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ABSTRACT

The health of adolescents is crucial to achieving India's Sustainable Development Goals (SDGs), and the Government of India has spotlighted adolescent health in various programmes and policies. However, substantial health challenges continue to affect Indian youth. This paper describes the health profile of adolescents in India and, in particular in Uttar Pradesh, one of the country's least performing states in the domain of health outcomes. The paper highlights that despite progress in India's health indicators, there is ample of scope for improvement in certain areas, especially accessibility. Policies and programmes must adopt a converged framework to address adolescent health challenges in totality, and not in silos, for India to successfully achieve its SDGs by 2030.

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1. INTRODUCTION

Adolescents are young individuals, aged 10–19 years, in their most rapid and formative phase of human development. Adolescence is a complex, transitional stage with distinctive physical, cognitive, social, emotional and sexual development, which requires special attention from all stakeholders.[1] During this phase, the young search for their identity and develop skills that will help them become responsible adults. To utilise their full potential and become responsible and productive members of society, adolescents need the support of adults. Thus, they require special focus within national development programmes, policies and plans. One's health during adolescence determines their future health, as risky behaviour in youth can have long-term consequences. The global interest in adolescent health grew after the International Conference on Population and Development (ICPD) in Egypt in 1994. The ICPD recommended adopting a human rights approach to recognise that sexual and reproductive health services and programmes must be set up for the development of adolescents worldwide.[2]

In 2006, India identified Adolescent Reproductive and Sexual Health (ARSH) as a key strategy under the Reproductive Child Health (RCH II) programme, followed by the "Reproductive Maternal Newborn Child and Adolescent Health (RMNCH + A) Strategy" in 2013. The Government of India (GoI) has renewed its focus on adolescents, since the investment yields triple benefits: for the adolescents, in their future adult life, and for the next generation of children.[3] Adolescent health is crucial for shaping both the future of the world's health and the achievement of Sustainable Development Goals (SDGs) related to health, nutrition, education, gender equality and food security.[4] This paper presents a situational analysis of the progress in adolescent health in India and in Uttar Pradesh (UP), with the following objectives:

- To understand the health status of adolescents and related determinants at the national and subnational level, with a specific focus on UP

- To conduct a landscape analysis to understand the state of adolescent health in UP
- To sensitise stakeholders to the importance of strengthening Adolescent Health Services in improving healthcare access and promoting the health of adolescents in UP

2. SOCIO-DEMOGRAPHIC PROFILE OF ADOLESCENTS IN INDIA

India is home to more than 250 million adolescents, who constitute nearly 20 percent of the country's total population. Thus, every fifth person in India is an adolescent.[5,6,7] According to the National Family Health Survey-4 (2015–16), the percentage of adolescents in the age group of 10–14 years (young adolescents) and 15–19 years (older adolescents) are 10.1 percent (boys: 10.4 percent; girls: 9.8 percent) and 9.4 percent (boys: 9.6 percent; girls: 9.2 percent),[8] respectively. The majority of this population stays in rural areas (181 million) in comparison to urban areas (72 million).

2.1 Education

Over the years, literacy has improved amongst adolescents (15-19 years) and the gender difference has been bridged, as revealed by a comparison between NFHS-3 and NFHS-4. In 2006, 73 percent of girls and 88.7 percent of boys and in 2016, 90.4 percent of girls and 94.6 percent of boys were literate[i, 9,10] Literacy has improved more amongst younger and older adolescent girls than amongst boys, both in terms of percentages and relative change amongst those who completed 10–11 years of education from 2006 to 2016.[11,12]

To determine the quality of education, the Annual Status of Education Report[15] attempted to understand the learning levels (skills

i Literate: An individual "who can read a whole sentence or part of a sentence and who completed standard 6 or higher are assumed to be literate."

Table 1: Adolescents Who Completed 8-9 Years of Education, NFHS-3[13] and NFHS-4[14]

Target Group	Percentage of Adolescents		
Adolescents	**NFHS-3**	**NFHS-4**	**Relative Change (in percent)**
Girls			
10–14 years	11.9	18.1	52.1
15–19 years	24.7	30.1	21.9
Boys			
10–14 years	11.8	16.7	41.5
15–19 years	31.7	31.8	0.3

Source: NFHS-3 (2006) and NFHS-4 (2016).

in reading and arithmetic) of children and adolescents. The learning level of children is an indicator of the effectiveness or productivity of the education system. According to ASER report (2018), of all children enrolled in Standard-VIII in India, approximately 73 percent can read at least Standard-II level text. This number has remained unchanged since 2016. Similarly, the arithmetic performance assessment showed that the performance of Standard-VIII in basic arithmetic has not changed much over time. Currently, 44 percent of all children in Standard-VIII can correctly solve a 'three-digit by one-digit' numerical division problem.

3. ADOLESCENT HEALTH IN INDIA: THE NATIONAL SITUATION

3.1 Mortality and Morbidity

According to the Global Burden of Disease (GBD) data, 173,340 adolescents died in India due to all-cause mortality in 2017, of which 39 percent were aged 10–14 and 61 percent were aged 15–19.[16] Top-ranking causes of deaths were communicable, maternal, neonatal and nutritional diseases (52.3 percent), followed by injuries (28.0 percent)

and non-communicable diseases or NCDs (19.6 percent). Comparing the death and disability data from GBD 1990 to 2017[17] shows an increase in deaths due to injuries and NCDs amongst adolescents. On the other hand, in 2017, there was a decline in deaths due to communicable, maternal, neonatal and nutritional diseases. These changing trends necessitate the proper understanding of the risks and determinants underlying the new patterns of diseases, to design better interventions and programmes that protect adolescents and enable them to make a healthy transition into adulthood.

3.2 Adolescent-Specific Programmes and Policies in India

Health, wellbeing, and holistic growth and development of adolescents is a high priority for the GoI, as evident from their inclusion in various policies and programmes (See Table 2).

3.3 National Adolescent Health Programme: Rashtriya Kishor Swasthya Karyakram (RKSK)

The National Youth Policy drafted in 2014 highlighted the importance of empowering the adolescents of India to reach their full potential. In the same year, under the National Health Mission, the Ministry of Health and Family Welfare (MoHFW) launched a comprehensive national Adolescent Health Programme.[18] Hitherto, adolescent health programmes had largely focused on sexual and reproductive health (SRH). This programme, known as 'Rashtriya Kishor Swasthya Karyakram' (RKSK), aimed to improve the continuum of care for adolescent health and developmental needs and expanded its focus beyond SRH. The RKSK targets all Indian adolescents of 10–19 years: urban or rural, in school or out of school, married or unmarried, vulnerable or underserved. The strategies in this programme include community-based interventions and facility-based interventions. The community-based interventions cover Peer Education, Adolescent Health Days (AHD), Weekly Iron and Folic Acid Supplementation Programme (WIFS) and Menstrual Hygiene Scheme (MHS). Facility-

based interventions focus on strengthening the delivery of clinical and counselling services for adolescents, through Adolescent Friendly Health Clinics (AFHCs).[19] The RKSK has six health priorities.

Table 2: National Programmes and Policies Focusing on Adolescents in India

S. No.	Name of the Programme/Policy	Year of Implementation
I	Programmes/Policies by Ministry of Health and Family Welfare	
	Rashtriya Kishor Swasthya Karyakram	2014
	Rashtriya Bal Swasthya Karyakram	2013
	Weekly Iron and Folic Acid Supplementation	2012
	Menstrual Hygiene Scheme	2011
	National AIDS Prevention and Control Policy	2012
	National Programme on Control and Prevention of Cancer, Diabetes, Cardiovascular Diseases and Stroke	2010
	National Tobacco Control Programme (Tobacco Free Education Institutions)	2007
II	Programmes/Policies by the Ministry of Human Resource Development	
	National Policy on Education	1986
	Adolescent Education Programme	2005
III	Programmes/Policies by the Ministry of Women and Child Development	
	Rajiv Gandhi Scheme for Empowerment of Adolescent Girls, "SABLA"	2014–15
	Kishori Shakti Yojana	2007
IV	Programmes/Policies by the Ministry of Youth Affairs and Sports	
	The National Youth Policy	2014
	National Programme for Youth and Adolescent Development	2008

3.3.1 Sexual and Reproductive Health (SRH)

Sexual health is a state of physical, mental and social wellbeing in relation to sexuality. It requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence.[20] Adolescents in India have diverse SRH issues and problems, as listed below.

3.3.1.1 Menstrual Hygiene

An important biological milestone in the life of adolescent girls is menarche, which marks the onset of the reproductive phase.[21] Unfortunately, due to lack of knowledge on menstruation preparedness and management, as well as shyness and embarrassment, poor menstrual hygiene has become a major concern in India.[22] Menstruation often restricts school attendance, largely due to the lack of proper water and toilet facilities in schools. [23] Thus, every month, a girl student stays absent for four to five days, i.e. approximately 10–20 percent of missed school time annually. Additionally, poor menstrual hygiene practices have adverse health impacts, e.g. toxic shock syndrome, reproductive tract infections (RTI) and other vaginal diseases.[24] According to the national data, only 57.7 percent of adolescent girls (15–19 years) use a hygienic method of protection, i.e. either locally prepared napkins, sanitary napkins or tampons.[25] Overall, the practice of using a hygienic method is significantly better in urban areas (77.5 percent) than in rural areas (48.2 percent).[26] Thus, adolescent girls, especially those in rural areas, are vulnerable to menstrual health issues and absenteeism.

3.3.1.2 Child Marriage

Child marriage, which is a human rights violation, is now a priority on the global development agenda. The SDG target 5.3 aims to eliminate the practice by 2030.[27] Child marriage is an important variable and is used as a proxy indicator for the age at which women become vulnerable

to the risks inherent in sexual activity.[28] Further, early marriage of girls has associated adverse social and development outcomes for girls, including increased cases of school dropouts; fewer livelihood options; and lower power and autonomy within the household in issues of family planning, social isolation and domestic violence.[29,30] According to NFHS-4, the prevalence of child marriage amongst adolescents (15–19 years) is 2.6 percent and 0.4 percent amongst girls and boys, respectively.[31] National data also highlights a reasonable decline in child marriage in India (girls: 63.7 percent; boys: 45.2 percent) amongst 20–24-year-old youth. However, a substantial number of girls (NFHS-4: 6.6 percent;) and boys (NFHS-4: 10.3 percent) still get married before the legal age.[32,33] This issue prevails in Indian society due to ingrained social and cultural norms.[34] A lower educational level is associated with the prevalence of adolescent (15–19 years) marriage.[35] Thus, the education of girls is an underlying protective factor in avoiding child marriage.

3.3.1.3 Sexual Activity

Most young people become sexually active during adolescence in the absence of proper knowledge about risks and consequences. Risky sexual activity often results in pregnancy or in sexually transmitted infections (STIs), such as HIV. In 2016, a relative decline was recorded for "first sexual intercourse at 15" amongst adolescent girls and boys (15–19 years), of 80 percent and 59.2 percent, respectively.[36,37] Though sexual activity has declined, the prevalence of HIV amongst adolescents (15–19 years) has increased from 0.04 percent in 2006 to 0.08 percent in 2016.[38, 39] This was despite high awareness amongst adolescent girls (73 percent) and boys (and 83.9 percent) of HIV or AIDS[40] as well as of methods of prevention. The findings reveal a gender disparity in awareness of HIV/AIDS and its prevention methods (Table 3).

3.3.1.4 Contraceptive Awareness

"Contraception" is defined as the intentional prevention of pregnancy using various devices, sexual practices, chemicals, drugs or surgical

Table 3: Knowledge Amongst Adolescents (15–19) for Preventing HIV/AIDS and Relative Change, NFHS-3[41] and NFHS-4[42]

	Girls			Boys		
Prevention Methods for HIV/AIDS	**NFHS-3 (%)**	**NFHS-4 (%)**	**Relative Change (%)**	**NFHS-3 (%)**	**NFHS-4 (%)**	**Relative Change (%)**
Using condoms	36.5	49.5	35.6	71.4	70.3	-1.5
Limiting sexual intercourse to one uninfected sex partner	46.3	52.8	14.0	73.1	66.8	-8.6
Using condoms and limiting sexual intercourse to one uninfected sex partner	32.4	42.1	29.9	65.5	61	-6.8

Source: NFHS-3 (2006) and NFHS-4 (2016).

procedures.[43] Compared to NFHS-3,[44] NFHS-4 data shows higher knowledge of all contraception methods, in general (boys: 94.4 percent; girls: 93.2 percent), and modern methods of contraception, in particular (boys: 94.3 percent; and girls: 93.1 percent),[45] in 2016.

3.3.1.5 Use of Contraceptive Methods

Of all married girls (15–19 years), approximately 14.9 percent reported using some form of contraception and 10 percent used a modern

method of contraceptive. Overall, the usage of contraception was higher amongst girls in urban areas (16.8 percent) compared to those in rural areas (14.4 percent).[46] Alarmingly, the data from 2016 shows a decline from 2006 in the use of contraception amongst married adolescent girls at all levels: national, urban and rural (See Table 4).[47, 48]At the national level, 22.2 percent of adolescents reported an "unmet need for family planning" (for spacing: 19.9 percent; for limiting: 2.3 percent) in 2016.[51] This indicator points to the gap between women's reproductive intentions and their behaviours towards contraceptive use.[52] The unmet needs of millions of women can be met by providing a better quality of care, its essential components being access to contraceptive choices, quality counselling services, information and follow-ups.[53]

3.3.1.6 Teenage Pregnancy and Motherhood

Adolescents who have begun childbearing[ii] are of key concern to the RKSK, and this data has been captured under NFHS-3 and NFHS-4.

Table 4: Use of Contraceptive Methods by Married Adolescent Girls (15–19) and Relative Change, NFHS-3[49] and NFHS-4[50]

Type of Contraceptive	NFHS-3 (%)	NFHS-4 (%)	Relative Change (%)	NFHS-3 (Urban) (%)	NFHS-4 (Urban) (%)	Relative Change (%)	NFHS-3 (Rural) (%)	NFHS-4 (Rural) (%)	Relative Change (%)
Any method	22.6	14.9	–34.0	26.3	16.8	–36.1	21.8	14.4	–33.9
Modern Method of Contraceptives	14.2	10	–29.5	20.0	12.1	–39.5	13	9.5	–26.9

Source: NFHS-3 (2006) and NFHS-4 (2016).

ii Childbearing: According to the NFHS-3, a childbearing adolescent is one who has had a live birth or is pregnant with her first child.[9]

Teenage pregnancy makes adolescent girls both physically and socially vulnerable, while increasing their (and their babies') health risks.

In rural areas, the prevalence of teenage pregnancy continues to be higher (9.2 percent) than in urban areas (five percent) (See Table 5). In terms of absolute numbers, the UNFPA estimates that 11.8 million teenage girls in India were pregnant in 2016.[54] Overall, there was a decrease in teenage pregnancy (–50.6 percent) from 2006 to 2016. This decline can be attributed to an overall increase in the age of marriage. However, there remains a need to strengthen existing programme deliveries to reduce teenage pregnancy further. Special attention must be paid to target interventions in rural areas.

3.3.1.7 Antenatal Care (ANC) Visits

The World Health Organisation (WHO) recommends four ANC visits during pregnancy for vaccination, detection and management of infections, as well as the identification of warning signs during pregnancy.[57] According to the NFHS-4, the overall use of a skilled provider (doctors, auxiliary nurse midwives, nurses, midwives, lady health visitors) for ANC services is higher in urban areas (89 percent) than in rural areas (75 percent).[58] While the majority (81.4 percent) of mothers aged less than 20 years received ANC as per NFHS-4,[59] this finding highlights the gap in accessing crucial services. However, the percentage of adolescent mothers receiving postnatal check-up

Table 5: Percentage of Adolescent Girls (15–19) to have Begun Childbearing and Relative Change, NFHS-3[55] and NFHS-4[56]

Girls	NFHS-3 (%)	NFHS-4 (%)	Relative Change (%)
Overall	16.0	7.9	–50.6
Urban	8.7	5.0	–42.5
Rural	19.1	9.2	–51.8

Source: NFHS-3 (2006) and NFHS-4(2016).

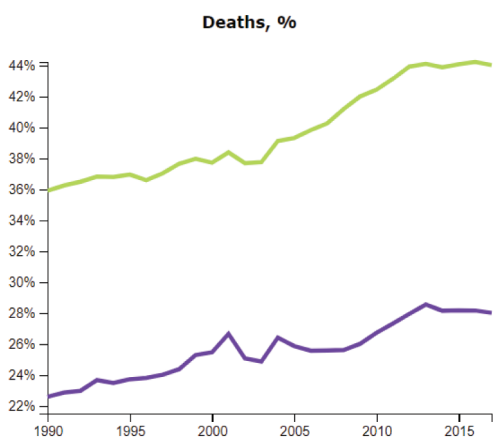
has increased over time. In 2016, 55 percent of mothers (<20 years) received check-up within less than four hours of delivery,[60] compared to only 24.7 percent in 2006.[61]

3.3.2 Injuries and Violence

In 2017, 28 percent of deaths amongst 10–14-year-olds and 44.0 percent deaths amongst 15–19-year-olds were attributed to injuries.[62] Adolescent deaths due to injuries have increased dramatically (See Figure 1) over the years (1990 to 2017).[63] According to the GBD, deaths due to injuries include transport injuries (road injuries, other transport injuries), unintentional injuries (falls, drowning, heat, fire, heat and hot substance, poisoning etc.), self-harm and interpersonal violence.

The major causes of young-adolescent deaths are listed below:
- Unintentional injuries: 17.3 percent
- Road injuries: 4.8 percent
- Self-harm: Four percent
- Interpersonal violence: One percent

Figure 1: Deaths Due to Injuries amongst Adolescents (10-19) of India, GBD 2017



The major causes for older-adolescent deaths are listed below:

- Road injuries: 9.2 percent
- Unintentional injuries: 13.6 percent
- Self-harm: 17.2 percent
- Interpersonal violence: 2.3 percent

Gender-Based Violence (GBV)—including emotional, physical or sexual violence—is one form of interpersonal violence, reported by 23.9 percent married girls (15-19 years).[64] This data underscores the need for strengthening interventions to address violence, GBV and related determinants amongst adolescents.

3.3.3 Substance Use: Tobacco and Alcohol

Tobacco use is a unique problem in India, exacerbated by the many varieties in which it is available and used, as both smoked and smokeless tobacco (SLT) products. The initiation of tobacco use during adolescence and early adulthood (15–24 years)[65] renders individuals especially vulnerable. According to the Global Adult Tobacco Survey (GATS), the prevalence of tobacco use amongst adolescents (15–17 years) in India has decreased from 10 percent (GATS-1, 2009–10) to four percent (GATS-2, 2016–17).[66]

The mean age of initiation for tobacco use in India is 18.9 years.[67] However, studies in urban slums have shown tobacco initiation at as young as six years, due to the use of SLT products.[68] SLT use is higher compared to smoked tobacco amongst youth (See Table 6). There is an urgent need to enforce SLT-control strategies at national and subnational levels. The reasons for adolescents using tobacco include peer pressure, parental tobacco habits,[69] and exposure to advertisements[70] and movies.[71]

Another substance popular amongst adolescents is alcohol, which is typically initiated during this vulnerable phase in life. Harms associated with alcohol are not confined to users but affect others as

Table 6: Prevalence of Tobacco Use and Type of Tobacco, GATS-2 (2016–17)[72]

15–24 Years	Current Tobacco User (%)	Current: Smoked (%)	Current: Smokeless (%)	Current: Both Smoked and Smokeless (%)
Overall	12.4	1.6	9.1	1.8
Men	20.3	2.9	14.0	3.4
Women	3.7	0.1	3.6	0.0

Source: GATS-2 (2016–17).

well, such as family members. Research shows that heavy alcohol use during adolescence is associated with a lifetime dependence on alcohol and tendency towards high-risk sexual behaviours, including multiple sex partners, unprotected intercourse and sex with high-risk partners (e.g. intravenous drug users, prostitutes).[73] According to a Ministry of Social Justice and Empowerment report, in 2018, 1.3 percent of Indian adolescents (10–17 years) consumed alcohol.[74]

3.3.4 Mental Health

Mental health issues include indicators related to anxiety, loneliness and lack of friends.[75] Suicide is a primary cause of death amongst adolescents, and two of the most common factors leading to it are primary mood disorders and substance abuse.[76] Estimated suicide rates per 100,000 population aged 15–29 years show that in India, suicide-related mortality is higher in women than in men, and the overall suicide rates in India is 35.5 percent.[77]

Depression is another major cause for concern. Point prevalence of depression/affective disorders ranges from 1.2 to 21 percent in clinic-based studies; three to 68 percent in school-based studies; and 0.1 to 6.94 percent in community studies.[78] Promoting positive mental health amongst adolescents is the need of the hour, which will require the urgent focus of programmes and healthcare staff.

3.3.5 Nutrition: Coexistence of Underweight and Overweight

During the adolescent stage, there is an increased requirement for proteins, vitamins, calcium and iron, attributed to a rapid growth spurt and increased physical activity.[79] According to the Global Syndemic Report (2019), the three pandemics—obesity, undernutrition and climate change—interact with each other to produce complex sequelae, and share common underlying societal drivers.[80] India is suffering from a "global syndemic" of obesity, undernutrition and climate change, and each condition will exacerbate the other in future.

India faces a dual burden of under- and over-nutrition, with 38 percent of the country's under-five children stunted (too short for their age; an indicator of chronic undernutrition), 21 percent wasted (too thin for their height; acute under-nutrition) and 36 percent underweight.[81] There are various determinants of nutritional disorders amongst adolescents (See Box 1).[82]

BOX 1: Determinants for Nutritional Problem

- Household food insecurity
- Intra-household allocation of food
- Livelihood insecurity
- Lack of nutrition knowledge

The proper nourishment of adolescents is necessary to enable them to make optimal use of their skills, talents and energies, which in turn will help them become healthy and responsible citizens and parents in future. To achieve such a task and to break the inter-generational cycle of malnutrition, it is crucial to overcome adolescent malnutrition.[83] Malnutrition refers to deficiency, excess or imbalance of nutrients and has public-health implications in India.[84]

3.3.5.1 Underweight and Overweight/Obesity

According to the WHO SEARO Report 2018,[85] Indian adolescents struggle with both thinness (23 percent) and obesity (21 percent). A multi-country study in 2017 pooled data from 200 countries to

estimate the trend from 1975 to 2016 for underweight prevalence and obesity amongst children and adolescents (5–19 years). The prevalence of moderate and severe underweight was highest in India: 22·7 percent (16·7–29·6) amongst girls and 30·7 percent (23·5–38·0) amongst boys.[86] According to the recent Comprehensive National Nutrition Survey (CNNS), 2016–18, the dual form of malnutrition (undernutrition and overnutrition) exists in various groups: preschool (0–4 years), school age (5–9 years) and children and adolescents (10–19 years).[87] According to the CNNS data:

- 26.3 percent and 14.2 percent of adolescent boys and girls aged 15–19 years were moderate or severely thin (BMI[iii] for age, z-score < -2 SD).
- Seven percent and 2.3 percent of adolescent boys and girls aged 15–19 years were severely thin (BMI for age, z-score <-3 SD).

A high prevalence of thinness was seen amongst adolescents in NFHS data as well (See Table 7). From 2006 to 2016, thinness amongst adolescents decreased, with the reduction being greater amongst boys than amongst girls (girls: –10.4 percent; boys: –22.8 percent).[88, 89] However, the decline in undernutrition for children and adults is insufficient if India wants to meet its SDG targets by 2030.[90]

3.3.5.2 Anaemia

Another important nutrition indicator under the RKSK programme is anaemia. According to the CNNS report,[93] 28.4 percent of adolescents aged 10–19 years had some degree of anaemia (10-14 years: 24.1; 15-19 years: 33.2). The prevalence of mild, moderate and severe anaemia was 20.2 percent, 11.9 percent and 1.2 percent, respectively, amongst adolescents aged 15–19 years. According to the NFHS-4,[94] the prevalence of anaemia has decreased in girls from 55.8 percent to 54.1 percent

iii BMI stands for Body Mass Index and is calculated as Weight (wt) in kilogram divided by Height (ht) in metre square.

Table 7: Nutritional Status of Adolescent Girls and Boys, and Relative Change, NFHS-3[91] and NFHS-4[92]

Indicator	Girls				Boys			
	NFHS-3 (%)	NFHS-4 (%)	Absolute Change (%)	Relative Change (%)	NFHS-3 (%)	NFHS-4 (%)	Absolute Change (%)	Relative Change (%)
Total Thin (BMI <18.5)	46.8	41.9	–4.9	–10.4	58.1	44.8	–13.3	–22.8
Overweight or obese (BMI≥ 25)	2.4	4.2	1.8	75.0	1.7	4.8	3.1	182

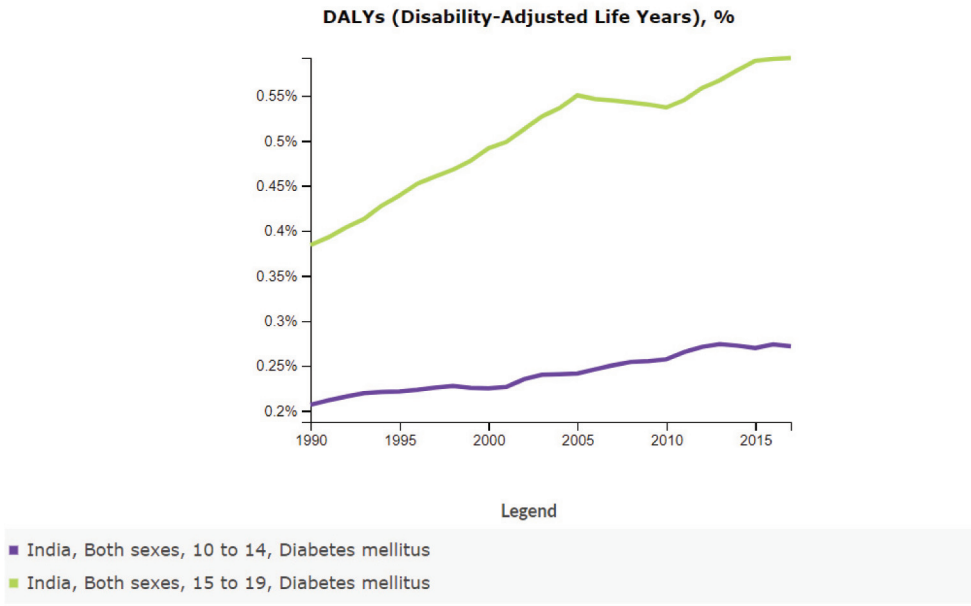
Source: NFHS-3 (2006) and NFHS-4 (2016).

and in boys from 30.2 percent to 29.2 percent, from 2006 to 2016.[95] A relative reduction of about three percent has been observed in both the genders.[96,97] However, anaemia remains a persistent problem, despite GoI's efforts since 1970, when the National Anaemia Prophylaxis Programme was launched.

3.3.6 Non-Communicable Diseases

NCDs are a spectrum of diseases such as cardiovascular diseases (CVDs), cancer, diabetes, mental health and chronic respiratory diseases. NCDs affect both adults and adolescents.[98] The leading risk factors contributing to NCDs include an unhealthy diet, physical inactivity, tobacco use, air pollution, physical inactivity and metabolic factors (e.g. obesity, high blood pressure, high cholesterol level, high blood glucose level).[99] Most of the risk factors are behaviourally assimilated and are due to changes in lifestyle during adolescence.[100] The RKSK focuses on

Figure 2: Burden (DALYs) of Diabetes Amongst Sdolescents



physical inactivity as a risk factor for NCDs and addresses hypertension and diabetes. Figure 2 highlights increasing DALYs[iv] due to diabetes amongst young and older adolescents,[101] underscoring the fact that NCDs are impacting adolescents and young adults in India.

4. ADOLESCENT-FRIENDLY HEALTH CLINICS UNDER THE RKSK

The GoI has strengthened health systems for adolescents through Adolescent-Friendly Health Clinics (AFHCs). These clinics were established as part of the earlier ARSH programme to deliver preventive, promotive, curative and referral services to adolescents.[102] Under the RKSK, AFHCs provide a range of clinical and counselling services related to six priority areas of RKSK. An AFHC runs at various levels of healthcare, i.e. Primary Health Care (PHC), Community Health Centre (CHC), District Hospital (DH) and in medical colleges (See Figure 3).

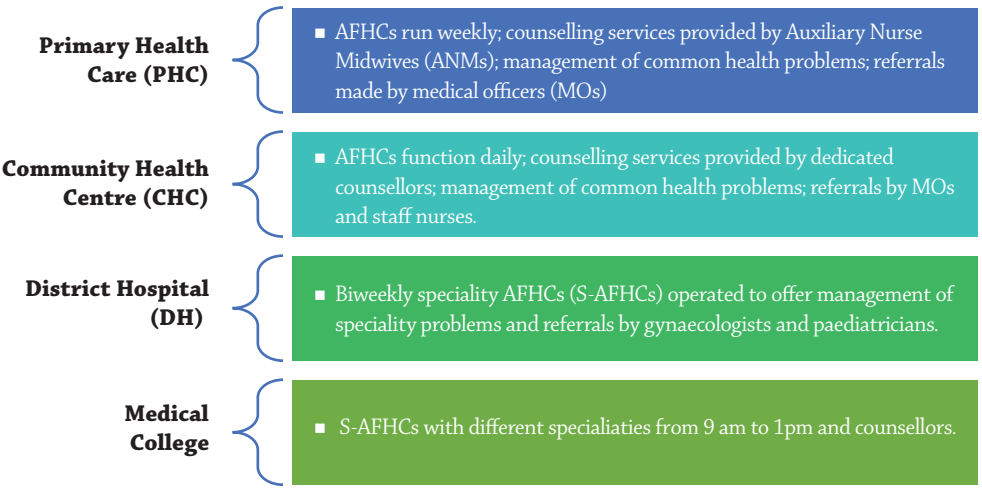
iv DALYs: Disability Adjusted Life Years. The sum of years of potential life lost due to premature mortality and the years of productive life lost due to disability.

While the GoI is working hard for effective utilisation of the AFHCs across India, evaluations have shown low footfalls in these facilities. The uptake of services is not uniform across Indian states and Union Territories, and multiple factors act as barriers to availing the existing services.

The evaluation of AFHCs in 95 health facilities across 26 high-priority districts in six states (Delhi, Haryana, Himachal Pradesh, Jharkhand, Punjab, Uttarakhand) showed that 79 out of 95 of the clinics were functioning (83 percent). The functioning clinics had inadequate staff, inadequately skilled service providers, insufficient equipment, out-of-stock drugs, low priority accorded by programme managers, and service delivery restricted to ARSH without the availability of curative services. According to adolescents, the following act as barriers to the uptake of services at AFHCs:

- Considered to be girl clinics
- Judgmental attitude of healthcare providers
- Lack of confidentiality and privacy

Figure 3: AFHC Functions at Various Levels of Health System, RKSK (2014)



- Lack of family support
- Lack of knowledge amongst adolescents about the clinics[103, 104, 105]

However, according to healthcare personnel, other factors reduce the utilisation of AFHCs (See Box 2).[106]

BOX 2: Barriers for Uptake: Perspective of Healthcare Personnel

- Lack of reading material
- Uncomfortable waiting areas
- Inconvenient timings
- Non-availability of feedback

An evaluation of AFHCs vis-à-vis 311 adolescents in Puducherry showed low utilisation of AFHC services (girls: 15 percent; boys: zero). Less than half of the adolescents were aware of the range of services available at an AFHC; however, there was decent utilisation of commodities such as weekly iron and folic acid.[107]

Despite the efforts of the Centre and the state to provide adolescent-friendly health services, adolescents are unable to access these facilities. Thus, there is an immediate need to sensitise the population about AFHCs, empower them to utilise the services, strengthen the existing services and extend services beyond ARSH to attract more adolescents.

Health Ranking of States: Why UP?

In 2017, NITI Aayog, in collaboration with the World Bank and MoHFW, set out to develop the first comprehensive State Health Index. It published the first edition of "Healthy States, Progressive India Report" in the same year, and subsequently, the second edition was published in 2019.[108] Based on the composite score, Kerala topped the list (74.0) and UP (28.6) was the least-performing state. Specific to the domain of "Health Outcome," UP was again amongst the least performing state (27.9). Further, many SRH-specific indicators studied under the NFHS point towards the vulnerability of adolescents in UP. Thus, collective data reveals an urgent need for improvement in UP, in the domain of health outcome. In this context, this paper conducts a much-needed in-depth

analysis of the SRH indicators amongst adolescents, to understand the changes over time and the state's performance compared to national estimates.

5. UTTAR PRADESH: DEMOGRAPHIC PROFILE

Uttar Pradesh (UP) is one of the Empowered Action Group (EAG) states with 75 district and 18 divisions, and an overall population of 200 million. As per NITI Aayog, UP has eight aspirational districts, i.e. Bahraich, Balrampur, Chandauli, Chitrakoot, Fatehpur, Shrawasti, Sidharthnagar and Sonebhadra.[109] It is the most populous state in the country, and consequently, home to maximum numbers of adolescents. The overall birth rate and death rate in UP are 26.2 and 6.9, respectively, according to the Sample Registration System 2017.[110] The state has a skewed sex ratio of 912 women per 1,000 men, as per census 2011.[111]

5.1 Adolescents in UP

Despite national programmes, policies and commitments, adolescents in UP are not able to reach their full potential: few complete high school, quality of education received is suboptimal, many lack livelihood skills, and there is a dearth of employment opportunities. Adolescent health is compromised, gender inequality exists, and socioeconomic differences aggravate disparity between advantaged and disadvantaged adolescents. This section attempts to understand the adolescent health situation and their SRH indicators as emphasised in RKSK in various districts of UP, where 23.7 percent are adolescents (10–19 years) disaggregated into younger adolescents (10–14 years: 12.3 percent) and older adolescents (15-19 years: 11.4 percent).[112]

5.2 Education Level

The UDAYA study conducted in 59 districts of UP showed that school enrolment was nearly universal amongst adolescents, except for married older girls, a considerable proportion of whom (one out of five) never

enrolled in school.[113] Findings in the same study also revealed that the gender differences in school enrolment had been eradicated. For the children never enrolled in school, the reasons were largely perception-related: sending children to schools considered unsafe, education not considered necessary by respondent or parents, respondent's lack of interest, financial status of the family, negative perception towards female education.

Beyond enrolment, the study revealed an issue of low school retention. It declined steadily as boys and girls transitioned from early adolescence to late adolescence, with steeper declines amongst girls than boys, and amongst married girls than unmarried older girls.[114]

5.3 Disadvantaged Adolescents

According to the UDAYA study, there are various disadvantaged groups that are more vulnerable to education exclusion and need the attention of programmes and policymakers.[115] These include:

- Adolescent Girls
- Married Older Girls
- Adolescents from Poor Households
- Muslim Religion
- Backward Caste

5.4 Employment and Economic Activity in UP

In agreement with the Constitution of India, it is illegal to employ a child below the age of 14 years to work in any setting.[116] However, there is evidence that eight percent of older boys (15–19 years), seven percent of unmarried older girls (15–19 years) and 10 percent of married older girls (15–19 years) were initiated into paid work in childhood, i.e. before the age of 14.[117] Engagement in paid activity increased with age, and this could be responsible for these individuals not completing school. [118]

5.5 Media and Technology in UP

The use of mass media is widespread amongst Indian adolescents, and this is evident in UP as well. The majority of adolescents are exposed to television and films (boys: 90–92 percent; 73–81 percent), but print media exposure (boys: 65–82 percent; girls: 48–67 percent) is less in comparison to TV and radio.[119] Mobile phones are an important source of information for adolescents, who either own a device or have access to a family member's. The highest exposure was found amongst unmarried girls (75 percent) of UP, but the use of the internet and social media (Facebook, WhatsApp, Twitter) amongst adolescents was very limited, except amongst older men (15–19 years).[120]

5.6 Health of Adolescents in UP

The UDAYA study highlighted several known health risks but also drew attention to new emerging risks factors, such as injuries, substance abuse and physical inactivity. Tobacco and alcohol consumption have been reported to be about 22 percent and seven percent, respectively, which is very high compared to national estimates. [121]

5.6.1 Nutrition: Coexistence of Under and Overweight

In UP, adolescents are experiencing a double burden of malnutrition (See Table 8), i.e. underweight and overweight as seen at the national level.

Underweight and Overweight/Obesity

- According to the CNNS,[122] the prevalence of thinness amongst adolescents in UP is as follows:
- Older Adolescents (15–19 years): 23.6 percent boys and 10.8 percent girls were moderate or severely thin (BMI for age, z-score < –2 SD).
- About 6.6 percent and 1.7 percent of boys and girls, respectively, were severely thin (BMI for age, z-score <-3 SD).

The NFHS data, too, reveals a high prevalence of underweight amongst adolescents in UP (See Table 8).[123] While the prevalence of thinness has been decreasing, it was still reported amongst one-fourth of adolescent boys and girls. The total thinness amongst girls and boys at the national level is 41.9 percent and 44.8 percent, respectively,[124] whereas in UP, it is 41.6 percent and 48.1 percent amongst girls and boys, respectively.[125] Thus, amongst girls, the data is comparable with national estimates, but there is a higher prevalence of thinness amongst boys in UP.

Compared to 2006, the prevalence of thinness amongst girls in UP (15–19 years) showed a relative decline of –1.9 percent in 2016.[126,127] For boys, the total thinness decreased by – 14.8 percent. Thus, there was a steeper decline in thinness amongst boys than amongst girls (See Table 8).

Similar results were seen in the UDAYA study; the prevalence of severe thinness (< -3 SD) was higher in boys than in girls.[130] Cross-sectional studies conducted at the district level showed this dual burden of thinness and overweight prevalence amongst adolescents. However, the prevalence of thinness is much higher than obesity (See Table 9). Concerted efforts are needed at the state and district levels to combat the persistent wave of undernutrition amongst adolescents.

5.6.2 Anaemia

A high prevalence of anaemia has been reported amongst all age groups in UP. According to CNNS,[134] the prevalence of anaemia amongst adolescents (10–19 years) is 31.6 percent. A higher prevalence was reported in girls (44.8 percent) in comparison to boys (17.3 percent). The NFHS-4 data shows similar results (See Figure 4).[135, 136] Although the data shows a decline in the national prevalence of anaemia amongst adolescents,[137] however in UP, the prevalence has increased for both boys and girls from 2006 to 2016. A relative increase of 10.4 percent and 15.8 percent is estimated amongst girls and boys of UP,

respectively.[138,139] At the district level, data reveals that anaemia is more rampant amongst girls (See Table 10). The UDAYA study, too, showed a high prevalence of anaemia amongst adolescent boys (10–14 years: 37 percent; 15–19 years: 33 percent), girls (10–14 years: 54 percent; 15–19 years: 65 percent) and married girls (15–19 years: 66 percent).[140] Thus, anaemia in UP is a critical problem and requires urgent programmatic response.

Table 8: Nutritional Status of Adolescents (15–19) in UP and Relative Change, NFHS-3[128] and NFHS-4[129]

Indicator	Girls			Boys		
	NFHS-3 (%)	NFHS-4 (%)	Relative Change (%)	NFHS-3 (%)	NFHS-4 (%)	Relative Change (%)
Total Thin (<18.5 BMI)	42.4	41.6	-1.9	56.5	48.1	-14.8
Overweight or obese (≥25.0	1.4	2.8	50	1.3	2.9	123

Source: NFHS-3 (2006) and NFHS-4 (2016).

Table 9: Prevalence of Thinness and Overweight/Obesity amongst Adolescents in UP

Name of district	Year of Study	Number of Subjects	Age (Years)	Prevalence (%)
Barabanki[131]	2018	2400 girls	10–19	Underweight:47.0 Overweight:5.9 Obese: 2.7
Bareilly[132]	2012	512 girls	7–15	Normal:46.8 Underweight: 38.4
Kanpur[133]	2015	806 boys and girls	12–15	Overweight:9.8 Obesity: 3.9

Programme Awareness for WIFS: The WIFS programme was launched to provide weekly iron-folic acid tablets to adolescents through a health system and in a community setting, to address anaemia amongst adolescents. Findings from the UDAYA study conducted in 59 districts of UP showed that awareness of WIFS programme in the state was unsatisfactory. Only 33 percent of younger girls; 26 percent of younger boys; 35–36 percent of unmarried and married older girls; and 25 percent of older boys were aware of WIFS programme in UP.[144]

5.7 Sexual and Reproductive Health

5.7.1 Menstrual Hygiene

While all-India estimates show that 58 percent of adolescent girls use hygienic methods during menstruation, this figure is lower in UP, at 43.4 percent.[145] Overall, the use of hygienic methods was higher in urban areas (68.6 percent) compared to rural areas (39.9 percent).[146] The method of menstrual protection was assessed in EAG states, and in 2015, only 47.1 percent of girls (15–24 years) in UP reported using a

Figure 4: Prevalence of Anaemia Amongst Adolescents in UP, NFHS-3 and NFHS-4.

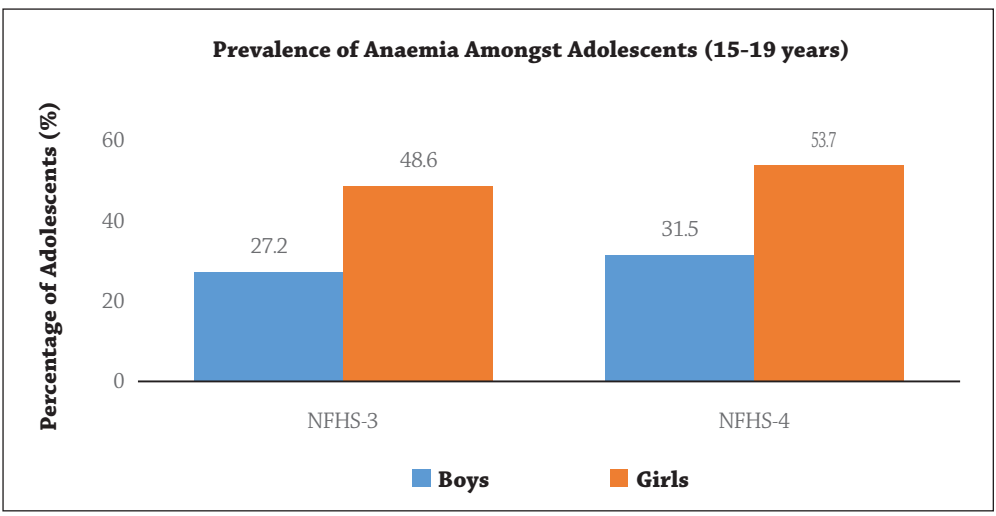


Table 10: Prevalence of Anaemia Amongst Adolescents in UP

District	Year of Study	Number of Subjects	Age	Prevalence (%)
Kanpur[141]	2017	400 girls	10–19	Any Anaemia: 78.5 Mild Anaemia: 40 Moderate Anaemia: 33 Severe Anaemia: 5.5
Amroha[142]	2016	604 girls	13–19	Any Anaemia: 69.2
Lucknow[143]	2017	118 boys 140 girls	10–18	Any Anaemia:75.9

Mild Anaemia: Haemoglobin = 12.0-12.9 g/dl; Moderate Anaemia: Haemoglobin = 9.0-11.9 g/dl; Severe: Haemoglobin <9.0g/dl; Any Anaemia: Haemoglobin <13.0 g/dl.

hygienic method.[147] According to the UDAYA study, menstrual hygiene practices were unsatisfactory in UP, with only 35 percent of young girls and unmarried older girls and 30 percent of married older girls consistently using sanitary pad.[148]

A study conducted in 2012 in three districts of Eastern UP—Jaunpur, Mirzapur and Sonebhadra—to understand the practices of adolescent girls showed that those staying in Sonebhadra had better knowledge (71 percent) about menstruation but the use of sanitary napkins was much lower (See Box 3).[149] Factors that favour the use of hygienic methods include the girl's education (12 years or more of schooling) and her mother's education.[150] However, some of the barriers are lack of affordability, lack of access to sanitary napkins and lack of awareness amongst the girls about the existence of such products.[151,152]

BOX 3: Use of Sanitary Napkin by Girls in UP

- 14 percent in Sonebhadra
- 25 percent in Jaunpur
- 23 percent in Mirzapur

5.7.2 Child Marriage

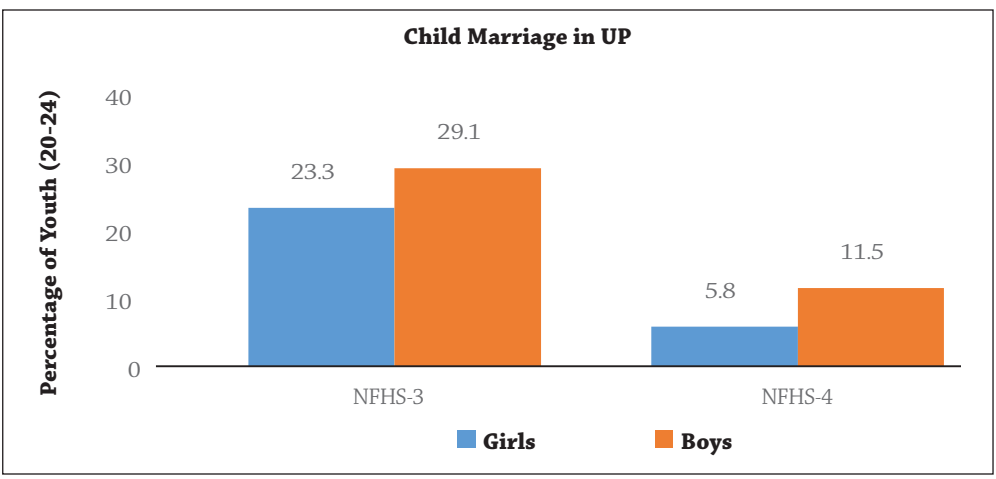
This indicator has shown remarkable improvement in UP (See Figure 5). A relative decline of 60.4 percent in boys and 75 percent in girls was recorded in 2016[153] from 2006.[154] Overall, the prevalence of child marriage, as reported in the age group of 20–24 years, was 11.5 percent in boys and 5.8 percent in girls in 2016. However, this prevalence amongst 15-19 years old was reported to be 1.4 percent and 0.1 percent for girls and boys, respectively.[155] There is scope for further improvement on this indicator.

5.7.3 Sexual Activity

In 2006, 9.8 percent of girls and 4.9 percent of boys of 15–24 years were reported to indulge in sexual activity before the age of 15 years.[156] In 2016, 1.7 percent of boys and girls had sexual intercourse before the age of 15 years. [157]

According to the UDAYA study, "mean age for first sex" was reported as 15.5 years for boys and 15.9 years for girls, and most of these activities occurred due to early marriages in UP.[158, 159] In 2015, 13 percent of boys, three percent of unmarried girls, and six percent

Figure 5: Prevalence of Child Marriage in UP, NFHS-4 and NFHS-3



of married girls reported participating in premarital sexual activity.[160] According to data, sexual activity is higher amongst adolescents staying in rural areas compared to those in urban areas, those involved in paid work and those who lack parental supervision.[161]

5.7.4 Teenage Pregnancy and Motherhood

According to the NFHS-4, in UP, four percent of adolescent girls (15–19 years) had already begun childbearing, while the national figure was 7.9 percent for 2016.[162] This figure has come down from 14 percent in NFHS-3,[163, 164] indicating a relative reduction of 71.4 percent. On the contrary, the proportion of girls who have started childbearing varies sharply from less than 0.5 percent amongst 15–16-year-olds to 13 percent amongst 19 year olds.[165] This points to a high rate of early marriage and early pregnancy in the state.[166] Despite these adolescent mothers being extremely vulnerable, many do not, or are unable to, access the schemes launched by the GoI (See Box 4).[167]

5.7.5 Antenatal Care Visits

In UP, 75.6 percent of pregnant mothers (< 20 years) utilise ANC facilities,[168] which is less than the national average of 84 percent.[169] The situation is similar at the district level, as evident from the findings of a cross-sectional study conducted in 2013 in rural areas of five selected UP districts: Raibareli, Hardoi, Mirzapur, Maharajganj and Sultanpur.

BOX 4: Adolescent Girls Benefitted from Government Scheme

- Janani Surksha Yojana: 32 percent married girls (15–19 years) received cash benefit
- Janani-Shishu Surakshya Karyakram: 54 percent girls (15–19 years) delivered in public and private health facilities and received one benefit of these scheme
- Integrated Child Development Services : 33 percent of married girls (15–19 years) received food during pregnancy or lactation

The study showed that 83 percent of women received ANC, and of them, 61 percent reported three or more ANC visits.[170] Another cross-sectional study with women aged less than 21 years showed that 35.3 percent of women received no ANC.[171] Various determinants hinder the utilisation of ANC services. These include unavailability of transport, the stigma of being unmarried, the perception of the mother, little contact with a healthcare provider, insufficient media exposure, low educational status of the mother and the husband.[172, 173, 174]

5.7.6 Contraceptive Awareness and Use

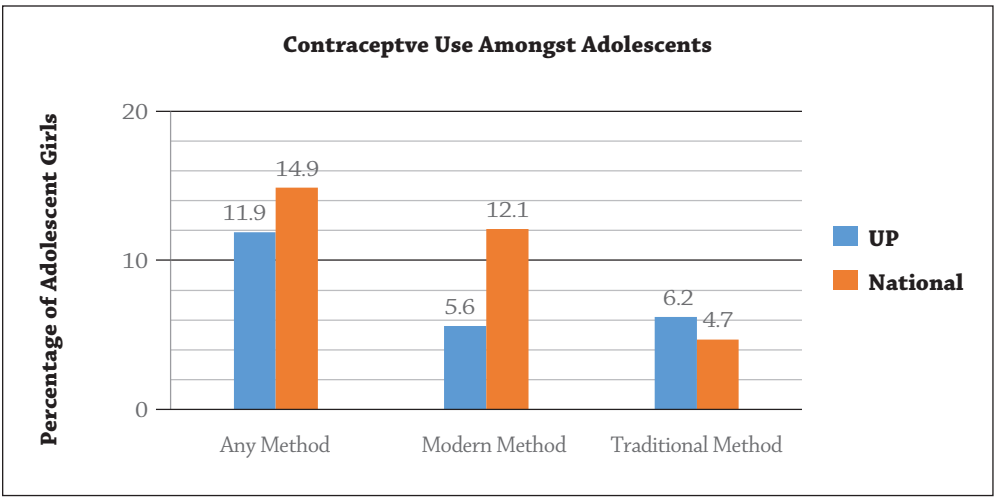
Currently, the total fertility rate (TFR) at the national level is 2.2,[175] while in UP, it is 2.7.[176] In NFHS-3 (2005–06), TFR in UP was 3.8.[177] This shows a steady decline over 10 years. However, more efforts are needed to reduce it further, to achieve the replacement level[v] of 2.1.[178] The use of contraception is considered most effective in reducing the burden of unwanted pregnancy and promoting the healthy living of women. According to NFHS-4 (See Figure 6), the use of any method of contraception amongst adolescents (15–19 years) of UP was 11.9 percent,[179] while the national prevalence is 14.9 percent.[180]

According to the UDAYA study, at the district level, the use of contraceptives by married girls (15–19 years) was limited to only 18 percent.[181] According to NFHS-4, the total unmet need for family planning is 22.5 percent in UP,[182] as opposed to 22.2 percent at the national level.[183] This shows a need for an efficient strategy in UP to promote contraceptive use amongst married girls (15–19 years). As per various studies conducted at the state and district levels, various factors act as barriers to using contraceptives (See Box 5). [184, 185, 186]

Table 11 provides a comparison of selected indicators to understand the situation of adolescents in UP compared to that at national level.

v Replacement Level: It represents the average number of children a woman would need to have to reproduce herself by bearing a daughter who survives to childbearing age.

Figure 6: Comparison of Contraceptive Use Amongst Adolescents Across India and in UP, NFHS-4 and NFHS-3



The comparison shows that adolescents of UP are in the same situation as those at the national level, with respect to SRH and nutrition indicators. However, contraceptive use is lower amongst adolescents in UP. Child marriage is another important indicator that must be addressed through effective law enforcement and community engagement. The state must put in considerable efforts to safeguard the health of adolescents by strengthening the existing programmes that target these indicators.

BOX 5: Barriers to Contraceptive Use

- Rural area of residence
- Feeling shy to approach healthcare provider or medical stores
- Lack of knowledge
- Fear of side effects
- Lack of choice in the contraception available

6. AWARENESS AND INTERACTION WITH ASHA AND ANGANWADI WORKER (AWWS)

According to the UDAYA study, adolescent boys and girls of UP are aware of ASHAs and AWWs.[187] However, AWWs (80–90 percent) were

Table 11: Comparison of Adolescents for SRH and Nutrition Indicators at the National and State Levels

Indicator	Reference Data	National (%)	UP
Sexual and Reproductive Health			
Menstrual Hygiene	NFHS-4	57.7	43.4
Child Marriage	NFHS-4	Girls: 6.6; Boys: 10.3	Girls: 5.8; Boys: 11.5
Contraceptive Use	NFHS-4	14.9	11.9
Teenage pregnancy	NFHS-4	7.9	4
Nutrition			
Severe Thinness	CNNS	Girls: 2.3 Boys: 7	Girls: 1.7 Boys: 6.6
Overweight or Obese	CNNS	Girls:4.1, Boys: 4.4	Girls: 2.7 Boys: 1.8
Anaemia	CNNS	28.4	31.6

Source: NFHS-4 (2016-17), CNNS (2019).

more popular than ASHAs (54–86 percent). Gender-based differences were narrow with respect to awareness about AWWs, but wider (especially amongst older adolescents) with respect to awareness of ASHAs. Unmarried and married older girls were more likely than older boys to be aware of ASHAs (83–86 percent and 74 percent, respectively). Approximately 10–11 percent of younger boys and girls, three percent older boys, and eight percent older girls received health-related information or services from ASHAs and ANMs in 2014–15. Compared to the unmarried girls, more married girls (31 percent) had received information on service from these workers. [188]

Health-Related Information or Services: According to the UDAYA study,[189] amongst older adolescent girls who had interacted with AWWs, married girls were almost twice as likely as the unmarried girls to have received health information from them (62 percent vs. 35 percent). Moreover, the information sought varied with the marital status of girls. Unmarried girls sought information on general health and hygiene;

married older girls typically received sexual and reproductive health information, followed by nutrition-related information. However, the study reveals that adolescents did not avail services/commodities related to SRH. The following services were received by adolescents:[190]

Unmarried Girls:

- Iron and folic-acid supplements or deworming tablets (31 percent)
- Health check-ups, most often, measurement of height and weight (25 percent)
- Nutritional supplementation (25 percent)

Married Girls:

- Nutritional supplementation (33 percent),
- Health check-ups (25 percent)
- Iron and folic-acid supplements or deworming tablets (13 percent)

7. ADOLESCENT-FRIENDLY HEALTH CLINICS IN UP

From the beginning of the RKSK programme, 7,470 AFHCs have been established in the country, of which 347 AFHCs are in UP.[191] However, adolescents of UP are not sufficiently informed about these AFHCs.[192,193]

According to a study conducted in the Bareilly district of UP, with 102 adolescents (15–19 years):[194]

- 60.8 percent were not aware of AFHCs;
- 63.7 percent were not aware of the location of the AFHCs;
- 45.1 percent were not aware of the treatment of menstrual problems;
- No adolescent was aware of the treatment of sexually transmitted diseases; and
- Adolescents were not aware of the personnel located in the AFHCs.

Comparable results were seen in the UDAYA study. Few adolescents (boys: 1-3 percent; girls: 2–5 percent) knew about the clinics and none had received any services from an AFHC.[195] Similarly, when 384 adolescents from Ghaziabad were surveyed, none of them knew about AFHCs. Approximately 44 percent males and 32 percent females said they would avail a clinic-based counselling facility if it were available at an AFHC. In the same study, 32 percent had been counselled by ASHAs on menstrual hygiene, and 83 percent used sanitary napkins by choice.[196]

Barrier to Accessing AFHCs

Several research studies have determined barriers to accessing the AFHCs from a client perspective. Exit interviews conducted in 2015 with adolescents visiting the AFHC in the Allahabad district showed that these services need improvement to make them easily available, accessible and acceptable.[197] Several reasons make services unavailable to adolescents at AFHCs;[198, 199] the following have been reported:

- Lack of knowledge amongst adolescents about health issues
- Unmet needs of married girls for contraception
- Stigma associated with availing such services

Since AFHCs are crucial in meeting the SRH needs of adolescents irrespective of their marital status, they must be improved and strengthened. They must be made easily accessible, equitable, acceptable, appropriate, comprehensive, effective and efficient for the adolescents of UP. Context-specific adaptations must be considered while incorporating recommendations from this paper's analysis.

8. CONCLUSION

Based on data and situation analysis, it is evident that adolescents in India are currently unable to optimally benefit from the policies, programmes and services being offered at various levels. The GoI

had accorded high priority to the issue of undernutrition and has implemented several programmes under different ministries for children and adolescents, e.g. Integrated Child Development Scheme, Mid-Day Meal, Sarva Shiksha Abhiyan, Kishori Shakti Yojana, and Rajiv Gandhi Scheme for the Empowerment of Adolescent Girls. However, despite these efforts, undernutrition continues to be an issue of concern. Efforts to improve health indicators of adolescents have not fully translated into significantly better health conditions and related determinants, either nationally or in UP. While some indicators have shown positive trends, others reveal the continued vulnerability of adolescents irrespective of gender, marital status and area of residence. Thus, urgent efforts are required to reach marginalised adolescents who lack access.

The shift in morbidity and mortality in this age-group underscores the need for interventions and programmes that aim to modify their choices and behaviours to become health-promoting. Moreover, an enabling environment must be created by health workers, which is currently lacking. It is crucial to upgrade the skills of health workers to make them adolescent friendly.

Amongst adolescents, married girls are more vulnerable, often being deprived of education and schooling and belonging to socio-economically weaker groups.[200] The primary studies conducted in UP and a comparative study of the adolescent SRH indicators nationally and in UP conducted in this paper, reveal that the indicators that need urgent attention include menstrual hygiene, contraceptive use, teenage pregnancy, ANC visits, severe thinness, anaemia and utilisation of AFHCs.

Menstrual Hygiene Management: At 43.4 percent, menstrual hygiene management in UP is much lower than the national estimates. Strengthening the existing Menstrual Hygiene Scheme is, therefore, essential, with special focus on adolescent girls in rural areas.

Contraceptive Use: The use of contraceptive is limited to only 14.9 percent of adolescents. It is important to reduce the total fertility rate in UP and to reach a replacement level of 2.1. To achieve this, the use of contraception must be promoted amongst adolescents of UP—through awareness, motivation and empowerment to access and use. Schools can be used as a platform to provide graded comprehensive sexual education to bridge the knowledge gaps and misconception around contraceptive use.

Teenage Pregnancy: UP data highlights the high rates of early marriages and early pregnancy in the state. This indicator needs special attention as it directly influences key health outcomes, such as: neonatal mortality rate, low birth weight and under-5 mortality rate, which are dismal in UP as reported in the Niti Aayog's Health Index 2019.

ANC Utilisation: In UP, ANC utilisation is low amongst adolescents (75.6 percent) compared to national estimates. It is an important indicator associated with reducing the risk of neonatal mortality and increasing the likelihood of delivery in a healthcare institution. To increase the uptake of this service and motivate young mothers to utilise them, a holistic approach is needed based on the socioecological model, with a focus on the individual (pregnant mother), the family (husband and mother-in-law), society (village leaders) and policy.

Thinness and Anaemia: In this area, adolescents in UP are more vulnerable than those at the national level. However, from 2006 to 2016, there has been an increase in anaemia amongst them. Thus, efforts are needed to strengthen the existing adolescent-friendly services and programmes and to sensitise adolescents about the existing services. Since thinness has decreased more in boys, efforts need to target girls specifically while addressing undernutrition in UP. Parents must be involved and informed about the strategy of dietary diversification to combat malnutrition.

AFHC Use and Health Workers: A review of literature shows that adolescents are not adequately aware of the services being offered, and the ones who are often cannot avail the services due to the stigma associated with it. The link between adolescents and health needs must be created through policy interventions, which will also ensure the sustainability of the adopted behaviours. Innovative strategies and learnings from other states of India as well as other countries can be adopted to make these clinics effective.[201] Based on the experience in Meghalaya, the efficacy of the AFHC can be improved by:

- Considering the felt need of adolescents in that particular state;
- Ensuring strong state commitment for providing necessary services;
- Training and motivating counsellors;
- Providing adequate space and infrastructure;
- Ensuring culturally appropriate Information Education and Communication material;
- Providing adequate financial aid and resources; and
- Creating an efficient system for monitoring and reporting.[202]

The Kaugmaon Adolescent and Youth Centre located in an urban poor community in Manila provides services from 10 a.m. to 10 p.m. throughout the week to ensure the timings are convenient for adolescents. The Columbia model for youth-friendly services recommends incorporating continuous training of health workers, garnering support from institution leaders, and including the youth in the design and monitoring of these services as the key for effective implementation.[203] In Thailand, relevant spaces such as shopping malls, discotheques and cinema theatres have been selected and labelled as "Friend Corners" to provide services to adolescents.

RECOMMENDATIONS

National Level

1 Under **Universal Health Coverage**, adolescents must be a priority population, despite being considered a "healthy population" by the health system. Their changing health vulnerabilities demand that greater attention be paid to strengthening health systems and re-energising community interventions, with a focus on health promotion and prevention programmes for adolescents in the country.

2 **Undernutrition** continues to be a major area of concern amongst adolescents (both boys and girls). Adopting a syndemic approach is important, which would require the government to develop new business models, review food systems, promote civil-society involvement, and national and international governance for eradicating undernutrition. Collective efforts must be made to generate the momentum of change needed to combat undernutrition, overnutrition and climate change.

3 **Mental health** has a direct influence on women's reproductive health, education and labour participation. Positive Mental Health Promotion must be prioritised as current interventions and programmes are unable to address the mental health needs of adolescents at an all-India level.

4 **Improved intersectoral coordination** at the national level for addressing various determinants influencing adolescent health is the need of the hour. Intrasectoral and intersectoral integration of programmes and policies will help in the sharing of resources and convergence across themes. Evaluations and data-driven programming will be crucial to develop such an integrated framework to promote adolescent health and development in the country.

State Level: Uttar Pradesh

1 There is a need for **higher investments** to promote adolescent health and development to cater to identified priorities. Targeted interventions are required for girls, with a specific emphasis on adolescent girls, who are harder to reach due to their lower autonomy and mobility in UP.

2 In UP, data points towards the need to strengthen the knowledge, perceptions and practices of adolescents on multiple **SRH-related issues**. This calls for a two-pronged approach

   a) Interventions needed at the health system levels:

      i) AFHCs must be made *approachable*, friendly, equitable, acceptable, accessible, comprehensive, effective and efficient. The location of AFHCs should be strategic, with improving footfalls being the primary objective of related adolescent health activities and programmes. Additionally, media campaigns should be developed to create awareness of the use of available adolescent-friendly health clinics in their vicinity.

      ii) AFHCs must be transformed into *health promotion* hubs, to address adolescent health issues comprehensively and to address issues beyond ARSH.

      iii) Staff at AFHCs and Frontline Health Workers (FLHWs) should be trained to upgrade their knowledge and skills, to deal with adolescents and become familiar with all adolescent health issues. Efforts must be made to improve the communication skills of FLHWs to bridge the gap that exists between adolescents and FLHWs.

      iv) *Easy access and availability* of commodities must be ensured to improve SRH services for adolescents, e.g. sanitary pads and condoms.

      v) Family planning and infection prevention services must be made available for unmarried boys and girls at AFHCs.

      vi) A *continuum of care model* should be adopted, to address the needs of both young and old adolescents as well as young

pregnant adolescent girls.

b) Interventions needed at the community level:
   i) The central role of education and schools must be recognised in supporting adolescent health and vice versa. Comprehensive sexuality education to be provided to adolescents, both in the school setting and for those who are out of school. This will help lower child marriage and teenage pregnancy in UP and improve key health outcomes in the state.
   ii) Interventions must target all important stakeholders, including gatekeepers, parents and families, especially boys. Boys and girls should be involved in interventions to understand SRH issues faced by both the genders and develop healthy gender relations to address emerging risk factors such as violence, injuries and GBV.
   iii) Knowledge about menstruation and its physiology must be improved and hygienic methods to manage menstruation must be promoted, to normalise menstruation and break the stigma and regressive beliefs/practices associated with it.

3 Intersectoral coordination is the solution for many adolescent health issues prevalent at the national level and in UP. This coordination should be extended to the district level.

4 It is necessary to rethink the strategies to tackle the burden of undernutrition and overnutrition at the state and district levels. A focused approach is needed for reducing thinness amongst girls.

5 Availability and use of nutrition supplementation programmes must be strengthened through AFHCs as well as through community engagement (e.g. through Adolescent Health Days), to address low awareness and the use of WIFS and deworming services amongst adolescents.

ENDNOTES

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