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General Health Check Up and Menstrual Health Awareness under Swasth Nari, Sashakt Parivar Abhiyaan

Submitted by

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CHAPTER 1:

INTRODUCTION

INTRODUCTION

Adolescence is the period of transition between childhood and adulthood, and this period is especially sensitive in shaping the life trajectory of an individual. Adolescents experience various biological changes, paired up with complex changes in their social environment and social expectations. This period of transition is especially important because the manifold changes within oneself and the external societal pressure shape the individuals and their healthy behaviour trajectories. As an individual transitions into an adult, their increased independence and decreased monitoring by parents can often lead to a decline in health-promoting behaviours and an addition of risk-taking behaviours. This is also a period of important biological changes which comes paired up with confusion, anxiety and a sense of helplessness. Promoting good health-care practices and opportunities to be aware and educated about one's own body is very important at this stage of life. (Frech A., 2012; Sawyer S.M. et. al, 2018)

Nutrition forms a fundamental pillar of adolescent health and has a direct bearing on growth, immunity, and reproductive well-being. Nutritional deficiencies—particularly low BMI and anaemia—are closely linked to menstrual irregularities and overall developmental delays (Dars S. et al., 2014). The period of adolescence is marked by rapid physical and hormonal changes that increase nutritional requirements; hence, poor dietary intake can lead to long-term consequences such as stunting, fatigue, and impaired cognitive performance. Addressing adolescent nutrition not only supports healthy menstruation but also lays the foundation for a healthier adulthood. This study therefore, incorporates a nutritional assessment to study and understand the nutritional dimensions among the children.

Oral–dental and ear health, in addition to menstruation and nutrition, are equally crucial yet often neglected aspects when it comes to adolescent well-being. Poor oral hygiene can lead to dental caries, gingivitis, and other infections that impact nutrition, concentration, and school attendance. These problems can often lead to lifelong issues if not taken care of on time (Sanu et al., 2010). Similarly, ear infections, wax accumulation, and untreated ear pain are common among adolescents and are often influenced by socio-economic conditions, hygiene practices, and environmental exposure (Gupta et al., 2015). Lack of awareness and timely care in these areas can lead to preventable complications, reinforcing the need for regular health education and screening in schools.

The beginning of menstruation is one of the most significant changes in the lives of adolescent girls. Every girl experiences menstruation uniquely and has her own unique ways of dealing with

the bodily changes, the social pressure and the emotional baggage that comes with it. Adolescent girls are extremely vulnerable as a group, especially in the androcentric Indian society. And these girls usually have a strained relationship with periods, especially in countries like India, where menstruating is considered to be something impure and dirty (Dasgupta A. et al, 2008).

Although menstruation is universal, natural and healthy, there are a lot of social stigmas around it. Over centuries, it has been a highly isolated topic, and is laced with a lot of misconceptions around it. One's relationship with menstruation is heavily shaped by how they learnt about it and how it was treated as a topic in their environment growing up. And it influences how one reacts to menarche. (Dasgupta A. et al, 2008)

Water, Sanitation and Hygiene are extremely important components of health, especially menstrual health. Although the state has a significant role in improving WASH facilities nationwide, with numerous policy implementations and schemes aimed at addressing water, sanitation, and hygiene (WASH) challenges, the need for a better understanding of effective approaches and their contexts. WASH is especially important in the context of pre and post-menarcheal girls because they might face a wide range of health issues relating to Menstrual Hygiene Management on top of social issues like Urinary tract infection, Reproductive tract infection, etc. (Gold-Watts A., 2020). Menstrual Health Management is influenced by the socio-cultural environment one has grown up in. It is important for this point to be taken into account when designing WASH health promotion interventions and programmes. In addition to that, understanding the local menstrual health and hygiene practices, attitudes, behaviours, and beliefs helps in understanding the various constraints, restrictions and pressures in that particular socio-cultural context (Sommer M., 2010). Therefore, it is of extreme importance that such issues be inspected and arrangements be made for tackling them.

The age of menarche and the type of menstrual cycle is a culmination of various factors, including general health, genetics, socio-cultural factors and nutrition. Nutrition is an important factor when it comes to one's health. And reproductive health is one of the major concerns when it comes to women's health. Nutritional status - especially BMI and haemoglobin levels play a big part in determining one's cycle and are a key cause of the various menstrual problems that persist. Menstruation is influenced by hormone levels, and nutrition plays a huge role in maintaining a healthy hormonal balance in the body (Dars S. et al, 2014).

"*Schools play a crucial role in the development of an outlook towards health and health issues in the young minds. It is crucial to inculcate healthier lifestyle habits at a formative stage rather*

than to treat or try changing unhealthy attitudes and behaviour later in life" (Gupta, D. et al, 2015).

The Swasth Nari, Sashakt Parivar Abhiyaan is a nationwide health initiative inaugurated on September 17, 2025 by the Ministry of Health and Family Welfare (MoHFW) and the Ministry of Women and Child Development (MoWCD). It is focused on improving the health and nutrition of women and children across India. Organized in convergence with Poshan Maah - a month-long movement dedicated to nutrition awareness - the campaign highlights the crucial role of women's health in building stronger families and a healthier nation.

This study incorporates the primary goals of the Swasth Nari, Sashakt Parivar Abhiyaan to observe and understand the manifold complexities associated with adolescent health, nutrition and menstruation. As a part of the study, health checkups were conducted in the school to provide screening for both communicable and non-communicable diseases in adolescent girls and boys. A class room discussion was held alongside the health check-up for awareness and discussion and at the end of the workshop, menstrual hygiene kits were distributed to the female students of the school. This is aimed at improving health outcomes in women, adolescent girls and children and ensuring access to comprehensive health services nationwide. This study seeks to ensure awareness among adolescents about nutrition, health and hygiene. Understanding the longstanding menstrual issues and the social stigma around this discourse is also an important issue being covered by this study. Overall, the purpose of this study is to engage adolescent girls in open menstrual health discussions and explore the various problems that persist and the myths and misconceptions around it. It also examines the menstrual hygiene management and sanitation practices among these pre-menarcheal and post-menarcheal girls.

CHAPTER 2:

DATA AND METHODS

DATA AND METHODS

The study was conducted in a school located in Govandi East, Mumbai, Maharashtra, where 143 students were surveyed to understand two major components: assessing the General Health status of school children and to make the girls aware of issues related to menstruation amongst girls.

The study involved two groups of participants. The first group comprised 143 students (both male and female) from standards 5th to 10th, aged 10 to 17 years, who provided responses regarding their general health information, including height, weight, oral hygiene, clinical anaemia, and menstrual health. The participation was consent-based, subject to all ethical considerations within the scope of the initiative. The second group comprised a total of 40 students (females) from classes 6^{th} to 10^{th} standard, aged 12 to 17 years, who were invited to participate in a classroom discussion session on menstrual awareness. The discussion lasted for 50 minutes, during which the major domains of Menstrual Health Management (MHM), namely Knowledge, WASH, myths and misconceptions, Attitude and behaviour, were attempted to be understood.

Data Collection Methods:

a) General Health Measurements

- A Google Form: a structured set of Questions has been designed using **Google Forms to collect data.** This Google form (*see Appendix A*) used closed-ended questions related to three major health domains, which are nutrition, oral and ear health, and menstrual health. Data were automatically stored in a Google Sheet for further analysis.
- Height Measurement Tool: Seca 213 Stadiometer device was used to collect the height of the students in centimetres. This device is a vertical measuring device, typically consisting of a vertical ruler and a sliding horizontal headpiece that rests on the top of the head. The team of qualified doctors ensured that students stood upright without footwear, with their heels and backs touching the stand.
- Weight measurement tool: The weight of each participant was recorded using Seca 874 Digital Scale that provides accurate body weight readings, typically in kilograms. It was ensured that students were wearing light clothing and no shoes to maintain consistency and accuracy of the data.

- ENT health measures: These measures were recorded with the help of qualified medical doctors. They also provided referrals to students requiring further medical consultation or treatment.
- Anemia: Pallor-based anemia was recorded for each student with the help of qualified medical doctors by assessing the Conjunctiva (inner eyelid), Palms of the hands, nail beds, and tongue. Participants exhibiting visible pallor were categorised as "anaemic", while those without pallor were classified as "non-anaemic."
- Another set of questions was designed to collect health information specifically about menstrual health issues amongst adolescent girls. Responses for questions regarding heavy bleeding, menorrhagia, blood clot size, Dysmenorrhoea, and interval between menstrual cycles, irregular cycle, scanty bleeding were asked to eligible girls who have started experiencing menstruation.

After collecting responses, a medical recommendation sheet with information about dos and don'ts to maintain general health was given to each participant. The aim of distributing it was to create awareness.

b) Menstrual Awareness Session

Flash Cards**:** An interactive session on menstruation was conducted, during which Flashcards were distributed (*see Appendix B*) to students to write down their responses privately, allowing them to comfortably discuss sensitive topics. After that, the facilitator asked questions related to four major domains of Menstrual Health Management (MHM). The facilitator requested the students to write their responses on the cards based on the follow-up questions from the discussion. Also, it was ensured that all students could participate to their full potential. The session was conducted from 12:36 p.m. to 1:25 p.m., during which a total of 40 students participated. Out of them, 38 students wrote their responses on the cards.

Table 2.1: Definitions of health indicators assessed

Health Indicator	Definition
Height	The linear distance from the top of the head (vertex) to the bottom of the feet when standing erect, measured in centimetres. It reflects long-term nutritional status and growth patterns. *(WHO, 1995; WHO Child Growth*

	Standards). In the study, the height of 82 boys and 61 girls was measured using a vertical measuring device, and then the median height was calculated and compared with the WHO standards.
Weight	The body mass of an individual is measured in kilograms, representing total body tissue, including muscle, fat, bone, and fluids. It is used in conjunction with height to assess nutritional status *(WHO, 1995).* In the study weight of 82 boys and 61 girls measured using Seca 874 Digital Scale machine and then median weight was calculated and compared with WHO standards.
Body Mass Index (BMI)	An index of weight-for-height calculated as weight in kilograms divided by height in metres squared (kg/m^2). It is a simple indicator used to classify nutritional status and assess risk of disease related to under- or over-nutrition. *(WHO, 2020).* The median BMI was calculated age wise of 143 students and compared with WHO standards.
Anaemia	A condition in which the number of red blood cells or their oxygen-carrying capacity (haemoglobin concentration) is insufficient to meet physiological needs, varying by age, sex, and pregnancy status. *(WHO, 2023)*
Dental Caries	A multifactorial, biofilm-mediated, sugar-driven disease-causing demineralisation of dental hard tissues (enamel and dentin) due to acid production by bacteria in dental plaque. *(World Health Organisation, 2022)*
Gingivitis	Inflammation of the gingival tissues resulting from bacterial plaque accumulation at the gum line, characterised by redness, swelling, and bleeding on probing, without attachment or bone loss. *(WHO Oral Health Fact Sheet, 2022)*
Ear Problems (General)	Disorders affecting the external, middle, or inner ear, potentially resulting in pain, discharge, hearing loss, or discomfort. Common causes include

	infection, obstruction (such as wax), or inflammation. *(CDC, 2022; WHO, 2023)*
Cerumen Impaction (Wax)	Accumulation of earwax in the external auditory canal leading to blockage, discomfort, hearing impairment, or infection if untreated. *(American Academy of Otolaryngology–Head and Neck Surgery, 2021)*
Otorrhea (Pus Discharge)	Presence of purulent discharge from the ear canal or middle ear, commonly due to infection such as otitis media or externa. *(NIH, 2022)*
Otaligia (Ear Pain)	Pain perceived in or around the ear, arising from ear pathology or referred pain from nearby structures. *(NIH Clinical Terms, 2021)*
Menstrual Problems	Disturbances in menstrual function, such as abnormal bleeding, cycle irregularity, or pain, are often linked to hormonal, structural, or systemic causes. *(WHO Reproductive Health Indicators, 2019)*
Painful Menstruation (Dysmenorrhoea)	Pain associated with menstruation, typically due to uterine contractions and prostaglandin release, is classified as primary (without pathology) or secondary (with underlying cause). *(NIH, 2020)*
Heavy or Prolonged Bleeding (Menorrhagia)	Menstrual blood loss greater than 80 mL per cycle or periods lasting longer than seven days, interfering with physical and social well-being. *(NICE Clinical Guideline, 2018)*
Scanty Bleeding (Hypomenorrhea)	Abnormally light or short menstrual bleeding, often linked with hormonal disturbances or endometrial thinning. *(WHO Reproductive Health Glossary, 2019)*

Data analysis:

a) Qualitative Data (Classroom Discussion)

The flash cards collected during the awareness discussions were first translated from Marathi and Hindi into English with the assistance of individuals proficient in these languages. The

verbatim notes recorded during the sessions were also used for further analysis. Based on the responses from the flashcards and the recorded discussions, four thematic domains were developed, drawing reference from the WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation, and Hygiene framework. The four domains were: Knowledge, WASH, Attitude & Behaviour, and Myths & Misconceptions. Each domain was further divided into sub-domains. Observations were categorised and counted based on frequently occurring words and phrases such as temple, pickle, stereotype, impure/pure, restriction, and periods. A summary table was then formulated to present the data systematically.

b) Quantitative Data (Health Status)

The analysis of the data collected through Google Form was first exported into MS Excel, and a spreadsheet was prepared. Data cleaning was done to eliminate irregularities. The collected data were analysed using a combination of descriptive statistics, such as median and prevalence. To perform the statistical analysis, MS Excel was used. For the calculation of BMI, weight of the student divided by the square height of the student, then the median BMI was calculated and then compared with the WHO standard median BMI. For nutrition indicators such as height, weight and BMI, the median is computed using the median formula in Excel. Other indicators, such as clinical anaemia, oral and ear issues, etc, are computed using prevalence. For menstruation, the percentage of girls who had attained menstruation among the female students surveyed in the study was calculated first. Secondly, the prevalence of menstrual problems among the girls who were menstruating was determined using the following formula:

$$Prevalence\ (\%) = \frac{Number\ of\ students\ reporting\ any\ menstrual\ problem}{Total\ number\ of\ students\ having\ menstruation} * 100$$

Subsequently, the prevalence of each specific menstrual problem was calculated using the following formula:

$$Prevalence\ (\%) = \frac{Number\ of\ students\ reporting\ a\ specific\ menstrual\ problem}{Total\ number\ of\ students\ having\ menstruation} * 100$$

CHAPTER 3:

NUTRITION

NUTRITION

A. Nutrition Assessment (Height, Weight and BMI)

Nutrition is a critical part of health and development. Better nutrition is associated with improved infant, child, and maternal health, stronger immune systems, safer pregnancy and childbirth, a lower risk of non-communicable diseases (such as diabetes and cardiovascular disease), and increased longevity (WHO). Throughout infancy, childhood and adolescence nutrients are required to meet the growth processes as well as cognitive function. During pregnancy nutrients are required for both mother and the developing infant. Adult nutrition focuses on tissue maintenance, nutrient and energy needs, and disease prevention. As the population of elderly increase in number and with greater age, nutritional needs must be met to minimise certain disease states and assure the quality of life. Nutrition associated health risks have been identified for coronary heart disease, cancer and diabetes mellitus. Recommendations for each includes a decrease in dietary fat, awareness of caloric intake and enhancement of nutrient density including an increase in fruit and vegetables (Bidlack W. R.). Nutrition plays a critical role in maintaining overall health and well-being, influencing physical growth, cognitive development, and susceptibility to disease. Adequate nutrition is vital for the adult population, as deficiencies can lead to stunted growth, underweight, overweight, or anaemia. Malnutrition, in all its forms, remains a major public health challenge in India. There are multiple forms of malnutrition, including undernutrition, underweight, overweight, obesity, anaemia, inadequate vitamins or minerals, and resulting diet-related noncommunicable diseases (WHO). Anthropometric measures such as height, weight, and Body Mass Index (BMI), along with haemoglobin levels, are standard indicators used to assess nutritional status. This chapter aims to assess the nutritional status of participants using anthropometric measurements and to determine the prevalence of clinical anaemia.

Child undernutrition in the form of low height for age and low weight for height continues to burden the developing world. Both Low height for age and low weight for height in childhood share some common factors, including food insecurity, infectious diseases, and inappropriate feeding practices. Reductions in weight for height, generally seen as a short-term response to inadequate dietary intake or utilization, are thought to precede decreases in height for age; however, given an adequate diet and no further insults, catch-up linear growth can occur. Serial instances of decreased weight for height, however, are thought to limit the degree of catch-up growth attained, contributing to linear growth retardation. Understanding the relationship

between weight for height and height for age will allow organizations to better justify, design, and evaluate programs to improve childhood nutrition. Decreased weight for height and height for age are both important risk factors for illness and death during childhood, and changes in weight appear to have a lagged effect on height during early childhood (Stephanie A. Richard). From a public health perspective, the persistence of wasting and stunting reflects not only inadequate food intake but also broader socioeconomic and environmental inequalities. Therefore, a multisectoral approach involving improvements in food security, maternal education, sanitation, and access to healthcare is vital to achieving sustainable reductions in childhood undernutrition and promoting optimal growth and development.

The primary objective of this chapter is to assess the age-appropriate anthropometric measurements (height, weight, and BMI) of the study participants, to determine the prevalence of underweight, overweight, and normal/healthy weight among all the participants using BMI categories and to assess the prevalence of pallor anaemia among all the participants.

Findings

Height as per WHO standards

The median height values of adolescents aged 10–17 years in the survey were consistently lower than WHO median height standards. The height deficit increased progressively with age, with a mild lag in early adolescence (10–11 years) and a sharper deficit during the growth spurt years (12–15 years). Boys showed a greater decline in height relative to WHO standards in the older age groups compared to girls.

Table 3.1. Observed Height and WHO Height for boys and girls age-wise

HEIGHT (in cms)				
Age	Boys	WHO	Girls	WHO
10-11	140.7	143.2	142.4	145
12	145.9	152.4	144.3	154
13	152.4	159.7	145.8	158.3
14	155.2	166.3	149.1	160.9
15	160.3	171.1	154.4	162.2
16-17	162.5	175	155.3	162.7

Weight observation

There are no WHO weight-for-age reference standards available after the age of 5. After 10 years, weight is highly influenced by puberty-related hormonal and physiological differences. In the sample, for boys the unit of increase is more between age 10 to 13 than the ages 14-17. On the other hand, for girls, the unit of increase is less in age 10 to 13 and it shoots with age 14 and again low increase after age 14.

Table 3.2. Observed Weight of Girls and Boys among age groups

WEIGHT (in kgs)		
Age	Boys	Girls
10-11	31.6	31.7
12	35.7	33.1
13	40.6	34.2
14	42.6	40
15	44.9	42.6
16-17	45.1	44.2

BMI as per WHO standards

Across all age groups, BMI values are lower than the WHO BMI-for-age standards. Boys aged 10–17 years consistently exhibited lower BMI compared to WHO reference values. The deficit becomes more pronounced with age, particularly after age 14, reflecting a widening gap in BMI. The pattern indicates possible chronic nutrition deficiencies among adolescent boys in the sample.

Table 3.3. Calculated Median BMI for boys

BMI Calculation (Boys)		
Age	BMI	WHO BMI
10-11	16.39	17.0
12	16.79	17.9
13	16.93	18.6
14	17.35	19.4
15	17.13	20.1
16-17	17.41	21.1

The BMI values of adolescent girls aged 10–16 years in the survey were consistently lower than WHO BMI-for-age standards. Across all age groups, the BMI deficit ranged from approximately 1.5 to 3.5 units below the reference values. The BMI gap widened progressively with age, becoming more pronounced after 12 years and continuing to increase in older adolescence.

Table 3.4. Calculated Median BMI for girls

BMI Calculation (Girls)		
Age	BMI	WHO BMI
10-11	15.79	17.25
12	15.83	18.4
13	15.92	19.2
14	17.36	19.9
15	17.41	20.5
16	17.5	20.9

B. Anaemia assessment using clinical pallor indicators

Anaemia is a condition in which the number of red blood cells or the haemoglobin concentration within them is lower than normal. This results in symptoms such as fatigue, weakness, dizziness and shortness of breath, among others. Anaemia may be caused by several factors: nutrient deficiencies due to inadequate diets or nutrient absorption, infections, inflammation, chronic diseases, gynaecological and obstetric conditions, and inherited red blood cell disorders (WHO, 2025). Iron deficiency, primarily due to inadequate dietary iron intake, is considered the most common nutritional deficiency leading to anaemia. (WHO, 2025). Therefore, anaemia is an indicator of both poor nutrition and poor health. Adolescents with a poor diet in early childhood or females who experience early onset of menarche may be at greater risk for developing anaemia due to rapid depletion of iron stores in their bodies. Anaemia adversely affects cognitive performance, behaviour, and physical growth in infants and preschool and school-age children. It also impairs immune status, increases susceptibility to infections across all age groups, and reduces the efficiency with which muscles use energy. Consequently, the physical capacity and work performance of adolescents and adults are significantly diminished. Among adolescents, anaemia not only affects current health but can also have negative long-term consequences (Shaka & Wondimagegne, 2018).

Findings:

The assessment of anaemia was conducted clinically among adolescent school students through observation of pallor in the conjunctiva, palms, nail beds, and tongue, following standard procedures by medical professionals. Out of the 32 male students aged 10 to 12 years, 3 (9.38%) were identified as anaemic, while in the 13 to 17 years group, 11 out of 50 (22%) were classified as anaemic. Out of the 27 female students in the 10 to 12 years age group, 3 (11.11%) were identified as anaemic, and 7 out of 34 (20.59%) in the age group 13 to 17 years were recorded

as anaemic. For both sexes, the prevalence of anaemia is higher in older adolescents (13 to 17 years) as compared to the younger adolescents (10 to 12 years), as shown in Figure 3.1.

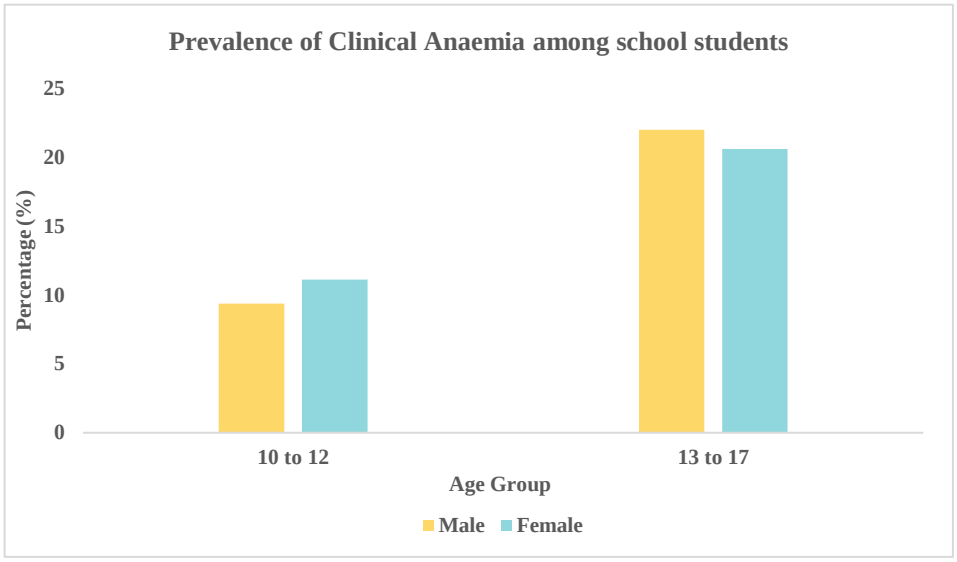


Figure 3.1: Prevalence of anaemia among adolescent boys and girls by age group based on pallor assessment

Discussion

The present study shows widening of the height deficit with age, suggesting a pattern of lesser nutrition among adolescents in the study area. The pronounced gap during the pubertal growth period (12–15 years) indicates that adolescents may not be receiving adequate nutrition to support rapid biological growth demands. Similar study conducted among adolescents in India, the prevalence of stunting was higher in late adolescence (30% in late adolescence vs. 25.6% in early adolescence) (Pabdurangi et al., 2022). The present study shows that the greater shortfall observed among boys in later adolescence may reflect higher nutritional needs associated with male growth trajectories, which are not being met as per WHO median standards. Consistent with prior findings, Mamidi et al. (2016) demonstrated from the review of National nutrition monitoring bureau (NNMB) data from their surveys in 1975-79 and 2012-13 that adolescent boys and girl had similar growth faltering compared to the WHO median until 14 years, and after this age, girls grew slower, leading to more deviation from the world standards.

Weight observation

In the present study, due to the absence of WHO weight-for-age reference standards beyond 5 years and the wide variation in pubertal development among adolescents, weight measured cannot be reliably used to assess nutritional status in this age group. Puberty introduces

significant sex-specific physiological changes, making direct weight comparison between boys and girls invalid. As a result, weight alone is not considered an appropriate indicator for adolescent growth and nutritional assessment. Instead, BMI-for-age is recommended as a more meaningful and standardized measure for evaluating adolescent nutritional status; thus, it has been used in this study to assess nutrition and growth patterns. The previous studies by De Onis et al. (2007) also shows that weight-for-age is inadequate for monitoring growth beyond childhood due to its inability to distinguish between relative height and body mass among the two genders.

BMI as per WHO standards

The present study shows, median BMI measurements calculated are consistently lower than the values prescribed by the WHO. Among boys, the gap widens, particularly after age 14, suggesting increased vulnerability to chronic under-nutrition as growth demands rise during late adolescence. Also, the consistent shortfall in BMI among adolescent girls suggests chronic nutritional inadequacy during critical growth years. The widening deficit after 12 years reflects heightened nutritional demands during puberty that may not be met, increasing risks of poor growth trajectories, micronutrient deficiencies—especially iron deficiency—and long-term consequences for reproductive and maternal health. In the previous study by Pabdurangi et al. (2022), it was found that among Indian adolescents, stunting was higher in girls and the late adolescent age group (15–19 years), thinness was higher in boys and early adolescence (10–14 years).

The present study shows a higher prevalence of anaemia in older adolescents aged 13–17 years compared to younger adolescents aged 10–12 years. A comparable trend was observed in another study, which reported higher anaemia prevalence among adolescents aged 15–19 years than those aged 10–14 years, indicating an age-related increase in vulnerability (Naik et al., 2021). The study also indicates that there is only a marginal difference in anaemia prevalence among boys and girls, with slightly higher rates observed among boys. In a recent cross-sectional study conducted in Agra, the prevalence of anaemia among school-going adolescents was reported as 53.4% in girls and 46.5% in boys, with no statistically significant difference between the sexes ($p = 0.09$), suggesting that prevalence can be quite similar and, in some contexts, slightly higher in boys (Nahid & Firoz, 2025). Similarly, a school-based cross-sectional study in Shimla that screened anaemia clinically (using pallor-based indicators) found that 12.9% boys and 13.3% girls were anaemic ($p>0.05$) (Goel & Gupta, 2007). However, most published research shows

that anaemia is generally more common among adolescent girls than boys, mainly due to factors like menstruation and different nutritional needs (Kumar et al., 2018; Regina et al., 2016). A study conducted in Tamil Nadu, India, reported that the prevalence of anaemia was higher in late adolescent girls than in early adolescent girls (Chandrakumari et al., 2019). Similarly, a study from Karnataka, India, showed a slightly higher prevalence of anaemia among older adolescent girls compared to younger ones (Naik et al., 2021). One important correlate of anaemia, identified in a study in Assam, India, was adherence to a vegetarian diet and excessive menstrual bleeding (Kumar et al., 2018). Additionally, a study reported that anaemia was more common among girls who had reached menarche than those who had not, indicating the role of menstrual blood loss in affecting iron levels (Naik et al., 2021). A study from Delhi, India, found that the prevalence of anaemia was higher among underweight girls and those following a vegetarian diet (Kamble et al., 2021).

These findings are, however, not entirely conclusive, because anaemia in the present study was assessed on the basis of clinical pallor, which has limited diagnostic accuracy (particularly for mild anaemia) and is often affected by factors like inter-observer variability. But pallor as a screening test can reassure physicians that a haemoglobin test is not needed when absent, but it helps in detecting anaemia when present. It raises the probability of severe anaemia, while its absence rules it out. It cannot reliably confirm or exclude a moderate or mild form of anaemia (Kalantri et al., 2010). Thus, laboratory haemoglobin measurement is essential for the accurate detection and treatment of anaemia.

CHAPTER 4:

DENTAL AND EAR ISSUES

DENTAL AND EAR PROBLEMS

A. DENTAL ISSUES

Oral and dental health are some of the most neglected healthcare needs among adolescents, even though adolescence is the time when they are the most vulnerable to catching diseases that can cause lifelong dental problems. Oral and dental diseases have an undeniable impact on school-going children's health, including pain, absenteeism, heart diseases and even death in rare cases. Teenage years are also a higher risk time for oral piercings, increased sugar intake, nicotine initiation and orthodontic considerations. Therefore, this is a time when children require special attention pertaining to oral health in addition to the usual lifelong issues of dental caries management, sports injury prevention and dental referrals. It is important to inculcate good oral and dental care habits among the children during these formative years (Silk H. et. al, 2017).

Oral and dental diseases are widespread in developing countries. The prevalence and patterns of these diseases vary from one community to another because they are highly dependent on various factors like the current available oral care practices, dental awareness level and the attitude of people in the community about dental and oral health care practices. It has been found through various epidemiological studies that dental diseases, especially dental caries, have been steadily increasing in populations in developing countries. Dental caries is currently the most prevalent dental problem among children across the world. Other widely prevalent diseases include periodontal diseases such as gingivitis, traumatic injuries to the teeth and jaws and malocclusion. Pain and toothache were found to be the most frequent reasons for seeking dental care, underscoring how oral problems often are overlooked and stay untreated until they become severe. The consequences of untreated dental diseases extend beyond physical discomfort. They can cause hindrance in nutrition, speech, concentration and self-esteem, ultimately, heavily impacting the child's education, growth and quality of life. (Sanu et. al, 2010)

Ear health issues are also highly overlooked when it comes to public health concerns, especially adolescent healthcare. This is particularly true for low and middle-income countries like India. Adolescents from lower socio-economic backgrounds tend to experience higher prevalence of ear diseases such as discharge, hearing difficulty and ear infections. Various factors are contributing to this including poor living conditions, lack of hygiene and sanitation facilities, overcrowded housing and lack of access to specialized healthcare facilities. Ear health in adolescents is also shaped to a considerable extent by behavioural and environmental factors. Exposure to loud recreational noise, such as music from headphones and high-volume

televisions, are common causes of ear problems among teenagers. In addition to that, the lack of awareness and health education can also often lead to high-risk behaviours like inserting objects inside the ears, putting oil inside the ear, etc. (Gupta et. al, 2015).

Findings

The prevalence of dental and ear problems was assessed among 143 school students who were examined (82 male and 61 female) for this study.

Table 4.1: Prevalence of dental and ear issues among the examined students

Health Indicators		Prevalence among Males (%)	Prevalence among Females (%)	Total Prevalence (%)
Dental problems	Dental Carries	30.48	26.22	28.67
	Gingivitis	7.31	6.55	6.99
	Dental Stains	2.43	6.55	4.20
Ear Problem	Any Ear Problem	18.29	16.39	17.48
	Wax	4.87	4.91	4.90
	Pus	4.93	0.00	2.82
	Pain	4.93	3.27	4.23
***Note*: Denominator: Male = 82, Female = 61, Total = 143**				

A. Dental problems

Dental caries is the most prevalent dental problem among the school students, with an overall prevalence of 28.67%. The prevalence is slightly higher among males (30.48%) compared to females (26.22%). Gingivitis was reported among 6.99% of the students, with almost similar prevalence across both genders (7.31% in males and 6.55% in females). Dental stains were relatively less common, affecting 4.20% of the total group, though females reported a slightly higher proportion (6.55%) compared to males (2.43%).

B. Ear Problems

About 17.48% of the total students experienced some form of ear issue. The prevalence of ear problems was marginally higher among males (18.29%) than among females (16.39%). Wax accumulation was the most frequently observed ear condition, affecting nearly 4.90% of the students, with similar proportions in both genders. Ear pain was reported by 4.23% of students, occurring more in males (4.93%) than in females (3.27%). Ear discharge or pus was relatively uncommon (4.90% overall), reported in comparable proportions across both groups. Only one student was reported to be having all three problems - wax, pus and pain.

Discussion

The present study shows dental caries as the most common form of dental problem (28.67%) among students. Untreated dental caries in permanent teeth is the most common health condition, according to the Global Burden of Disease 2021 (WHO, 2025). The study shows a marginal difference in the prevalence of dental caries between boys (30.48%) and girls (26.22%). Similar findings have been reported in a study conducted in Japan, where the prevalence of dental caries was 24.4% among boys and 27% among girls, and the overall prevalence was 25.7% (Yamada et al., 2025). However, the prevalence of dental caries was found to be slightly higher in males as compared to females. A study conducted in Chennai, India, had similar findings, where the prevalence of dental caries was proportionately higher in male children compared to female children (NR Somasekhara et al., 2018).

According to our study, little less than one in five students experienced some form of ear problem, with earwax being the most common problem (4.9%), followed by ear pain (4.23%). A study conducted in Delhi reported similar trends, noting that cerumen impaction (7.5%) was the most commonly observed ear condition among children (Chadha et al., 2015). Cerumen impaction (earwax) is a factor contributing to hearing loss. (WHO, 2025). Only a very marginal difference in ear-related problems between boys and girls was observed in the study. This aligns with earlier research, which also reported no significant difference in the prevalence of ear diseases between boys and girls (Chadha et al., 2015). In our study, ear pain was more prevalent among boys (4.93%) than girls (3.27%). This pattern is consistent with findings from a cross-sectional study conducted in eastern India, where ear pain was reported as the most common ear-related condition among male adolescents (Angral et al., 2025).

These findings point to gaps in oral hygiene practices, dietary habits, and access to adequate dental care among students. Along with dental concerns, ear-related conditions such as pain, wax impaction and infections were also fairly common, affecting nearly one in five students. Although the overall gender differences were small, boys showed slightly higher levels of both dental and ear problems. Taken together, the results highlight the need for stronger school-based health awareness and education programmes to address the oral and ear health issues faced by students.

CHAPTER 5:

MENSTRUATION

MENSTRUATION

Menstruation marks a natural yet profound phase in a girl's life. It often brings new experiences, questions, and emotions that shape how young girls perceive their health and self-identity. Making them aware about their health is an important step towards boosting their confidence and making informed decisions about their menstrual hygiene and overall well-being. Menstrual health should be recognized not only as a hygiene issue but also as a vital health and human rights concern. It is essential to ensure that women and girls have access to accurate information, education, affordable menstrual products, disposal facilities and conditions that support safe menstrual practices (WHO 2022).

A. Menstrual Health Issues: Self-reported problems of School Girls

Out of the 61 female students who participated in the study, 34 students (55.74%) reported that they were currently menstruating. All subsequent findings related to menstrual problems are therefore based on these 34 students. Out of them, 27 students reported at least one menstrual problem, indicating that 79 percent of menstruating students experienced some form of menstrual problem (Table 5.1).

Table 5.1: Counts and per cent distribution of menstrual problems as reported by female respondents

Reported Menstrual Problems	Prevalence (in %)
Any menstrual problem reported	79.41
Heavy bleeding (symptom of Menorrhagia)	23.53
Periods lasting more than 7 days (symptom of Menorrhagia)	5.88
Bleeding with grape-sized clots/big blood clots (symptom of Menorrhagia)	20.59
Painful menstruation (symptom of Dysmenorrhoea)	41.18
The interval between two menstrual cycles is less than four weeks	11.76
The interval between two menstrual cycles is more than four weeks	32.35
Cycle irregular, no pattern	32.35
Scanty bleeding (symptom of Hypomenorrhea)	8.82
Note: Total sample: 61; Menstrual problems are asked for menstruating girls, n=34	

Painful menstruation, identified as a symptom of dysmenorrhea, was the most frequently reported problem, affecting 14 out of 34 menstruating students (41.18%). Complaints related to excessive bleeding were also common. Heavy bleeding, considered a symptom of menorrhagia, was reported by 8 students (23.53%), while bleeding with grape-sized or large blood clots, another symptom of menorrhagia, was reported by 7 students (20.59%). Additionally, 2 students (5.88%) reported menstrual periods lasting longer than seven days.

Irregularities in the menstrual cycle were also notable. 11 students (32.35%) reported that the interval between two menstrual cycles exceeded four weeks, while 4 students (11.76%) reported an interval shorter than four weeks. Another 11 students (32.35%) stated that their menstrual cycles were irregular and followed no specific pattern. Scanty bleeding, which is considered a symptom of hypomenorrhea, was reported by 3 students (8.82%). The combined count of symptoms exceeds the total number of students who reported having any problem, which indicates that few students experienced more than one menstrual problem.

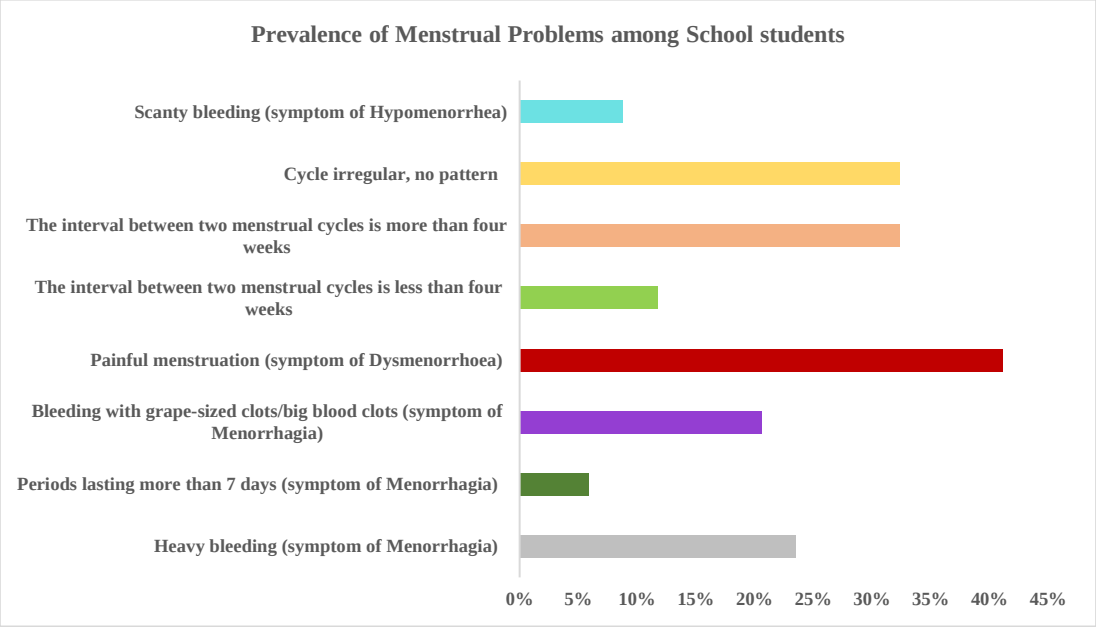


Figure 5.1: Prevalence of menstrual health problems as reported by female respondents

B. Menstrual Awareness of school girls

The study explored multiple dimensions of adolescent health through the different domains of **Menstrual Health in an interactive session in a classroom**. These domains are not isolated; rather, they are deeply connected through hygiene, nutrition, and awareness levels that

collectively shape the physical and emotional well-being of adolescents. During the interactive classroom sessions, 40 students from grades 8 to 10 discussed their understanding and experiences related to these issues. During the interactive session, we emphasised these important aspects of Menstrual Health Management (MHM) as outlined in Table 2.

Table 5.2: Summary of the classroom discussions on menstrual awareness among girls of grades 8 to 10

Domain	Sub Domain	Description
Knowledge	Biological Process	Uterus, egg, reproduction, puberty
	Cleansing function of the body	Periods 'clean the body'
	other knowledge aspects	Incorrect and mixed explanation related to periods
WASH	Pad/cloth management	Wrapping and disposing of pads properly
	Personal Hygiene	Bathing or hygiene related mention
	Toilet Access	Home/community toilet and disposal machine
Myths & Misconceptions	Temple/puja restrictions	Not allowed to go to the temple or do puja
	Food restrictions	Avoiding pickle, tamarind, curd, papaya, sour/hot food
	Impurity/Purity beliefs	Menstrual blood is considered impure, 'sin,' God upset
	Separate food/ water restriction	Separate utensils, cooking restrictions
	Physical separation	Told to sit separately during menstruation
Attitudes and Behaviour	Compliance with rules	Following the elders' advice/restrictions
	Liberal/non-restrictive behaviour	Allowed to touch/eat/go everywhere, no restrictions

	Movement/social restrictions	Avoiding weddings, outside activities, puja, etc.
	Water-related restrictions	Not allowed to play with water
	Emotional response	Mention of irritation, fear, and acceptance related issues

Domain of Menstrual Health Management Discussed:

1. Knowledge

Myths and misconceptions about menstruation are widely prevalent in society. It is quite common to have misleading or wrong knowledge about things relating to periods, and it mostly has to do with menstruation being a taboo topic in society (Uppal et al., 2022). The girls' understanding and knowledge of the biological process behind periods were observed in their interactions, as they checked if they mentioned things related to the biology behind periods, such as the uterus, eggs, reproduction, and puberty. Eight of the 40 girls expressed knowledge about the biological process, saying things like

"Paali yete kaaran aapalya shariratun andpeshi baher padnan andashayatun aalel andpeshi yaamulech mahila garbhavati raahataan. Jar pali aalich naahi tar mahila garbhavati raahuch shakat naahi" *(Menstruation occurs because eggs are released from our bodies, the eggs released from the ovaries are the reason why women get pregnant, if they don't get their periods, women can't get pregnant).*

Related responses about the perception of periods as a "body cleansing agent" that cleans the body from inside were observed. Three girls reported their belief that periods clarify the body by removing bad blood. They commented

"Periods aane se sharir saaf hota hain" (periods cleanse the body).

"Kuch khaane nahi dete kyuki garam khaane se khoon zyada beh sakta hain. Aur zyada khoon pravaah sehat ke liye accha nahi hain"

"Pregnancy mein jo bacche ki thaili hoti hain, uske baaju mein blood jama hota hain. Woh periods mein bahar nikal jaata hain" *(Blood gets accumulated around the sac that contains the baby during pregnancy and this blood comes out during menstruation).*

There were two such mixed or incorrect explanations about periods, where the girls were misunderstanding the biology behind their periods. After the session ended, three girls came to ask:

"Jevha pasun maze periods yet ahet tevhapsun maza weight kmi hot ahe tr kay kaaran ahe?" *(I have been losing weight since I started my period. What is the reason?);* ***"khup jast bleeding kshamule hote?"*** *(What causes excessive bleeding?);* ***"pali kdhi yayla pahije?"*** *(When should the period come?).*

2. WASH

WASH refers to water, sanitation, and hygiene, which are vital for public health and sustainable development. The concept combines access to safe and clean drinking water, equitable sanitation facilities, and the promotion of proper hygiene practices, such as hand washing, to reduce disease transmission and enhance community well-being. (UNICEF, 2023)

Under the WASH (Water, Sanitation, and Hygiene) programme, targeted activities address different components of hygiene and sanitation in schools to foster behavioural change and health awareness. Within the **Pad/cloth management** sub-domain, emphasis is placed on properly wrapping and disposing of sanitary pads to promote hygienic menstrual management practices, which is recorded at a frequency of 12.

The **personal hygiene** component had the highest number of responses among the students, focusing on daily practices such as bathing and maintaining individual cleanliness. All the students reported that they wash their hands before and after using the pad.

Toilet access ensures the inclusive availability of home or community toilets and the provision of disposal machines **(incinerators)** to support proper sanitary waste management. **Four of the students mentioned a disposal machine in the community toilet, near their home.** They mentioned that the incinerator was installed two years ago in the community toilet, which eased their problem of disposal of sanitary pads. This activity underscores equitable access to sanitation infrastructure. These elements embody the WASH vision of improving hygiene behaviour, ensuring gender-responsive sanitation, and sustaining healthy school environments through integrated education and community participation.

3. Myths & Misconceptions

Menstrual restrictions in India are deeply influenced by religious, cultural, and local beliefs, manifesting in several forms across communities. Temple and puja restrictions, which prevent menstruating girls from entering places of worship or participating in rituals, are linked to notions of impurity and spiritual discipline, with fourteen students mentioning the restriction on entering temples and not being allowed to touch puja items. Food restrictions often involve avoiding items like pickle, tamarind, curd, papaya, and sour or hot foods, explained by taboos that menstruating girls can 'contaminate' food due to perceived impurity, with seventeen students mentioning food restrictions.

In the classroom discussion, the food and eating practices of the girls during periods were explored to see if there were any restrictions in their dietary practices during their period, and ten girls reported positively. One girl opined*, "We are not allowed to eat anything because eating hot food can cause excessive bleeding, and excessive bleeding is not good".*

Many of them reported that they aren't allowed to eat pickles, onions, papaya, tamarind" and curd during periods, adding that ***"Choone se kharab ho jayega yeh maan kar achar ko choone nahi dete"*** (If touched, the pickle will be spoiled, so it is not allowed to touch pickles during periods). In some parts of India, food like curd, tamarind, and pickles is usually avoided during menstruation. It is believed that these foods may disrupt the menstrual cycle.

Impurity and purity beliefs remain strong, where menstrual blood is seen as polluting or sinful and capable of upsetting divine powers, as reflected by ten students. Segregation extends further into everyday life—some are made secluded and asked to use separate utensils or cook alone, one student mentions ***"Amhala sarv saman vegale detat"*** (they give us all the stuff separately), two mentioned that they are physically separated and told to sit apart during menstruation ***"Periods aane ke baad durr baithne ke liye kehte hai"*** *(They tell us to sit separately after our periods start)* and one mentions that they are required to adhere to village-based superstitions not rooted in scientific reasoning, ***"Gaon mai bhagwan ke naam se andhshradha hota hai"*** *(*There is blind faith in the name of god in the village).

4. Attitude & Behaviour

People's attitudes and behaviour towards periods and the discussions around it reflect the social environment they have grown up in, the education they have received, and the conditioning they have experienced to a great extent. It was observed that people reflected their attitudes and

behaviours through a variety of actions and beliefs, including compliance with the "rules" set up socially to be followed during periods, to which four students reported positively. The difference in people's attitudes and behaviours could be observed through these reflections – like the households that were more liberal or non-restrictive, which do not impose any "rules" or restrictions on the girls during periods. There were eight such responses reported. A change has been observed among the students' thoughts after they gained knowledge about menstruation in school; they now share this information with their mothers.

To understand the social perceptions and restrictions related to mobility, a question was included asking if they are restricted from going to certain places during specific periods. Eight girls responded positively, stating that they aren't allowed to attend temples, weddings, puja, and other outside activities. One of them said

"Mandir mein jaana mana hain, kyuki maana jaata hain ki bhagwaan Pavitra hote hain aur maasik paali apavitra" *(It is forbidden to go to the temple because it is believed that God is holy and menstruation is impure).* Many girls and women are restricted in their daily lives simply because they are menstruating. Not entering the 'puja' room is common in many households, including restricting entry in the kitchen in rural households (Garg & Anand, 2015).

Another girl added that ***"Mandir jaane nahi dete, bolte hai ki who ashubh hota hai aur pooja mein bhi nahi baithne dete aur pooja karne bhi nahi dete"*** *(It is forbidden to go to the temple, because it is said to be inauspicious and don't let us sit during the puja and don't let us perform the puja),* confirming the existence of socially restrictive practices in their environment.

Two of the girls also reported that they aren't allowed to go near water bodies during their monthly periods. It was observed that in their responses, four respondents expressed feelings of irritation, fear, and struggle with acceptance. One of them responded with **"*Daag lag gaya toh?"*** (What if there are stains?) expressing that her social mobility is affected by the fear of getting bloodstains on her clothes while she is outside.

Discussion

The present study reveals a high proportion of menstruating students (79%) reporting at least one menstrual problem, with painful menstruation (dysmenorrhea) being the most frequent complaint. The observations are broadly consistent with findings from previous studies from India. In an urban Indian adolescent population, dysmenorrhea prevalence was 66.8%, with 21.9% experiencing severe pain (Omidvar et al., 2018). In Zambia, a study conducted among

adolescent School girls revealed that the prevalence of dysmenorrhea was 78% (Namukuanga et al., 2024). The range of menstrual problems reported in the present study, including heavy bleeding, prolonged cycles, irregular patterns, clot formation, and scanty flow, indicates that menstrual health concerns among students extend beyond dysmenorrhea alone. The considerable share of respondents with heavy bleeding, extended cycles, and clotting raises the possibility that some may be susceptible to iron deficiency or anaemia, especially when recurrent over time. Prior work in adolescent populations has noted that menstrual bleeding beyond 7 days or heavy blood loss may lead to anaemia risk, particularly in low-resource settings (Omidvar et al., 2018). Consistent with prior findings, Kumar et al. (2018) reported a prevalence of anaemia of 39% among adolescent girls, identifying excessive menstrual bleeding as a significant predictor. In addition to this, irregular cycles are more frequently experienced by girls who are in their early adolescence (10-15 years) (Omidvar, et al., 2018). A study conducted in 2022 using evidence from UDAYA, revealed a significant association between depressive symptoms and self-reported menstrual irregularities among adolescent girls (Maurya et al., 2022).

A study in Karnataka reveals that 72% of people from rural backgrounds and 76% of those from urban backgrounds were aware of menstruation before menarche, with their mothers serving as their primary sources of information. The knowledge that the uterus is the source of menstrual blood was shared by 66% of students from urban regions and 64.35% of students from rural areas (Kotian et al., 2025). In the present study, the girls know about menstruation from their mothers, schools and peers, along with this, they have scientific knowledge of why girls menstruate. It is related to getting the uterus ready for pregnancy is the basic understanding most of the girls possess. Culturally in many parts of India, menstruation is still considered to be dirty and impure (Garg & Anand,2015). During the talk, there was a discussion on impurity and purity during periods, not going to temple, not touching some food products is still prevalent. The majority of women report a decline in physical and mental well-being during menstruation, particularly experiencing stress and shame (Castro & Cruza, 2025). Girls during the talk also mentioned that they feel irritation during menstruation. In a study in Bangladesh, four percent of the menstruation-related questions, primarily from rural schools, dealt explicitly with the amount or changes in menstrual blood flow Students wanted to know the reason for variation in the amount of blood they lost on any given day during a menstrual period, why some girls have ‘heavy flow’ and others have ‘light flow’ during their periods, and why some girls pass blood clots (Mehjabeen et al., 2022). In the findings, we also found that girls are concerned about the flow of periods, and they shared how this affects their body.

The National Family Health Survey-5 (2019-21) found that 64.5% adolescent girls use sanitary napkins, in the present study, findings are that 100 percent girls participating in the discussion are using pads. Incineration is an option for managing disposal of menstrual waste, particularly in worksites, schools and dormitory settings. It is a manner to achieve pathogen treatment, waste reduction and on-site waste management (Elledge et al., 2018). The study revealed that two years ago, an incinerator was installed in the community toilet, which helped the girls to dispose of the pads, before that they used to use paper and plastic and throw it in the dustbin nearby.

The prevalence of menstrual symptoms has implications for school attendance and academic performance. Studies increasingly document that menstrual pain and heavy or prolonged bleeding are associated with increased absenteeism among school girls. In a study of 600 schoolgirls, 40.8% reported missing school during menstruation, primarily due to pain, heavy bleeding, fear of soiling clothes, and embarrassment (Vashisht et al., 2018). The findings of the study highlight that menstrual health challenges are common in the adolescent population and thus call for an integration of menstrual health education and support within school and healthcare programs.

CHAPTER 6:

SUMMARY AND CONCLUSION

SUMMARY AND CONCLUSION

Key Findings

- The observed median height and BMI of adolescent school students (across all ages) are lower than the WHO standards.
- The prevalence of anaemia is higher among older adolescents aged 13–17 years than among younger adolescents aged 10–12 years, for both boys and girls.
- Dental caries is the most prevalent dental problem among school students, with an overall prevalence of 28.67%.
- A total of 17.48% of students had ear-related issues, with wax accumulation being the most common condition (4.90%) and showing similar prevalence across genders.
- The most common menstrual problem is painful menstruation (41%), followed by irregular cycles (32%) and heavy bleeding (23.53%).
- Limited scientific menstrual knowledge and persistent misconceptions, along with cultural taboos and restrictions, continue to exist among the girls.

The health assessment and awareness activities conducted under the Swasth Nari Sashakt Parivar Abhiyaan provided a comprehensive understanding of adolescents' health needs. All the school students were given a health assessment report containing information on their height, weight, anaemia status, and dental and ear problems after their medical check-up (*see Appendix C*). Students identified with specific health concerns were provided with referral forms (*see Appendix D*) for further medical attention by IIPS under the initiative. A total of 17 students were referred to ENT doctors, and 25 students were referred to dentists for the treatment of severe dental caries, dental strains, and root extractions. Advisories regarding the treatment of mild anaemia, minor dental and ear problems, and preventive health measures were shared. As part of the initiative, dental kits were distributed among the students, along with an explanation of proper oral hygiene practices. A pyramid chart by the Eat Right India Movement was also explained to the students, emphasising balanced dietary habits—encouraging a greater intake of fruits and vegetables and nutrient-rich foods, moderate consumption of fats, calories, and proteins, and a limited intake of packaged and fast foods. A separate awareness session was conducted for adolescent girls, focusing on their menstrual health and hygiene. After the session, pamphlets (*see Appendix E*) were distributed to create awareness and to sensitize the girls that

"Period is not a disease". The talk also focused on dispelling the myths and taboos related to menstruation. It created an open and supportive space for girls to share their experiences and discuss menstrual health challenges. Pamphlets on sanitation and hygiene practices during menstruation were also distributed, and the girls were guided on maintaining hygiene and safe WASH (Water, Sanitation, and Hygiene) practices during this period.

The findings from the nutrition assessment indicate that adolescents in the study population demonstrated lower height, weight, and BMI compared to the universal WHO standards, suggesting widespread nutritional issues among these children. A higher prevalence of anaemia was reported, particularly among the older adolescents, highlighting increased nutritional demands during puberty. The study also found a significant dual burden of oral–dental and ear health problems among the students. Dental caries was found to be the most prevalent condition, followed by gingivitis and dental stains, reflecting poor oral hygiene practices and limited preventive care, most probably owing to the lack of health awareness among the students. Similarly, ear problems such as wax accumulation, infections, and pain were found to be common, affecting nearly one in five students. The current study also highlights that menstruation, though being a completely natural, biological and normal process, continues to be surrounded by silence, stigma and inadequate knowledge among adolescent girls. Despite continued efforts to raise awareness and considerable improvements, such as the widespread increase in sanitary pad usage and slowly but surely growing knowledge about menstrual health and hygiene, the persistent myths, restrictions, and superstitions deeply rooted in cultural practices point towards the need for continued efforts on the matter. The study found a high prevalence of menstrual problems, particularly dysmenorrhea, irregular cycles, and heavy bleeding, which indicates the need for improved menstrual health and hygiene management and nutritional support among adolescent girls. The findings of this study point towards the intricate link between menstrual health, nutrition and the social environment.

The study further throws light upon the critical role schools play when it comes to being safe spaces for menstrual education and open communication. Initiatives like the Swasth Nari Sashakt Parivar Abhiyaan can play a crucial role in promoting awareness and creating safe spaces by integrating menstrual health and hygiene into broader health and nutrition programs. Ensuring accessible WASH infrastructure, the availability of disposal facilities such as incinerators, and sustained awareness and education efforts can prove to be immensely helpful in enhancing menstrual health and hygiene management among girls, which would also significantly help reduce absenteeism among schoolgirls. Addressing menstrual health requires efforts that are

more than just access to sanitary napkins. The process of menstruation in itself is an extremely socially complex issue with manifold dimensions to it when it comes to people's attitudes and behaviours towards it. Therefore, addressing menstrual problems requires an immense shift in social attitudes, inclusive education, and gender-sensitive policy implementation. Promotion of menstrual literacy, ensuring nutritional adequacy and normalising conversations around menstruation are vital steps towards empowering adolescent girls and ensuring good health and dignity for them.

The results from this study indicate that adolescent health cannot be addressed in isolation. Health is a multi-layered and complex entity. Persistent menstrual health issues, nutritional deficiencies, and overlooked oral and ear health issues collectively point to the necessity of a holistic, multisectoral approach that integrates health, education, nutrition, and sanitation. Strengthening school-based health programs, ensuring accessible healthcare infrastructure, and fostering awareness at the community level are essential steps toward promoting the physical, mental, and social well-being of adolescents. Investing in adolescent health is not only vital for individual development but also foundational for building a healthier and more equitable society.

REFERENCES

1. Ahmad, A., Garg, S. G., Gupta, S., & Alvi, R. (2021). Knowledge and practices related to menstruation among Lucknow college students in North India: results from a cross-sectional survey. medRxiv (Cold Spring Harbor Laboratory). https://doi.org/10.1101/2021.02.10.21251460
2. Angrala, S., Biswas, B., Krishna Sasanka, K. S. B. S., & Bano, G. (2025). Effect of ear health, care practices, and hearing loss on academic performance among male adolescents in residential schools: A cross-sectional study in Eastern India. Sultan Qaboos University Medical Journal, 25(4), 600–610. https://doi.org/10.18295/2075-0528.6872
3. Babbar, K., Martin, J., Ruiz, J., Parray, A. A., & Sommer, M. (2022). Menstrual health is a public health and human rights issue. The Lancet Public Health, 7(1), e10–e11. https://doi.org/10.1016/s2468-2667(21)00212-7
4. Bidlack, W. R. (1996). Interrelationships of food, nutrition, diet and health: the National Association of State Universities and Land Grant Colleges White Paper. Journal of the American College of Nutrition, 15(5), 422–433. https://doi.org/10.1080/07315724.1996.10718620
5. Boakye-Yiadom, A., Aladago, D. A., Beweleyir, J., Mohammed, H. B., Salifu, M. F., & Asaarik, M. (2018). Assessing the knowledge, attitude and practice of menstrual hygiene management among junior high schools adolescent females in the Yendi Municipality in the northern region of Ghana. *European Scientific Journal, ESJ*, *14*(36), 467. https://doi.org/10.19044/esj.2018.v14n36p467
6. Castro, S., & Czura, K. (2025). Cultural taboos and misinformation about menstrual health management in rural Bangladesh. *World Development*, *188*, Article 106871. https://doi.org/10.1016/j.worlddev.2024.106871
7. Chadha, S. K., Gulati, K., Garg, S., & Agarwal, A. K. (2015). Prevalence of ear diseases in the children of Delhi. The Journal of Laryngology & Otology, 129(5), 425–429. doi:10.1017/S002221511500081X
8. Chandrakumari, A. S., Sinha, P., Singaravelu, S., & Jaikumar, S. (2019). Prevalence of Anemia Among Adolescent Girls in a Rural Area of Tamil Nadu, India. Journal of family medicine and primary care, 8(4), 1414–1417. https://doi.org/10.4103/jfmpc.jfmpc_140_19.
9. Dars, S., Sayed, K., & Yousufzai, Z. (2014). Relationship of menstrual irregularities to BMI and nutritional status in adolescent girls. *Pakistan journal of medical sciences*, *30*(1), 141.
10. Dasgupta, A., & Sarkar, M. (2008). Menstrual Hygiene: How Hygienic is the Adolescent Girl?. *Indian journal of community medicine : official publication of Indian Association of Preventive & Social Medicine*, *33*(2), 77–80. https://doi.org/10.4103/0970-0218.40872
11. De Onis, M., Onyango, A. W., Borghi, E., Siyam, A., Nishida, C., & Siekmann, J. (2007). Development of a WHO growth reference for school-aged children and adolescents. *Bulletin of the World Health Organization*, *85*(9), 660–667. https://www.who.int/bulletin/volumes/85/9/07-043497/en/
12. Elledge, M. F., Muralidharan, A., Parker, A., Ravndal, K. T., Siddiqui, M., Toolaram, A. P., & Woodward, K. P. (2018). Menstrual Hygiene Management and Waste Disposal in Low and Middle Income Countries—A

Review of the Literature. *International Journal of Environmental Research and Public Health*, *15*(11), 2562. https://doi.org/10.3390/ijerph15112562

13. Garg, S., & Anand, T. (2015). Menstruation related myths in India: Strategies for combating it. *Journal of Family Medicine and Primary Care*, *4*(2), 184–186. https://doi.org/10.4103/2249-4863.154627
14. Goel, S., & Gupta, B. P. (2007). Low anemia prevalence among adolescents of an urban hilly community. Indian Journal of Community Medicine, 1(1), 67–69.*
15. Gold-Watts, A., Hovdenak, M., Daniel, M., Gandhimathi, S., Sudha, R., & Bastien, S. (2020). A qualitative study of adolescent girls' experiences of menarche and menstruation in rural Tamil Nadu, India. *International journal of qualitative studies on health and well-being*, *15*(1), 1845924. https://doi.org/10.1080/17482631.2020.1845924
16. Gupta, D., Gulati, A., & Gupta, U. (2015). Impact of socio-economic status on ear health and behaviour in children: A cross-sectional study in the capital of India. *International Journal of Pediatric Otorhinolaryngology*, *79*(11), 1842-1850. http://dx.doi.org/10.1016/j.ijporl.2015.08.022
17. Kalantri, A., Karambelkar, M., Joshi, R., Kalantri, S., & Jajoo, U. (2010). Accuracy and reliability of pallor for detecting anaemia: a hospital-based diagnostic accuracy study. *PloS one*, *5*(1), e8545. https://doi.org/10.1371/journal.pone.0008545
18. Kamble, B. D., Gunjan, M., Sumit, J., Singh, S. K., Jha, D., & Singh, S. (2021). Prevalence of anaemia among school-going adolescent girls attending Test, Treat and Talk (T-3) camp under Anaemia Mukt Bharat in Delhi. Journal of Family Medicine and Primary Care, 10(2), 898–903. https://doi.org/10.4103/jfmpc.jfmpc_1510_20
19. Kotian, H., Agrawal, N., Swarna, S., Shreya, R., Patil, V. M. B., Anarghya, V., & Shreeraksha (2025). Knowledge, attitude and practices regarding menstruation among adolescent girls in Mangalore, Karnataka. *Journal of family medicine and primary care*, *14*(4), 1472–1477. https://doi.org/10.4103/jfmpc.jfmpc_1821_24
20. Kumar, A., Goyal, A., Verma, N., & Mahesh, A. (2018). Study of anemia among adolescent school girls and young adults. International Journal of Advances in Medicine, 5(4), 1–5. https://doi.org/10.18203/2349-3933.ijam20182753
21. Kumar, A., Goyal, A., Verma, N., & Mahesh, A. (2018). Study of anemia among adolescent school girls and young adults. International Journal of Advances in Medicine, 5(4), 877–881. https://doi.org/10.18203/2349-3933.ijam20182753
22. Mamidi, R. S., Rajkumar, H., Radhakrishna, K. V., & Babu, J. J. (2016). Secular Trends in Heights and Weights in Boys and Girls Over 3 Decades in Rural India. *Food and nutrition bulletin*, *37*(3), 425–438. https://doi.org/10.1177/0379572116647579
23. Maurya, P., Meher, T., & Muhammad, T. (2022). Relationship between depressive symptoms and self-reported menstrual irregularities during adolescence: Evidence from UDAYA, 2016. BMC Public Health, 22, 758. https://doi.org/10.1186/s12889-022-13196-8
24. Mehjabeen, D., Hunter, E. C., Mahfuz, M. T., Mobashara, M., Rahman, M., & Sultana, F. (2022). A Qualitative Content Analysis of Rural and Urban School Students' Menstruation-Related Questions in

Bangladesh. *International journal of environmental research and public health*, *19*(16), 10140. https://doi.org/10.3390/ijerph191610140

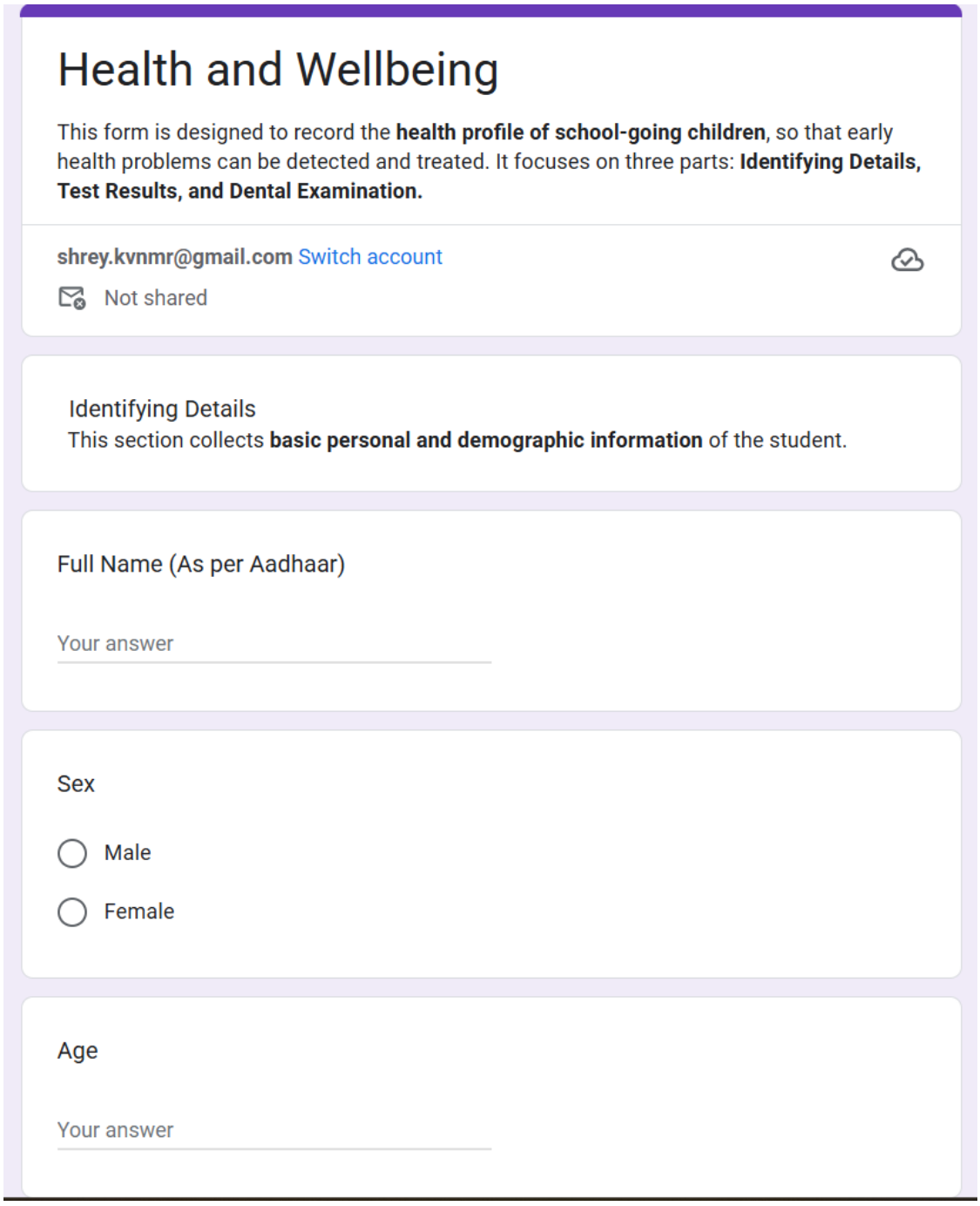
25. Nahid, S., & Firoz, S. (2025). Prevalence of anemia and its determinants in school-going adolescents: A cross-sectional study. Journal of Clinical & Contemporary Practice, 11(7), 844-852. https://doi.org/ 10.61336/jccp/25-07-118
26. Naik, P. M., Gupta, A., & Yalaburgi, K. S. (2021). Prevalence of anemia and its correlates among adolescent girls in rural area of Dakshina Kannada District, Karnataka. International Journal of Community Medicine and Public Health, 8(12), 6035–6039. https://doi.org/10.18203/2394-6040.ijcmph20214611
27. Namukanga, N. E., Zulu, J. M., Munakampe, M. N., Ngosa, D. M., Shumba, S., & Jacobs, C. (2024). Prevalence of primary dysmenorrhea and its associated risk factors among adolescent girls in selected schools of Lusaka District, Zambia. Journal of Community Health Research, 13(1), 243–255. https://doi.org/10.18502/jchr.v13i27.17307
28. Omidvar, S., Bakouei, F., Nasiri Amiri, F., & Begum, K. (2016). Primary dysmenorrhea and menstrual symptoms in Indian female students: Prevalence, impact and management. Global Journal of Health Science, 8(8), 135–144. https://doi.org/10.5539/gjhs.v8n8p135
29. Pandurangi, R., Mummadi, M. K., Challa, S., Reddy, N. S., Kaliaperumal, V., Khadar Babu, C., Telikicherla, U. R., Pullakandham, R., Geddam, J. J. B., & Hemalatha, R. (2022). Burden and Predictors of Malnutrition Among Indian Adolescents (10-19 Years): Insights From Comprehensive National Nutrition Survey Data. *Frontiers in public health*, *10*, 877073. https://doi.org/10.3389/fpubh.2022.877073
30. Parija, P. P., Sharma, N., Salve, H. R., Kumar, R., Yadav, K., & Mandal, S. (2022). A qualitative study regarding menstrual hygiene in a rural community of Haryana, India. *Journal of tropical pediatrics*, *68*(6), fmac083. https://doi.org/10.1093/tropej/fmac083
31. Regina, D., Sudharshan, R. C., & Rao, R. (2016). Correlation of pallor with hemoglobin levels and clinical profile of anemia in primary and middle school children of rural Telangana. International Journal of Contemporary Pediatrics, 3(3), 872–877. https://doi.org/10.18203/2349-3291.ijcp20162357
32. Santhya, K. G., & Jejeebhoy, S. J. (2015). Sexual and reproductive health and rights of adolescent girls: evidence from low- and middle-income countries. *Global public health*, *10*(2), 189–221. https://doi.org/10.1080/17441692.2014.986169
33. Sanu, O. O., Oredugba, F. A., & Adebola, R. A. (2010). Oral and dental diseases among children and adolescents in Kano, Nigeria. *Pesquisa Brasileira em Odontopediatria e Clínica Integrada*, *10*(3), 445-450.
34. Shaka, M. F., & Wondimagegne, Y. A. (2018). Anemia, a moderate public health concern among adolescents in South Ethiopia. PloS one, 13(7), e0191467. https://doi.org/10.1371/journal.pone.0191467.
35. Somasekhara, N. R., Selvam, J. M., & Venkateshan. (2018). *Prevalence of common dental diseases and oral hygiene practices among orphanage children in Chennai, South India—Health policy implications*. **Journal of Clinical and Biomedical Sciences, 8**(1), 14–21.
36. Sommer, M. (2010). Putting menstrual hygiene management on to the school water and sanitation agenda. *Waterlines*, 268-278. https://doi.org/10.3362/1756-3488.2010.030

37. Stephanie A. Richard, Robert E. Black, William Checkley, Revisiting the Relationship of Weight and Height in Early Childhood, Advances in Nutrition, Volume 3, Issue 2, 2012, Pages 250-254, ISSN 2161-8313, https://doi.org/10.3945/an.111.001099.
38. United Nations Children's Fund. (2023). *Water, sanitation and hygiene (WASH).* https://www.unicef.org/wash/
39. United Nations Population Fund (UNFPA). (2022). *Menstrual hygiene among adolescent girls: Key insights from NFHS-5 2019–21)* (Analytical Paper Series No. 2). UNFPA India.
40. Uppal, M. K., Rana, M., & Batta, A. (2022). *Taboos related to menstruation in various cultures*. *Journal of Pharmaceutical Negative Results, 13*(Special Issue 09), 8451–8456. https://doi.org/10.47750/pnr.2022.13.S09.991
41. Vashisht, A., Pathak, R., Agarwalla, R., Patavegar, B. N., & Panda, M. (2018). School absenteeism during menstruation amongst adolescent girls in Delhi, India. Journal of Family and Community Medicine, 25(3), 163–168. https://doi.org/10.4103/jfcm.JFCM_161_17
42. World Health Organisation Report
43. World Health Organisation. (2022, June 22). WHO statement on menstrual health and rights. https://www.who.int/news/item/22-06-2022-who-statement-on-menstrual-health-and-rights
44. World Health Organisation. (n.d.). Anaemia – Health topics. https://www.who.int/health-topics/anaemia#tab=tab_1
45. World Health Organisation. (n.d.). Anaemia: Fact sheet. https://www.who.int/news-room/fact-sheets/detail/anaemia
46. World Health Organization. (2023). Deafness and hearing loss: Key facts. https://www.who.int/news-room/fact-sheets/detail/deafness-and-hearing-loss
47. World Health Organization. (2025). Oral Health: Key facts. https://www.who.int/news-room/fact-sheets/detail/oral-health
48. Yamada, M., Sekine, M., Tatsuse, T., & Yanai, Y. (2025). Association of self-reported dental caries with sex, lifestyle, and problematic Internet use among elementary school children in Japan. BMC oral health, 25(1), 129. https://doi.org/10.1186/s12903-025-05475-8

APPENDICES

Appendix A: Google Form for Data Collection

This appendix contains a copy of the Google Form used for collecting primary data from participants.



Health and Wellbeing

This form is designed to record the **health profile of school-going children**, so that early health problems can be detected and treated. It focuses on three parts: **Identifying Details, Test Results, and Dental Examination.**

shrey.kvnmr@gmail.com Switch account

Not shared

Identifying Details

This section collects **basic personal and demographic information** of the student.

Full Name (As per Aadhaar)

Your answer

Sex

Male

Female

Age

Your answer

Class

Your answer

Mobile Number of Parent

Your answer

Address (As per Aadhaar)

Your answer

Aadhaar/ ABHA/ PMJAY Number

Your answer

Test Results

This section records the **general health measurements** and basic screening results.

Weight in kg

Your answer

Height in cm

Your answer

Anemia(Pallor)

- ◯ Yes
- ◯ No

ENT screening(having any problem)

- ◯ Yes
- ◯ No

Dental Examination

This section assesses **oral health** of students.

Dental Caries

- ◯ Yes
- ◯ No

Gingiva

- ◯ Yes
- ◯ No

Stains

- ◯ Yes
- ◯ No

Other findings

Your answer

Menstrual Health Problems (For Girls only)

This section is designed to collect health information specifically about menstrual health issues among adolescent girls.

Have you started menstruating?

- ◯ Yes
- ◯ No

Any menstrual problem?

- ◯ Yes
- ◯ No

Heavy bleeding (symptom of Menorrhagia)

- ◯ Yes
- ◯ No

Periods lasting more than 7 days (symptom of Menorrhagia)

- ◯ Yes
- ◯ No

Bleeding with grape sized clots/big blood clots (symptom of Menorrhagia)

- ◯ Yes
- ◯ No

Painful menstruation (symptom of Dysmenorrhoea)

- ◯ Yes
- ◯ No

Interval between two menstrual cycles is less than four weeks

- ◯ Yes
- ◯ No

Interval between two menstrual cycles is more than four weeks

- ◯ Yes
- ◯ No

Cycle irregular, no pattern

- ◯ Yes
- ◯ No

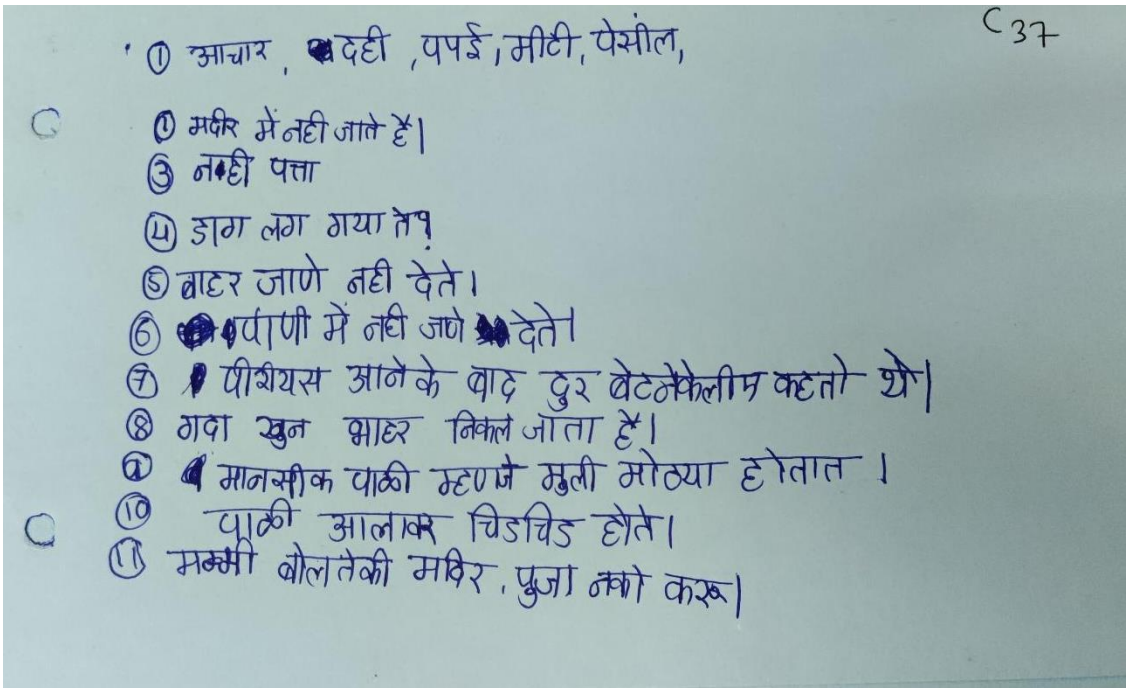
Scanty bleeding (symptom of Hypomenorrhoea)

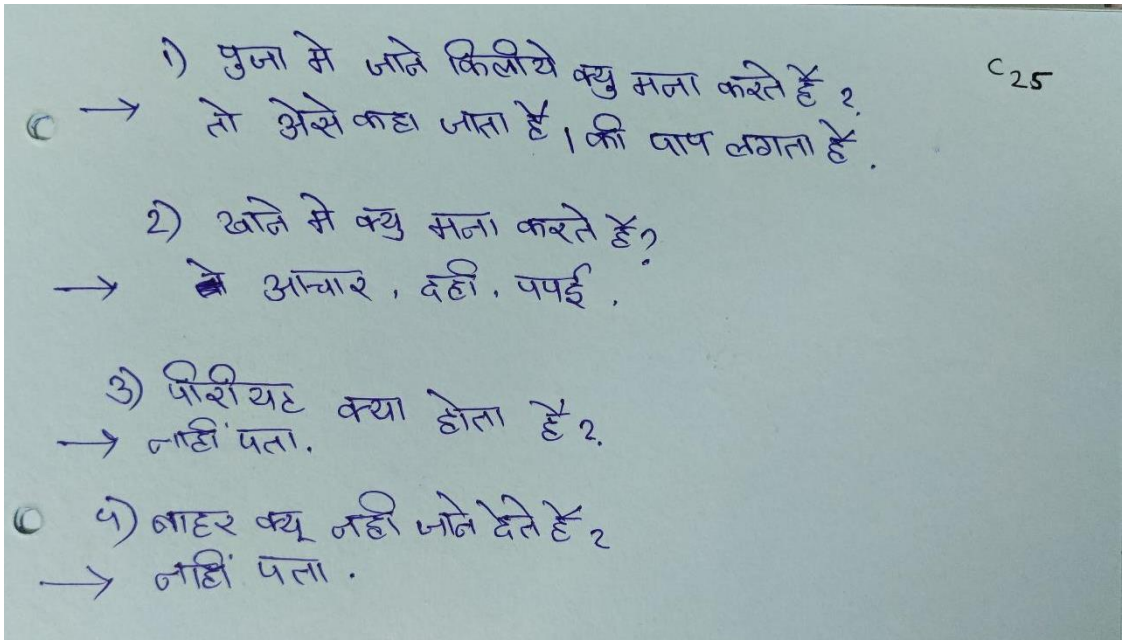
- ◯ Yes
- ◯ No

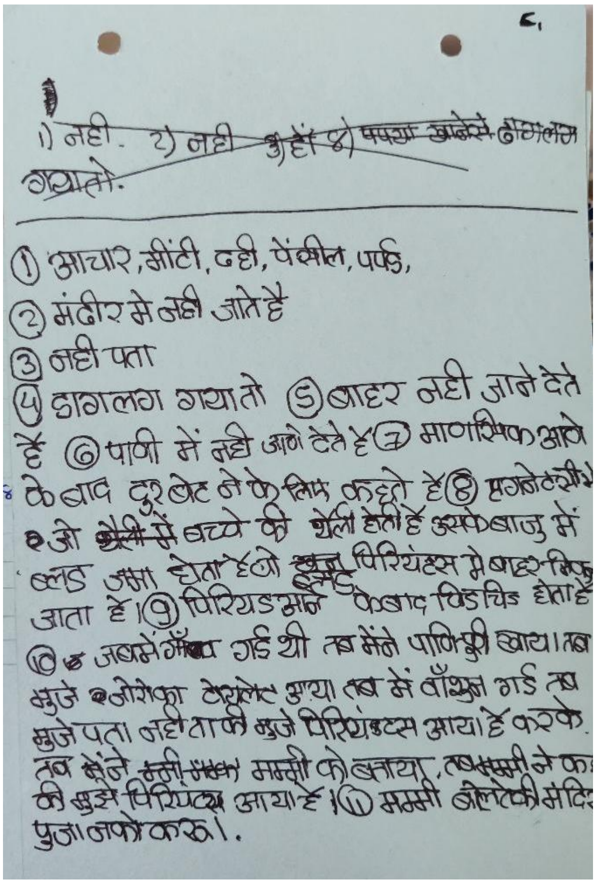
Submit Clear form

Appendix B: Flash Cards Used for Response Collection

Flash cards distributed among students to gather responses during the field study.



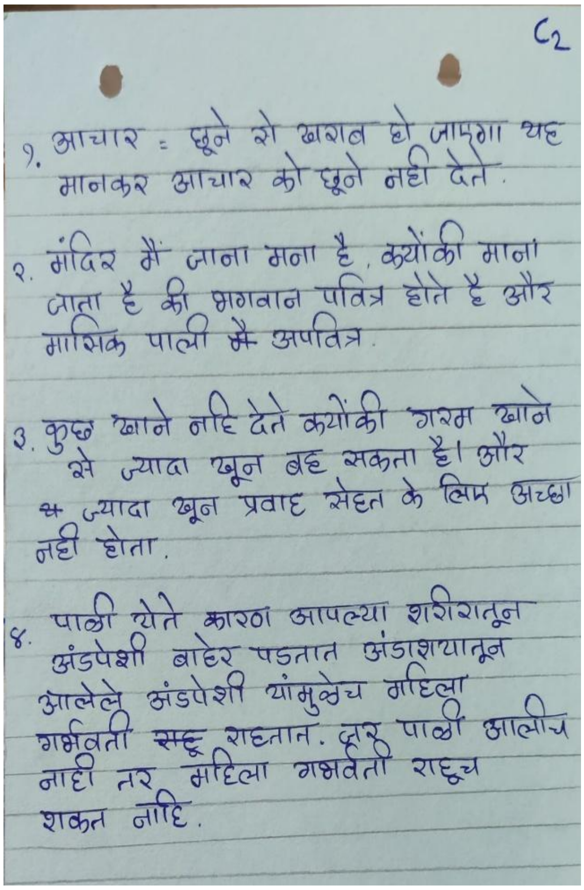




C1

1) नही. 2) नही 3) हाँ 4) पपया खानेसे डागलग गयातो.

① आचार, चींटी, दही, पेंसील, पर्फ,
② मंदीर मे नही जाते है
③ नही पता
④ डागलग गयातो ⑤ बाहर नही जाने देते है ⑥ पानी में नही आने देते है ⑦ माणासिक आने के बाद दुर बेट ने के लिए कहते है ⑧ गर्भाशय जो बच्चे की थैली होती है उसके बाजु में ब्लड जमा होता है जो ब्लड पिरियड्स मे बाहर निकल आता है। ⑨ पिरियडस आने के बाद चिड चिड होता है ⑩ जबमें गाँव गई थी तब मेंने पानिपुरी खाया। तब मुजे जोरोका टोयलेट आया तब में वॉशरूम गई तब मुजे पता नही ता की मुजे पिरियड्स आया है करके. तब मेंने मम्मी को बताया, तब मम्मी ने कहा की मुझे पिरियड्स आया है। ⑪ मम्मी बोलती की मंदिर पुजा मत करो।



C2

१. आचार = छूने से खराब हो जाएगा यह मानकर आचार को छूने नही देते.

२. मंदिर मैं जाना मना है, क्योंकी माना जाता है की भगवान पवित्र होते है और मासिक पाली मै अपवित्र.

३. कुछ खाने नहि देते क्योंकी गरम खाने से ज्यादा खून बह सकता है। और ज्यादा खून प्रवाह सेहत के लिए अच्छा नही होता.

४. पाळी येते कारण आपल्या शरीरातून अंडपेशी बाहेर पडतात अंडाशयातून आलेले अंडपेशी यांमुळेच महिला गर्भवती राहतात. जर पाळी आलीच नाही तर महिला गर्भवती राहूच शकत नाहि.

Appendix C: School Brochure Provided to Students

School brochure given to students demonstrating Test results and explaining the prevention and precautions for the diseases

एनीमिया (रक्त अल्पता) क्या हैं?

एनीमिया (रक्त अल्पता) एक गंभीर स्वास्थ्य स्थिति है जिसमें रक्त में पर्याप्त लाल रक्त कोशिकाएं या हीमोग्लोबिन की कमी हो जाती है।

हमारे रक्त में पाया जाने वाला हीमोग्लोबिन एक ऐसा पदार्थ है जो मांसपेशियों, रोग से लड़ने वाले अंगों और शरीर के अन्य भागों में ऑक्सीजन पहुंचाता है। हीमोग्लोबिन बनाने के लिए आयरन महत्वपूर्ण है।

एनीमिया (रक्त अल्पता) के लक्षण क्या हैं?

एनीमिया के कुछ लक्षण इस प्रकार हैं:

- थकान
- सिरदर्द
- चक्कर आना
- पर्याप्त भूख
- दिल की धड़कन
- सांस लेने में कठिनाई

एनीमिया को कैसे रोका जा सकता है?

- आयरन युक्त खाद्य पदार्थ जैसे गहरे हरे पत्तेदार सब्जियां, जिगर, मांस, या मछली, और विटामिन सी से भरपूर फलों का पर्याप्त आहार लें।
- शिशुओं और छोटे बच्चों को चाय देने से बचें।
- भोजन के साथ कॉफी या चाय लेने से बचें।
- कृमियों को रोकें और उनका इलाज करें।
- कीटनाशक से उपचारित बेडनेट का उपयोग करके मलेरिया की रोकथाम करें।

जाँच के परिणाम

दिनांक: _____

नाम: _____

ऊंचाई (सेंटिमीटर): _____

वजन (किग्रा): _____

एनीमिया: _____

कान, नाक और गला की जांच: _____

दंत जांच: _____

_____

_____

आयरन युक्त खाद्य पदार्थ

गहरे हरे पत्तेदार सब्जियां (पालक, केल, सरसों, चुकंदर, अजमोद, ऐस्पैरेगस)

मांस, जिगर या मछली

दाल और बीन्स

शरीर में आयरन के उपयोग को बढ़ाने के लिए विटामिन सी से भरपूर फलों और सब्जियों का अधिक सेवन करें:

नींबू

अमरूद

आम

संतरे

ईएनटी (कान, नाक और गला) से संबंधित लक्षण:

- लगातार कान दर्द
- सुनने में समस्या
- साइनस सिरदर्द या नाक बहना
- साँस लेने में कठिनाई या खर्राटे लेना
- निगलने में समस्या
- गले में खराश या आवाज में बदलाव

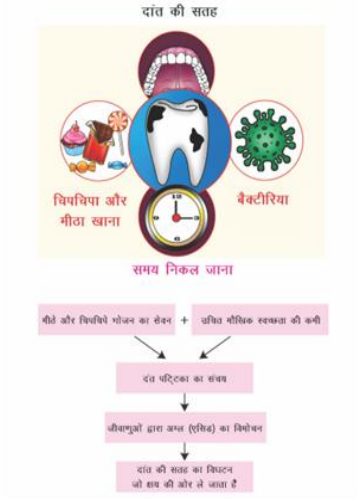
यदि आपके बच्चे को ऊपर बताए गए लक्षणों में से कोई भी हो, तो कृपया तुरंत नज़दीकी डॉक्टर के पास ले जाएँ।

Source: *https://eatrightindia.gov.in/*

दांतों की सड़न (डेंटल कैविटी) के मुख्य लक्षण:

- दांतों में दर्द
- संवेदनशीलता
- दांतों पर धब्बे
- कैविटी (छेद)
- सांसों की दुर्गंध
- मसूड़ों में सूजन या खून आना

दांतों की सड़न (डेंटल कैविटी) के कारण:



Source: *Training Manual on Oral Health Promotion for Health Workers*, Ministry of Health & Family Welfare, GoI.

दांतों की सड़न (डेंटल कैविटी) बचाव के लिए सुझाव:

- दांतों की नियमित सफाई
- मीठे और अम्लीय पदार्थों का सेवन कम करें
- नियमित दंत जांच

दांत साफ (ब्रशिंग) करने की सही तकनीक:

Source: *Training Manual on Oral Health Promotion for Health Workers*, Ministry of Health & Family Welfare, GoI.

दांतों की सफाई (ब्रशिंग) के बारे में कुछ सामान्य सुझाव:

- दिन में कम से कम दो बार ब्रश करें।
- हल्के हाथ से ब्रश करें।
- कम से कम दो मिनट तक ब्रश करें।
- हमेशा मुलायम या एक्स्ट्रा-सॉफ्ट ब्रिसल्स वाला टूथब्रश इस्तेमाल करें।
- दांतोंको ब्रश करने के लिए सॉफ्ट टूथब्रश और मटर की आकार में पेस्ट का इस्तेमाल करें।
- अपने पुराने टूथब्रश को तीन महीने बाद या जब टूथब्रश के बाल खराब होना शुरू हो जायें, तब बदल दें, जो भी पहले हो।

अंतरराष्ट्रीय जनसंख्या विज्ञान संस्थान
मुंबई- ४०००८८

(स्थापना / Established in 1956)
बेहतर भविष्य के लिए क्षमता निर्माण
Capacity Building for a Better Future

अंतर्राष्ट्रीय जनसंख्या विज्ञान संस्थान (IIPS), मुंबई, भारत में 1956 में स्थापित, जनसंख्या अध्ययन, प्रशिक्षण और अनुसंधान के लिए एक प्रमुख क्षेत्रीय केंद्र है। इसे "विश्वविद्यालय मान्यता प्राप्त" संस्थान माना गया है और यह भारत सरकार के स्वास्थ्य और परिवार कल्याण मंत्रालय के प्रशासनिक नियंत्रण में कार्य करता है। IIPS, ESCAP क्षेत्र के लिए जनसंख्या अध्ययन में प्रशिक्षण और अनुसंधान का क्षेत्रीय केंद्र भी है।

Appendix D: **Referral Form provided by trained professionals to students**

Referral form that was provided to students who were identified as requiring further medical support.

Swasth Nari Sashakt Parivar Abhiyaan
School Health Check-Up Referral Form

During SNSPA activities by IIPS, a health check-up was conducted for _____ **(Name)** on _____ **(Date)**.

Observations / Findings:

_____

_____

_____

_____

THIS PERSON NEEDS MEDICAL ATTENTION FOR _____ AT A HEALTH FACILITY.

Date _____ Signature _____

Appendix E: Pamphlets distributed during the Awareness talk

Pamphlets used to spread awareness and provide informational support during the menstrual awareness program.

Appendix F: Field Photographs

Figure F.1. Discussion on menstruation

(a)

(b)

Figure F.2.(a) Students waiting for health checkup (b) Distribution of Hygiene kits distribution after the health checkup

(a) *(b)*

(c) *(d)*

Figure F.3. Pictures of the health-check of the school children by the health professionals