use among them is high and so is the prevalence of symptoms of mental health problems. The paper stresses the need to have a special focus on adolescent health going beyond reproductive health issues that are generally directed at married adolescent girls.

INTRODUCTION

Adolescents are defined as those in the age group of 10-19 years. In India, this age group has a population size of 243 million forming about 21 percent of the nation's population. The share of adolescents in the nation will experience a decline in the future; however even by 2026, there will be 225 million adolescents in India. This national level decrease in population size is a result of the fertility decline that had quickened in pace during the past two decades. Since individual states in India are at different stages of demographic transition, the size of adolescent population will continue to be high in some of the states which are still behind in achieving a lower fertility rate. So, we have a situation where in some states the share of adolescent population have already declined, some others where the percentage of adolescents will begin to decline in the near future while there are other states where the size of adolescents will increase. It is necessary at the outset to understand this differing situation we would be facing. Not only that there will be differences, the states that will have a higher share of adolescent population are the currently backward states, both demographically and socio-economically.

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It is recognised that adolescence is a very important transition stage in one's life and is characterised by many physical and psychological changes. It is a stage of emotional turmoil for individual adolescents who are in the process of discovering their identity in the society. The experiences during this stage can substantially influence further development of an individual. Along with this, the large size of adolescent population in India makes it imperative to give them special attention as a vulnerable group. Yet, by and large they are not given due attention in policy and programme initiatives, a major neglected development aspect being health. Should adolescent health be given significance in national health agenda? This paper aims to address this question by examining some of the usually overlooked aspects of adolescent health. Specifically, after a brief description of the commonly studied health indictors-which are related to mortality, fertility and reproductive health, the paper examines the less explored areas of nutrition, substance use and mental health.

Mortality and Reproductive Health

As widely known, across all age groups, mortality rate in the adolescent age group is one of the lowest, giving a false indication that they are healthy. It is globally observed since long that if a child manages to survive infancy and childhood, his/her chance of dying reduces substantially which is why

many a times we use life expectancy at age 10 (instead of using life expectancy at birth) to examine the survival chances in a population. In India also, the age specific death rate among adolescents is very low; the life expectancy at age 10 was 59 years for males and 63 years for females during 2006-10 (Office of the Registrar General 2012). However, there are inter-state differences even in adolescent mortality; also significant rural urban differences exist. Yet in all the areas and across population groups, the death rate among adolescents is much lower as compared to other age groups. However, when assess the health status of adolescents based on such overall mortality indicators there are several health aspects that are often overlooked.

Since the marriage age in India for girls has been traditionally low, the contribution of adolescents to overall fertility was high. Though the age at marriage has been increasing over the years (the mean age at marriage for girls increased in India from 16.7 to 18.3 during 1981 and 2001), the average (median) age at marriage of women who are married in the 20-24 age group (at the time of survey) increased only slightly from 16.1 years to 16.8 years during 1992-93 to 2005-06. According to National Family Health Survey (NFHS) 3, 47 percent of married women in the 20-24 age groups got married before they completed 18 years of age. There is also considerable gender gap of 6 years between the average age at marriage of males and females. The negative consequences of early marriage to an individual are widely known; but people do not give much attention to these; rather, parents and relatives in a large number of cases are more worried about getting their girl children married as early as possible. Other than the consequences for educational attainment (marriage in most cases means a cessation of education for the adolescent), and economic independence (by default the married adolescent is dependent upon others for any economic need, frequently throughout her lifetime), the health consequences are less understood or discussed.

Fertility among adolescents in India, though is still high, has declined over the years. Data from NFHS 3 shows that in India12 percent of all girls in the 15-19 age group are already a mother or are currently pregnant; among married women in this age group this is as high as 44 percent. Overall, adolescent fertility contributes to over 16 percent of the total fertility in India, with the contribution in rural areas being 18 percent as compared to 14 percent in urban areas. The probabilities of both maternal and infant death are very high if the mother's age is less than 18 years (Gupta *et al* 2009). It is estimated that the probability of infant death is 60 percent greater if a mother is 18 years or younger. Similarly, adolescent mothers face a greater risk of maternal death as compared to older mothers. Globally, maternal mortality is the second most important cause of death among adolescents (WHO 2014). Further, evidence indicates that the chance of abortion (both induced and spontaneous) is higher if pregnancy occurs in adolescence. The negatives effects of abortion on the future health status of the mother are well documented. This gets further underlined when we acknowledge that a large proportion of induced abortions in India are conducted by unqualified persons. In the previous paragraphs we have considered only married adolescents. Child bearing (intentional or unintentional) among unmarried adolescents is generally ignored as traditionally in India. Sex before marriage is considered taboo and pregnancy and child birth are viewed only in association with marriage. There is evidence that sexual activity among young people has been increasing over recent years. This situation of a higher extent of sexual activity initiated often at younger ages, as compared to the past, has several health and development implications. One of the consequences is the possibility of unsafe abortion and associated health implications. Secondly, if the pregnancy is recognised at a stage beyond which abortion is feasible, this often leaves a child with a single adolescent mother. This situation is being experienced in many developed nations for quite some time. Though this is not so evident in India, there are many instances where unmarried adolescent mothers are facing the social, economic and health consequences of childbearing. Not only that their adolescence gets terminated, they are generally not provided any societal support to meet the heightened challenges.

While knowledge about contraception is relatively high among today's adolescents, their access to contraceptives is limited. Therefore, the use of contraception either to prevent pregnancy or to be safe from STDs is low both in rural and urban areas of India. According to NFHS 3, only 13 percent of married adolescents in the 15-19 age group use contraception. Also, the extent of unmet need for contraception is high among adolescents. The indulgence in unsafe sex and the fear of pregnancy have in recent years resulted in the over use of emergency contraceptives. While this may be seen as better than having an unintended pregnancy, the frequent use of such contraceptives is known to have significant side effects which the adolescents tend to ignore. In a situation where such methods are easily available especially in urban areas, the chance of indiscriminate use is high when the young people are not made aware of the consequences of frequent use.

More significantly, the knowledge of adolescents about hygienic menstrual practices is abysmally low especially among the poorer sections and among non-school going adolescents. Surprisingly, the health education programmes in the schools which are aimed to improve their knowledge about such matters are yet to succeed. Quite often, even the free distribution of sanitary napkins is not accompanied by provision of knowledge regarding their correct use. While such is the case of adolescent girls, the state of adolescent boys is more pathetic. No one pays attention to their developmental problems including sexual maturation and associated concerns. In most instances, they are left to gain awareness or knowledge on their own, relying on peers or in recent times on the internet. The accuracy of information available from these sources being questionable, the chance of misinformation is very high.

Nutritional Status

Nutritional status is another aspect that may provide a better insight into the health situation of adolescents. According to data from NFHS 3, among adolescents in the age group 15-19 years, the mean Body Mass Index (BMI) is 19 for girls and 18 for Boys. More than 50 percent of girls and one third of boys in this age group suffer from anaemia. Several small scale studies also show that the nutritional status of adolescents is highly unsatisfactory. A study among 540 school going adolescents in Mumbai has shown that the mean BMI is 17.9 with 69 percent having a BMI below the suggested normal

level of 18.5. While 4.4 percent of adolescents have a high BMI of 25 or above suggesting overweight or obesity, about 20 percent of adolescents suffer from at least one nutrition deficiency disease (Anil Kumar *et al* 2013). Studies conducted in other parts of Maharashtra also indicate low level of nutritional status among adolescents. Dambhare *et al* (2010) found that in Wardha district of Maharashtra 29 percent of boys and 39 percent of girls suffer from anaemia. An analysis by Katawate and Ghosh (2014) among 3602 adolescents observed that the prevalence of thinness among adolescents is 27 percent whereas severe thinness was prevalent among 23 percent of adolescents in less developed regions of Maharashtra. A study in Gujarat by Prajapati *et al* (2011) among 401 adolescents found that 47 percent are stunted and about one fifth are overweight. A small scale study in South India (Yerpude *et al* 2013) found that 47 percent of adolescents are malnourished. A recent study in Meerut among 2785 adolescents (Jain *et al* 2014) found that the prevalence of overweight and obesity was 20 percent and 5 percent in girls and 18 percent and 11 percent in boys respectively. Maiti *et al* (2011), in a study in West Bengal observed that prevalence rates of underweight, stunting, and thinness were 28 percent, 33 percent and 20 percent respectively. In short, all these studies indicate a low level of nutritional status among adolescents. In the above description, we have not focussed on the differences in nutritional status other than sex differences. It has been observed that substantial differences exist if we examine the status by various social and economic categories. Contrary to one's expectation, studies indicate that the nutritional status of school going adolescents is much lower than non-school going adolescents and also meal skipping and inappropriate eating habits are highly prevalent. Other than this, nutritional intake is low among poorer adolescents due to non-availability of nutrient food items whereas in urban areas and among economically better off sections elevated concerns about one's body image results in adolescents consuming inadequate quantity of food. Their food habits are influenced by media and the consumption of junk food items is high and has been increasing over the years.

Table 1. Substance Use among Adolescents in India

Author and Year	Location	Sample	Major Findings
Quadri et al 2013	Ambala District, Haryana	1500 boys and girls from 8 government and 4 private schools	Prevalence was 60 percent for ever use and 25 percent for regular users. Most commonly ever used is alcohol, most frequently used was tobacco (14.4 percent). The risk is greater among urban males from nuclear families and among those in the 17-19 age group. More than 40 percent use combination of substances
Ahmad et al 2009	Aligarh District, Uttar Pradesh	390 school children aged 10-19 years from rural and urban areas	Prevalence was 13.3 percent of which most were using tobacco (96 percent) followed by alcohol (4 percent). Age, family size and peer pressure were significant predictors. Most reported age at initiation as 14 years
Tsering et al 2010	West Bengal	416 School students (8^{th}, 9^{th} and 10^{th} standards) – one school each from rural and urban areas	Ever use was 15 percent in urban areas and 11 percent in rural. Easy availability and relief from tension were major reasons for continuation of use. Knowledge about the harms from substance use was high (86 percent in urban and 62 percent in rural). Media was the source of information about the effects
Kangule et al 2013	Thane District, Maharashtra	171 male youth aged 15-24 years	Prevalence was very high (65 percent), higher in 20-24 age group. Commonly used were alcohol (55 percent) and tobacco (22.5 percent). Substance use by parents, unemployment, sibling and peer pressure and lower educational status were significantly associated with substance use
Tikoo et al 2013	27 states and 2 UTs	4024 Children aged 5-17 years who used substances besides tobacco in the past year	Tobacco (83 percent) and alcohol (68 percent) were the most commonly ever used substances followed by cannabis (35 percent), inhalants (35 percent), pharmaceutical opioids (18 percent), sedatives (8 percent) and heroin/smack (8 percent. Use of injecting substances was reported by 13 percent
Mital et al 2011	Gujarat	401 students	Only boys (16 percent) reported addiction and most common was tobacco chewing (61 percent)
Ray et al, 2004	Nationwide survey	12- 18 years. 8,587 children	3% for cannabis and 0.1% for opiate
NFHS 3 2005-06	Nationwide survey	15-19 years 13,009 boys and 24,811 girls	Alcohol use is 11 percent in boys and 1 percent in girls. Tobacco use by 25 percent boys
Global Youth Tobacco Survey India (2009)	Multi location, school based survey	10,116 children 0f $8\text{-}10^{th}$ standards	Current use of tobacco was 15 percent, 2.5 times higher among boys compared to girls (19 percent against 8 percent)
Ningombam et al (2011)	Manipur, school children	1020 students from grade $10\text{-}12^{th}$ (17 schools)	Ever use of alcohol is 29 percent, cannabis 14 percent and opiates is 12 percent. Boys and those having family history are more likely to use
Baba et al (2013)	Kashmir, College students	656 students across five districts aged below 18 years	Ever use is about 25 percent. Failure of love affair, family discord and peer pressure significant factors
Hemagiri et al (2011)	Hosur, Karnataka	1536 adolescents aged 10-19 years	Tobacco use was 20 percent among boys and 0.4 percent among girls. Prevalence is associated with age and education. Family situation regarding tobacco use, peer pressure, curiosity were other important correlates.
Vidhubala et al (2014)	Chennail, Tamil Nadu	15,186 school children from 42 schools (6-9 standard)	Ever use of tobacco was a little higher than 3 percent. Majority were exposed to passive smoking at home. About 30 percent reported procuring tobacco products for their parents.

Table 2. Selected Studies on Mental Health Status of Adolescents in India

Author and Year	Location	Sample	Major Findings
Kumar et al (2014)	Chennai, Tamil Nadu	500 school adolescents aged 13-16 years. Two schools from urban area	Conduct problems (23 percent), peer problem (13 percent), pro-social behaviour (12 percent) and emotional problem (12.2%) were the commonest. About one fifth that these problems interfered with home life, friendships, classroom life, leisure activities. Mental health problems were significantly higher among those children whose both parents were employed.
Bhuskute (2013)	Nagpur, Maharshtra	180 high school students (urban)	Interpersonal problems, and major depression from urban environment are found in severe clinical symptom range; violence and aggression proneness, generalized anxiety disorder, and opponent positional disorder are observed in moderate clinical symptom range.
Pillai et al (2008)	Goa	2684 rural and urban adolescents aged 12-16 years	The most common diagnoses were anxiety disorders (1.0%), depressive disorder (0.5%), behavioural disorder (0.4%) and attention-deficit hyperactivity disorder (0.2%). Adolescents from urban areas and girls who faced gender discrimination had higher prevalence.
Latha et al (2006)	Udipi, Karnataka	124 young people from one college aged 16-21 years	Self-perception of body shape showed 39 percent felt they were slim, 27 percent normal and 27 percent thin. Eighty six percent desired to be slim. The perception of weight problem but not BMI contributed significantly to higher scores on GHQ; significant positive correlation between BSQ scores and BMI, age, and weight.
Subbaiah and Mohanraj (2010)	Chennai, Tamil Nadu	966 adolescents in class 10^{th} to 12^{th} from 21 schools	About 40 percent were not depressed, 37 percent were mildly depressed, 19 percent were moderately depressed and above 4 percent were severely depressed. Experience of emotional manifestations of depression dominated over cognitive, behavioural and physical manifestations of depression. No significant gender differences but a higher proportion of girls (27%) reported moderate to severe depression than boys (21%). Increasing depression was found in older adolescents.
Rani and Sathiaskaran (2013)	Chennai, Tamil Nadu	1842 children from 30 schools studying in classes 8^{th} to 12th	About 16 percent felt lonely most of the time, 17 percent could not sleep at night, 32 percent of students reported sadness almost every day for two weeks or more in a row. It was found that symptoms of mental health problems are associated with lack of parental and friends support.
Reddy and Latha (2006)	Mangalore, Karnataka	100 pre-university students aged 16-19 years	The main sources of stress were getting up early in the morning, pressure to study, having to concentrate for too long during college hours, not having enough money to buy things, and long college hours. Prayer was the main coping strategy used by both genders These were applicable for both males and females. Males had larger social network than females.
Kumar and Talwar (2014)	Based on review	NA	Level of stress ranged from 14 percent to 40 percent as indicated from various studies reviewed. Risk factors for mental disorders in adolescents include poverty, social exclusion, violence, peer rejection, isolation and lack of family support. Protective factors for mental well-being are linked to cohesion at the community level, family well-being, individual behaviour and skills, adolescent friendly social services including health services.
Solomon (2007)	Navi Mumbai, Maharashtra	1129 adolescents aged 13-20 years from 9 schools and colleges	Many had multi problem behaviour. Of them 87 percent were males. Control protection was the salient protective factor and opportunity risk was the salient risk factor. Urban living and low standard of living in adolescents were associated with problem behaviour.

Substance Use

Young people are recognised as a vulnerable group having a greater chance of engaging in high risk behaviours including substance use. Several surveys in the country have shown that the extent of use of various substances ranging from tobacco and alcohol to more harmful drugs is generally high among youth. Some studies show an increasing trend in the use of harmful substances in many states. Also there are inter-state and socio-economic variations in the extent of substance use among young people. Table 1 presents a summary of selected recent studies that have focussed on the extent of the use of substances among adolescents in India. These studies were conducted in various geographical locations in the country and include both small scale studies and multi location and nationwide surveys. The indication from these studies is that substance use among adolescents in India is high. While there are variations in prevalence observed in these studies, one could safely conclude about the high extent of prevalence of tobacco and alcohol use. In general, the use is high among urban adolescents as compared to rural adolescents while in general it is believed that health status is better in urban areas as compared to rural areas. It is noted in many studies that the use is significantly higher among older adolescents and that family problems and peer pressure are among significant influencing factors. The observed high extent of ever use and current use of various substances among adolescents is disturbing. There is no indication that over the years such use has declined. On the contrary, the easier availability, information access and lack of awareness have probably led to an increase in the use at least in some sections of adolescents. When we recognise that such initiation to substance use at an early age can result in many of them continuing the use leading to substance addiction, the quality of the population in the future becomes an important development concern. Studies have shown that early initiation to substance use is also associated with continuation of use and addiction.

Mental Health

In India, mental health has not gained much attention, probably because we have been battling with the physical health related issues. Of late though mental health has begun to gain some notice, there are only scant initiatives to address mental health problems in the country. As adolescents are generally supposed to be healthy physically, the consideration given to their mental health has been limited. Even in urban areas mental health of adolescents draws attention only when there are reported incidents of suicides which are viewed primarily as a result of academic stress. Still, the general

presumption is that the only stress that adolescents experience is the consequence of pressure that emanate from problems related to the inability to excel in academics. This is not true as adolescence as a developmental phase is associated with several physical and psychological changes and those who go through this phase are faced with many challenges they are not equipped to face and there are no avenues in our nation to help them encounter these challenges. In India, about 50 percent of all suicides happen in the age group 10-24 years of which about one third are those by persons in the 10-19 age group. There are many factors that contribute to the high extent of suicides among young people. Academic stress, family problems, love failure and adjustment with parents are among the predominant factors related to suicides among adolescents. Suicide attempts among adolescents happen in all socio-economic categories and are not limited to states with lower level of development. Various studies have shown that the extent of stress is high among adolescents. The share of adolescents suffering from high level of stress ranges from 14 percent is some studies to 47 percent in others. In Table 2, summary of results from selected studies on the mental health status of adolescents is presented.

A high proportion of the adolescents feel lonely, do not have many friends, suffer from peer adjustment problems and experience sleep deprivation. Similarly, a significant number of adolescents suffer from various psychological disorders including anxiety disorders and depression. Some of the studies have found a significant association of mental disorders with an 'non-traditional' lifestyle, difficulties with studies, lack of safety in the neighbourhood, a history of abuse and tobacco or alcohol use. Perception that one's family is the primary source of social support generally results in lower prevalence of mental disorders. Stresses of urban living, economic hardship in families, high extent of peer pressure and problems in adjusting to the physical changes that occur, contribute to the high level of psychological problems among adolescents. The increasingly recognised importance of emotional quotient in life success and the recent understanding that cultural quotient has significant role in one's chances to succeed in today's increasingly competitive world, further underlines the need to pay attention to the development of psychological well being of adolescents. A low level of psychological health during adolescence will hamper their ability to cope up with life challenges not only during this period but during their later life also.

Conclusion

This paper aimed to portray the health situation of adolescents in India by focusing, in addition to the traditionally used indicators, on selected usually ignored health aspects. Except when one looks at the life expectancy among adolescents, their health situation does not appear to be better than any other population group. In fact, the reproductive health situation itself leaves much to be desired. The high level of fertility, low level of contraceptive use, high extent of unsafe abortions, early age of sexual initiation, and increasing use of emergency contraception are of serious concern. Such a situation exists even while we have a national programme aimed specifically at addressing sexual and reproductive health needs of adolescents. While the reproductive health problems faced by adolescents girls are only minimally addressed, these and other health problems of adolescent boys do not even get a mention. Nutritional status is generally considered to have an implication for one's health. But the general perception that young people are healthier than others results in ignoring this aspect. Research evidence clearly shows that the nutritional situation of adolescents is far below any acceptable level. If we fail to acknowledge this status and continue to ignore the association of their current nutritional status with their future health status, we may be producing next generations who may have low level of mortality but having high levels of morbidity. The extent of substance use among adolescences in India is high irrespective of which geographical or socio-economic group they belong to. The increasing accessibility to substances in both rural and urban in India should be of concern. In the absence of adequate awareness and efforts to keep adolescents away from them, one may expect an increase in substance use which is initiated at an early age. Mental health has been ignored in general in the nation, adolescents are no exception. The available evidence, which is based mostly on small scale studies, indicates that they experience a very high level of stress and that many suffer from various types of psychological disorders. If we are counting on our present day young people to be substantially contributing to national development, it is essential that we create a special space for adolescent health interventions moving beyond the current 'adolescent sexual and reproductive health' (ASRH) initiative. Both this initiative and the programmes to enhance adolescent nutrition are yet to achieve success in any significant way.

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