Assessing the impact of Menstrual Hygiene, Nutritional Awareness, and Mental Health Among Adolescent Girls in selected study region of Haryana, India

A Dissertation and Training Report as a prerequisite for the award of PGDM

(Hospital and Health Management)

By

Neha Tewatia

Registration Number: PG/23/071, Session: 2023-2025

At

International Institute of Health Management Research [IIHMR], Delhi

Under the guidance of

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FEEDBACK FORM

Name of the student: Ms. Neha Tewatia

Name of the organization in which Dissertation Has Been Completed: International Institute of Health Management Research [IIHMR], Delhi

Area of Dissertation: Adolescents health (Reproductive Health)

Attendance: Perfect adherence to dissertation norms

Objectives achieved: The student understood the details of the concept, worked on data collection and data analysis.

Deliverables: Data collection among adolescents (10-19 years of age).

Strengths: Hard work, diligence and proactiveness.

Suggestions for improvement: Analytical thinking and skills.

Suggestions for Institute: Improve Placements.

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Assistant Professor, IIHMR, Delhi, India
Signature of the Organization Mentor (Dissertation)

Date: 20/08/2025.
Place: New Delhi, India

Certificate from Dissertation Mentor/Organization Supervisor/Mentor

This is to certify that Ms. Neha Tewatia, a graduate student of the **Post- Graduation Diploma in Health & Hospital Management equivalent to MBA** has worked under my guidance & supervision. She is submitting this dissertation entitled "**Assessing the impact of Menstrual Hygiene, Nutritional Awareness, and Mental Health Among Adolescent Girls in selected study region of Haryana, India"** in prerequisite for the award of PGDM [Post-Graduation Diploma in Health & Hospital Management].

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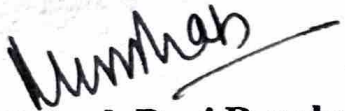

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Certificate of Approval

The following dissertation titled **Assessing the impact of Menstrual Hygiene, Nutritional Awareness, and Mental Health Among Adolescent Girls in selected study region of Haryana, India.** is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **PGDM (Hospital & Health Management)** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

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Ms. Neha Tewatia affiliated with the International Institute of Health Management and Research [IIHMR], New Delhi, conducted a research project titled "**Assessing the impact of Menstrual Hygiene, Nutritional Awareness, and Mental Health Among Adolescent Girls in selected study region of Haryana, India".** A primary study involved the collection of primary data from Palwal District of Haryana, India.

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Ms. Neha Tewatia has successfully carried out the aforementioned entitled study during the dissertation period & her approach to the study has been sincere, scientific, & analytical.

The Dissertation is in prerequisite for the award of PGDM. I wish her all success in her future endeavors.

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Dr. Mukesh Ravi Raushan
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Ms. Neha Tewatia

Registration Number: PG/23/071

Contents

Abstract

Background:

The study investigates the multifaceted challenges faced by adolescent girls (aged 10–19 years) in managing menstruation. Conducted in the Palwal district of Haryana, the study employs a cross-sectional design with a sample size of 100 participants, using purposive and convenience sampling. The research explores the interconnections between menstrual hygiene practices, nutritional awareness, and mental health, highlighting how socio-cultural factors, lack of education, and limited access to resources exacerbate these issues.

Data and Method of Analysis

This cross-sectional study collected data from 100 adolescent girls aged 10–19 years in the Palwal district of Haryana, India, using purposive and convenience sampling. Data were gathered through structured interviews and survey tools designed to assess menstrual hygiene practices, nutritional awareness, and mental health impacts. The tools included open-ended and probing questions to capture qualitative insights on cultural beliefs, personal experiences, and socio-demographic factors.

Quantitative data on variables such as age, caste, menstrual history, hygiene habits, dietary practices, and emotional well-being were analyzed using descriptive statistics to identify patterns and prevalence. Qualitative responses were thematically analyzed to explore perceptions, misconceptions, and socio-cultural influences. The integration of mixed methods allowed for a comprehensive understanding of the interlinked factors affecting menstrual health. Ethical considerations included informed consent, confidentiality, and voluntary participation.

Result:

The dissertation discusses about menstrual awareness and hygiene and its association with menstrual health among adolescent in study region of Haryana, India. Only a few of respondents were aware of menstruation before menarche, leading to fear, confusion, and unhygienic practices during their first menstrual experience. Many girls relied on inadequate materials like cloth, often reused without proper sanitation, due to limited access to affordable sanitary products. Hygiene practices were influenced by cultural taboos, with restrictions on bathing and certain activities during menstruation, perpetuating stigma and health risks such as infections.

The other dimension of the study is nutritional practices and its association with menstrual health among adolescent in study region of Haryana, India. The nutritional awareness was low, with prevalent myths dictating dietary restrictions—e.g., avoiding sour or cold foods—despite no scientific basis. Iron-deficiency anaemia was common, contributing to fatigue and menstrual

irregularities. Girls often experienced reduced appetite or cravings during menstruation but lacked knowledge about nutrient-rich foods that could alleviate symptoms. The study noted a gap between traditional beliefs and evidence-based nutritional needs.
The mental health among adolescent particularly during menstruation was studied. The menstruation significantly affected mental well-being, with reports of irritability, sadness, anxiety, and low self-esteem. Cultural stigma and social restrictions (e.g., exclusion from religious or household activities) intensified feelings of shame and isolation. Emotional support was scarce due to silence around menstruation, leaving girls to cope alone. Mental health was further strained by physical discomfort and societal misconceptions.

The other factors influencing the mental health, nutritional awareness and hygiene was also studied, and it is found that these intermediate variables were interconnected to menstrual health among adolescents. The associated challenges related to this revealed a cyclical relationship between poor hygiene, inadequate nutrition, and mental health issues. For instance, unhygienic practices increased infection risks, worsening physical and emotional distress; dietary myths exacerbated nutritional deficiencies, affecting overall health; and stigma hindered open discussions, perpetuating misinformation and psychological burden.

Conclusions:

The research underscores that menstrual health is not merely a biological issue but a socio-cultural and psychological one, requiring holistic interventions. Key recommendations include:

- Integrating comprehensive menstrual education into school curricula, covering hygiene, nutrition, and mental health.
- Ensuring access to affordable sanitary products and safe disposal facilities.
- Promoting nutritional awareness to debunk myths and address deficiencies.
- Fostering supportive environments through community engagement to reduce stigma.
- Providing mental health support via counselling and peer groups.

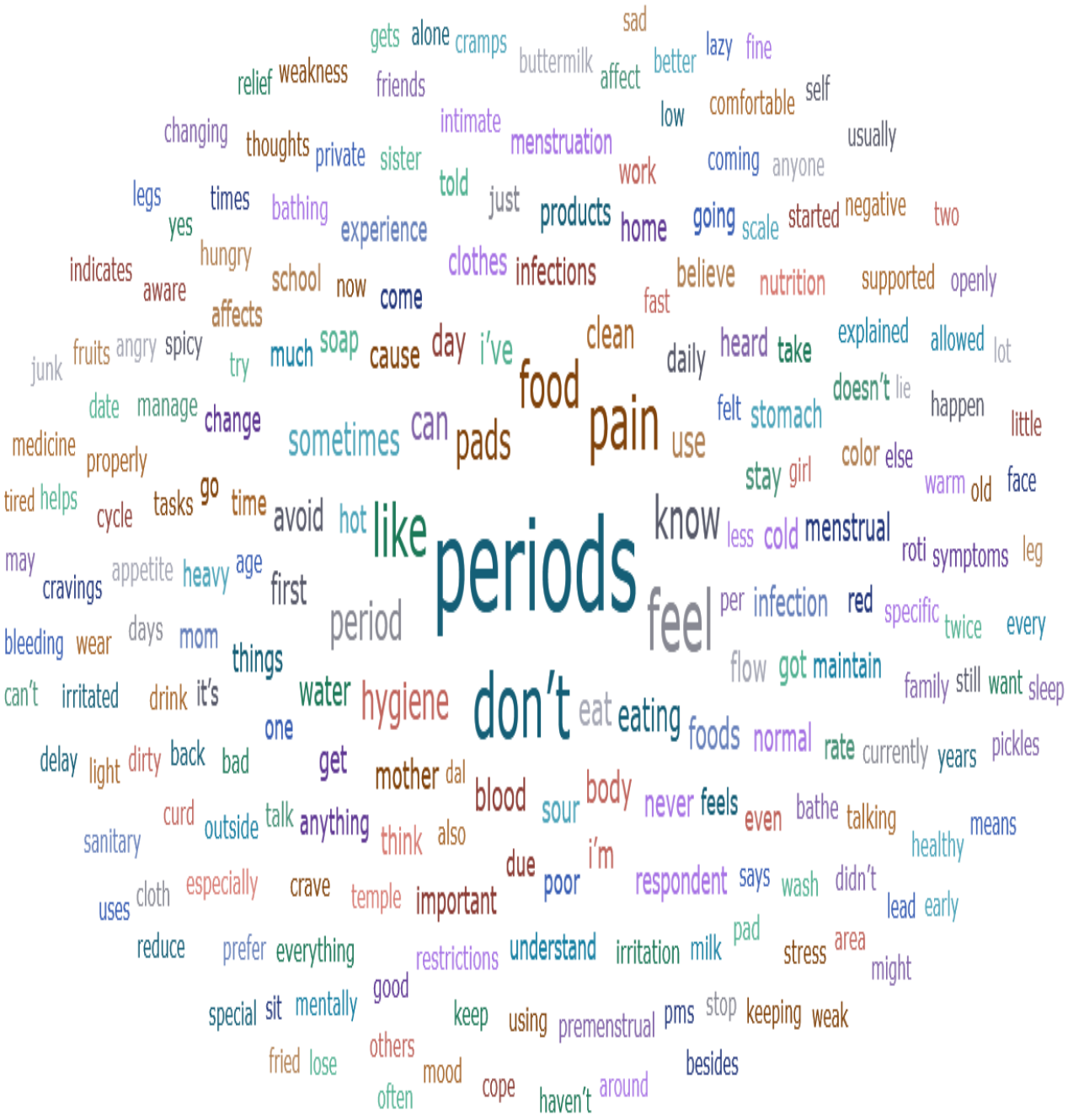
Limitations:

The study's focus on one district and small sample size limit generalizability. Time constraints prevented longitudinal follow-up.

Way Forward:

A multi-sectoral approach involving schools, families, healthcare providers, and policymakers is essential to empower adolescent girls, improve health outcomes, and advance gender equality in Haryana and similar regions.

Project report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Chapter 1: Introduction

Blood and mucus are expelled through the vagina from the uterine lining during menstruation, which is an entirely natural process. It usually lasts between two and seven days and signals the start of a girl's reproductive years. ***Fascinatingly, according to one study, only about 42 percent of girls knew anything about menstruation n prior to their first period*** (Ray & Dasgupta, 2012)**.** A girl's first menstrual period, known as menarche, usually happens between puberty and adolescence. It marks the start of a young girl's reproductive potential and is an important developmental milestone. Many people view it as a pivotal moment in adolescence, signifying the emotional and physical passage from childhood to womanhood (Uzoechi et al., 2023). An interesting example can be noticed in India, where menstruation is still considered a taboo for most quarters. For many families, especially those from traditional or rural households, menstruation is not seen as a natural bodily function but rather associated with impurity, pollution, or defilement. This notion, then, creates a setting wherein girls and women are subjected to a range of social restrictions during the period they menstruate.

Restriction may include prohibitions against going into places of worship or cooking food or participating in family rituals. Some families may not allow a menstruating woman to touch certain items possibly due to the thought that it would bring misfortune to that item or to those who touched it afterward. These kinds of cultural protocols, however, are not consistent across the entire country-per region, religion, and community, they may vary. With changing times, some urban and modern families are slowly defying these old-age beliefs, but profoundly set traditional ways still prevail over many areas.

That said, it is to be pointed out that India is far from being the only land with a menstruation-controlling attitude. Different cultures around the world have generated a variety of interpretations of what menstruation symbolizes. In some cultures, menstruation marks a sacred time of cleansing and renewal, and those women are held in special esteem. In many others, it is treated with shame, secrecy, and exclusion; these conflicting views demonstrate the cultural inability to shape the presence of a woman when she experiences the menstrual cycle.

What is less prevalent is that these myths and taboo characters constrain women from gaining knowledge about menstruation. Many of them find their initial introduction to menstruation filled with fear, misunderstanding, or even embarrassment. Instead of a health-science corridor in talking about this biological function, there exists an unending chain of restrictions, taboos,

and negative associations that are internalized within females that contribute to low self-worth and feel impure. This not only takes a toll on their psychological and emotional well-being; it also transcends into other areas of their life, affecting schooling, social involvement, and confidence.

In principle, while menstruation is an essentially biological experience, it varies from culture to culture on how it is interpreted. From being holy or stigmatized, the understanding of menstruation became a very important factor in how women grapple with and deal with their menstrual health. The Indian case illustrates quite vividly how myths and traditions have long sustained oppressive practices, shedding light on the need for urgent awareness and open discourse and cultural change.

Girls are frequently discouraged-or even prohibited-from engaging in religious activities, going to places of worship, or even handling holy objects while they are menstruating. They are also prohibited from cooking or kept out of the kitchen in some households because it is thought that their presence could contaminate the food. Due to cultural beliefs rather than medical reasons, even routine household tasks may be prohibited (Wasnik et al., 2015).

Menstruation can affect a woman's physical, emotional, and social well-being in both positive and negative ways, despite being a normal and necessary aspect of her biological cycle. The monthly cycle is seen by many women as an indication of healthy reproductive health, and in certain cultures, it is even honoured as a representation of womanhood and fertility. Menstruation is not always easy or trouble-free, though, and for many women, particularly those in developing nations, it can cause discomfort, shame and even major health issues.

The fact that menstrual health issues are frequently disregarded or written off as unimportant is one of the main problems. Mood swings, heavy bleeding, cramping, and irregular periods are sometimes dismissed as normal or something (Saira Dars1, Khashia Sayed2, 2014).

"In India, only 30% of healthcare services are available in rural areas, while 70% are available in metropolitan areas". Most teenage girls and young women do not get medical help for their health problems due to a lack of awareness, limited education, cultural taboos, and male dominance in society. Also, many adolescent girls suffer from poor nutrition, which leads to more serious reproductive health issues at a young age (Bhalerao et al., 2024).

Association of pain with menstruation:

Period pain, or dysmenorrhea, is cross cultural and seemingly reported in all countries researching the prevalence of period pain in adolescents and young women. Severe pain is reported in many countries; however, there is wide variation to measurement methodology. This methodology includes the numerical rating scale (NRS), visual analogue scale (VAS), Multidimensional Scoring System (MSS); the terms “mild,” “moderate,” or “severe”; and cultural wording nuances such as “intense,” “very serious pain,” or “severe pain with symptoms”(Guthold et al., 2019).

The prevalence of menstrual pain (dysmenorrhea) in young women globally is estimated at approximately 70 %. The impact of dysmenorrhea on quality of life has been well documented, with 31–34 % of adolescents missing important life tasks, such as schooling, work, social, and sport/exercise activities (Armour et al., 2019). Not only do young women report increased absence from school and university but also decreased classroom performance when in attendance. When adolescents are able to engage in activities, dysmenorrhea is associated with impaired ability to concentrate and perform. When compared with female adolescents from the general population as well as those with other chronic conditions (e.g. cystic fibrosis, juvenile arthritis), females who experience dysmenorrhea reported lower scores on measures of quality of life, including poorer physical functioning, greater emotional problems, and impacts on school functioning (Knox et al., 2019).

Adolescent girls often experience menstrual issues which may impact their physical health and emotional well-being. Young girls face mixed feelings -as much excitement as they experience confusion and even fear or shame-with respect from their peers toward their period onset. This transition happens not only biologically, but also in terms of social attitudes as well as the personal experience associated with it.

School-based menstrual education programs change the game completely: they can make it possible for students to occupy a space where they educate themselves about menstruation much less shrouded in stigma and shame. Imagine a classroom where pupils can speak their experiences, ask questions with ease, and know more about their bodies. This is the kind of environment that encourages healthy management practices and brings down the walls of fear that naturally accompany menstruation.

When the school initiatively grants student access to knowledge about menstruation, the schools give power to young students to own health. These programs can demystify the period,

leading to improved hygiene and also make the students feel free in discussing menstrual issues with their peers, family or healthcare providers. It creates space for understanding and empathy, ensuring that adolescents experience support in this most natural of processes and minimizing isolation, a great majority suffer.

Eventually, all of these educational programs will endorse a culture in which menstruation is an aspect of life, not a hushed or hidden topic. Such matters under full light of day not only enrich the educational experience but also become tenets for advocating holistic health among youth, enabling these young people to thrive both physically and emotionally (Li, Anna D 2020).

Association of mental health with menstruation

According to the World Health Organization (WHO), "health" is "a state of complete physical, mental and social well-being and not merely an absence of disease or infirmity". For women, one important aspect of the overall health is menstrual health because menstruation affects mental, physical and social well-being to a great extent. Mental health is a state of emotional, behavioral and cognitive well-being, which reflects the way an individual thinks, feels and behaves. It has become a connotation of the absence of mental disorders. Studies have shown that women probably are more at risk of attempting suicide or successful suicide during the menstrual phase (Saunders & Hawton, 2006). The physiological symptoms related to menstruation, such as discomfort and physical pain (dysmenorrhea) could affect women mentally. Adolescence is the stage that has been recognized as a transition between childhood and adulthood; it is characterized by rapid development touching on emotional, mental, hormonal, and physical issues. Consequently, it is not only into the individual's well-being that the health of an adolescent girl impacts; she also landed into the health of future populations because she is the one who would bear the future generations (Kochhar, Sanjay Ghosh27 Apr. 2022).

Menstruation as well as the bodily changes accompanying it can have tremendous perspectives on the totality of experiences for a girl on this normal process. For most, it would be improper guidance and the large prevalence of poor beliefs and misconceptions regarding menstruation that would lead to poor practices affecting health and wellness. When followed without a scientific understanding, they usually come with unintended negative consequences. Such practices not only compromise hygiene but may also promote negative health outcomes like

infections or long-term reproductive complications. Thus, misinformation and lack of knowledge weigh heavily on how menstruation is experienced during adolescence and beyond.

Most menstruating girls in many homes are separated from the rest of the family and subjected to restrictions whose range might extend from barring them from kitchens or places of worship to being stopped from taking part in social and family activities. Such practices reinforce the belief that menstruation is thus unclean or polluting something more to burden young girls with shame and exclusion. Hence, most people will not see menstruation as an ordinary biological phenomenon; they see it as something dirty or shameful. This situation creates an atmosphere of additional psychological and social stress, which only makes the process of adapting to menstrual changes that much harder.

The most important issue concerning menstruation is that girls are not prepared sufficiently before their first menstruation cycle. Most females have not spoken about menstruation with their families, leaving young girls in the dark about expectations. As a result, the first occurrence of menstruation is very often confused, accompanied by fear or panic. Instead of having heard beforehand that bleeding could begin suddenly without other symptoms, it would sound like being ill or abnormal and not as part of the natural transition toward womanhood. This unsatisfactory prep work makes the whole issue of menarche seem larger than it is and leaves a legacy that can be carried long into a person's psychological development.

The first response she exhibits at the onset of menstruation was never a transient stimulus which could possibly mark her perception of herself and her understanding of what it meant to be a woman. Hence, if at her first encounter with the phenomenon is induced with some measure of fear, shame, or rejection, it is likely to correlate negatively with her self-confidence and emotional stature. A woman, however, if her transition into this new phase of life were smoothed by support, reassurance, and accurate knowledge, it will likely prove to be less unhealthy. The initial impressions of menstruation therefore end up carrying tremendous weight in determining how a girl relates to her own body, then her self-image, and finally her place in society as she matures.

Silence regarding menstruation-in many parts of India yet-a continued challenge. It is still considered taboo by many communities to speak aloud about menstruation. This silence chokes healthy debate and starves the young girls of the required knowledge and counsel. Most myths and misconceptions live due to the absence of a debate, denying both young girls and even

adult women proper information. Stigma and taboo thus get transferred from generation to generation in a cycle of secrecy, misunderstanding, and harmful practices.

In the end, menstruation is natural biological fact and should be open to knowledge and support. In most cases, however, cultural taboos and social restrictions allied with lack of education have a way of pouring up an atmosphere of shame and fear. Breaking the vicious cycle would require much more than right education for girls before menarche; it will require a cultural change in which open discussion about menstruation is normalized as part of women's health and development (Rokade R, Nawaz 2016 Jun 30).

Although it is quite common in adolescent girls, menstrual irregularity tends to be poorly dealt with as a health issue in developing countries like Bangladesh. Furthermore, this major health problem adversely affects adolescents at greater levels of mental well-being. Interestingly, there can be a two-way relationship between a woman's mental health and menstrual irregularity.

Awareness of adolescents regarding menstrual hygiene

Results of monitoring demonstrated that women who were more enlightened about menstrual hygiene and safe practices had less chance of suffering from RTIs and their complications. Menstrual hygiene management is a key healthcare issue. According to the United Nations, it was stated that Good menstrual hygiene includes that all women, as well as adolescent girls, must use clean materials for the absorption/collection of menstrual blood, change them in a discreet place as often as required during the period, have access to soap and water for personal hygiene, and have appropriate facilities for the safe disposal of used products (Deshpande et al., 2018).

Proper menstrual hygiene management requires that women and adolescent girls use clean, absorbent materials that can be changed regularly in a private safe place. Access to soap and water for washing hands and body, and to facilities for safe disposal of used sanitary products must also be provided.

Menstrual hygiene management entails equipping adolescent girls and women with the necessary materials to maintain cleanliness, absorbency and change frequently, in private and secure environment. Furthermore, access to soap and water to wash hands and body should exist, along with disposal facilities for used sanitary materials as well (Ameade, Helene Akpenewa 2016).

Research indicates that clean menstrual management materials that adolescent girls can change in private as often as necessary during a period can be used with soap and water washing and disposal or access to facilities for the disposal of used menstrual management materials.

Some study indicates that adolescent girls practice a clean menstrual management material which may involve: absorbing or collecting blood; changing the product in privacy as often as necessary for the duration of the menstruation period; and using soap and water for washing the body as and require access to facilities to dispose of used menstrual management materials (Bulto, 2021).

Multiple studies have reported that much of the adolescent girls have incomplete and erroneous information about menstrual physiology and hygiene. It also indicated that mothers, television, friends, teachers and relatives are the significant sources of information regarding menstruation to adolescent girls. Good practices in hygiene like the use of sanitary pads and adequate washing of the genital area should be maintained during menstruation. These are really essential for women and girls in the reproductive age to prevent health risks in the long run using clean, soft, absorbent sanitary materials. Menstrual hygiene and management bring directly to (SDG)-2 on universal education, SDG-3 on gender equality, and empowerment of women. For women and girls to possess knowledge, facilities, and the cultural environment of managing hygiene in menstruation with dignity, it is the priority. Hardly any studies captured the elaborate features of menstrual practice among adolescent girls; hence, it was justified to investigate menstruation-related knowledge and practices among school-going adolescent girls (Thakre et al., 2011)

Association of nutrition with menstruation:

Adolescence is the very essential state to transition in the phase of physical and psychological human development for every human being. Nutrition as a particular health issue is an important pillar to growth and development during adolescence. Sufficient nutrient and nourishment intake is often necessary for all adolescent girls for health reproduction in later days. Nutritional inadequacies have been among causes for malnutrition, causing a high incidence of diseases in adolescents as well as menstrual disorders. BMI and the body fat composition are key contributors at the onset of menarche. Then inevitable changes that mostly have new physical features, familiar ground, and lack of adjustment have so often made it hard for many girls. A matured girl has many issues related to her menstruation. Such menstrual disorders are: PreMenstrual Syndrome (PMS), Amenorrhea, Dysmenorrhea, Oligomenorrhea,

Polymenorrhea, Menorrhagia. Adolescent girls who have attained the first period possess lesser knowledge on menstrual disorders and insufficient knowledge regarding the importance of nutrition in preventing diseases affecting the reproductive system (Gayathri & Santhosh, 2018).

Menstrual problems are often considered minor health challenges, and hence are waylaid down the public health agenda, for special consideration in developing countries, where these may lead to very serious and even life-threatening damages. Women's health and nutrition are interrelated, thus setting in motion a cyclic effect on various stages of women's lives. Adequate nutrition is, therefore, beneficial for alleviating symptoms while keeping up energy levels for a woman during her periods. On the other hand, a balanced and nutritious diet maintains good menstrual health while combating menstrual and PMS-related issues. Nutrition is an important factor in maintaining menstrual disorders, reducing physical discomfort, assuring emotional health, compensating for nutrient loss during menstruation, and promoting overall well-being (Bajpai M, Anil. 2024).

Indeed, effects of nutrition and an unbalanced lifestyle together with changes in modern living have caused men considerably lower age at menarche linked to higher fatness and nutritional status. An extra body weight is associated with hormonal activity causing the early onset of puberty which can, in turn, lead to disturbances in reproductive and metabolic health later in life. Likewise, poor nutrition with a consequent low haemoglobin level has often been associated with irregular menstrual cycles due to insufficient intake or specific deficiencies over many cycles. Such disturbances are not limited to adolescence but appear in women beginning from adolescence through late adulthood. Iron deficiency anaemia is a very common variant of anaemia, which may lead to fatigue, increased moodiness, and alteration of normal menstrual rhythm. All these changes reflect a complicated interplay between nutrition, body composition, and reproductive health and suggest the way toward a balanced diet and healthy lifestyle for enhancing women's well-being through all the respective age groups (Dars et al., 2014).

1.1 Rationale of the study

Menstruation is a natural part of adolescence, yet many girls in rural and semi-urban areas face challenges due to lack of awareness, cultural taboos, and limited access to healthcare and this issue become more complex where the women have lower autonomy (IIPS & ICF, 2021). Many are unaware of menstruation before menarche and often follow unhygienic practices, increasing the risk of infections and reproductive issues. Poor nutrition, especially iron

deficiency, is common and contributes to menstrual problems. Mental health is another important but often ignored factor affecting how girls manage and experience menstruation. Despite its importance, menstrual health is often overlooked in public health programs. Therefore, this study is needed to understand how menstrual hygiene, nutritional awareness, and mental health are connected, and to help improve education and support for adolescent girls particularly in Haryana.

1.2 Review of literature:

1.2.1 Awareness and Menstrual Health

A study by Ray et. al. indicates that about 42% girls were aware about menstruation prior to attainment of menarche (Ray & Dasgupta, 2012). A premenarche awareness of menstruation has been deemed a core indicator for monitoring worldwide and national progress made toward menstrual health. The proposed indicator was based on the result of an international expert consultation on menstrual health and hygiene monitoring and included in UNICEF's Guidance for Monitoring Menstrual Health and Hygiene (Sommer et al., 2019; UNICEF & UNICEF, 2020). The Joint Monitoring Program of the World Health Organization and United Nations Children's Fund has, in its last report of 2023, marked this as a priority for national monitoring (Organization & Fund, 2021). There have also been suggestions to operationalise it as a global indicator for monitoring adolescent health by GAMA (Global Action on Measurement of Adolescent Health Advisory) Group (Guthold et al., 2019). Limited data are currently available on the respective illness because despite recommendations for the use of the indicator by these groups, it has not enjoyed wide acceptance so far.

1.2.2 Mental Health and menstruation Menarche

It is usually cited as the adolescent life’s most major milestone for girls. Menstruation, in itself a physical, experiential change for girls, usually encompasses a lot more meaning and interpretation among other people. Adolescents have attached a lot of high emotions to their celebrations of menarche, although most of them generally do not show much pleasure at it. A survey showed that nearly one of four girls reported feelings of guilt or shame with the onset of puberty. The guilt, however, is not intrinsic, as it is molded from cultural messages, familial attitudes, and the silence in discussing reproductive health. Internalizing messages about impurity or shame from menstruating girls leads to feeling embarrassed and worthlessness during this entire developing stage. Among most respondents, their very first experience of

menstruation was clouded by feelings of fear, sadness, or embarrassment. Much of this was caused by lack of information or preparation before the experience. Instead of being viewed as a natural biological event, girls usually constructed it as a problem or even an illness within themselves. There weren't really any open discussions within families nor schools about menstruation so it made the whole experience more shocking and confusing. As a result, the first encounter with menstruation turned out to be negative stress memories, not reassuring ones introducing women into womanhood.

Psychological responses upon experiencing menstruation are also notable. A great number of girls revealed that they experienced anxiety, inability to concentrate, irritability, and rewarding low mood, especially on the very first day of menstruation. These changes-understood as emotional and psychological changes-are expected for what menstruation often is: not just an adjustment physically, but also a social event. It is not uncommon to impose on a girl the idea of suddenly having to adapt to restrictions or secrecy or the pressure of managing hygiene discreetly; all these create an emotional burden. Interestingly, a few girls also mentioned exhilaration, reflecting diversity in experiences. Some regarded menstruation as a sign of maturity or entry into womanhood, and recognizing this brought a sense of pride and excitement.

Another shocking finding was that two-thirds of the respondents were actually oblivious to the possibility that menstruation could start at any time. That really shows that about the gap in reproductive health education; a lot of girls believed the menstruation would occur only late in their adolescence and thus were caught off guard when it occurred earlier. That really heightened feelings of fear and confusion since this suddenly-appearing event seemed not only sudden but inexplicable. The knowledge gap is mostly a consequence of insufficient guidance either from parents or teachers, and includes lack of open discussion from health service providers, with society showing an unwillingness to openly discuss puberty.

In general, the data show the deep psychological aspects on how menstruation is understood and introduced. While it is a biological process that should be taken very naturally, most girls become anxious and feel ashamed because they neither receive adequate education about this normal phenomenon nor face the stupidity it has attached to it. Thus, early age-appropriate education about puberty and menstruation should be adopted at school and followed at home in saving schools from these wrong depictions. The normalizing of menstruation as a healthy

life process transforms fear and confusion during the first event into confidence and understanding (Bhalerao et al., 2024).

Menstruation has been known to affect even up to mental health conditions whereby menstrual changes can bring about disturbance in an individual psychological well-being. Menstruation and mental health often go together in which women experience all sorts of mental health woes during this time. These include the most common associated problems: anxiety, depression, overthinking, and eating disorders that are reported with the menstrual cycle. Mental health problems are not restricted to adults; even children can show the early warning signs as to what will come later in life. These disorders can be clinically diagnosed and are usually understood as the outcome of complex interactions of biological, psychological, and social factors. Almost half of all patients with mental health disorders will show the first sign introversion or withdrawal before the age of 14 years. Up to 75% of total cases will be diagnosed before the age of 24 years.

Menstrual, by nature, is how biology has strong men and women. Yet, for the past centuries, it had been surrounded with myths and taboos, which have been held even till today across specific cultures. These cultural myths and prohibitions highly build the characters, attitudes, public emotions, and health of the young adolescent girls. More often than not, it would be these issues that determine what menstruation is, how to speak about it, and even to what extent to manage it regarding families and communities.

In Hindu culture, menstruation is always viewed negatively in the Indian context. Various restrictions in culture are put upon menstruating girls and women. For example, they are often averted from entering temples, conducting any religious rituals, or watering plants. In households, a majority are not allowed into the kitchen or prepare the foods for the household during their cycle. Some other restrictions include food restrictions, and in a few cases, girls are told not to bathe when they have their menses. The nature of these restrictions is different between the urban and rural setting. In cities, the most common prohibition that an adolescent girl would face is in connection to religious ceremonies such as pooja. On the other hand, girls who reside in rural areas are more likely to be prevented from the kitchens and household chores.

Menstrual difficulties are not found in the above cultures only but are prevalent in all cultures as a whole, affecting adolescent girls quite often. There have been various studies to show that menstrual problems are common during any adolescence, and they may be manifested in many

kinds. According to Greydanus and McAnamey (1982), the three most common types of menstrual disorders females have during adolescence include amenorrhea (absence of menstruation), dysmenorrhea (painful periods), and dysfunctional uterine bleeding (erratic bleeding patterns). These not only take a toll on the physical condition but also further aggravate emotional and psychological strain in the lives of such young girls at a very crucial period of their development.

In the end, menstruation can act as a major affecting factor in mental health, especially for adolescents who are pretty much at a vulnerable stage of psychological growth. Further entrenching the issue into its complexity are cultural taboos and forms of restriction, thus shaping the negative attitude and contextual experience around menstruation. Such challenges actually would need more awareness and an integrated approach of biological, psychological, and social dimensions in health (Kochhar & Ghosh, 2022).

1.2.3 Nutritional Awareness and Menstruation

A study revealed a major connection between nutrition, growth, and menstrual health among adolescent girls. Many of the participants showed signs of poor nutritional status. Such being the case, of the total of four hundred and one girls studied, an alarming two hundred and thirty-one girls were said to be anemic. This figures to show the huge incidence of nutritional deficiency problems with considerable repercussions on health and reproductive outcomes in the future. Indeed, low intake of iron and some significant nutrients has a lot to do with the occurrence of anemia that leads to weakening physical capability and has some effect on menstrual wellbeing.

This viewpoint has been studied with several positives. For example, around 84% of respondents maintained regular menstruation cycles. This clearly means that reproductive health parameters of most of them are within normal limits. Similarly, most of the respondents had BMI values within the normal range, meaning they were relatively well balanced in terms of weight with respect to age and height. Another chief positive outcome is that a larger percentage of girls have menarche at or before the age of 16; consistent with normal biological development, this is encouraging. This finding indicates that, though anemia has been shown to be prevalent as a form of nutritional deficiency, most other indicators of menstrual health and physical health remain stable for the larger population of those studied.

However, the data revealed a very significant difference in terms of how regular menstruation was when body weight was considered. The fact remained that overweight girls would be at

higher risk of having irregular menstrual cycles compared to their counterparts of normal BMI. The most popular abnormality recorded among this group was infrequency of cycles (medically referred to as oligomenorrhea). This truth was in keeping with prior evidence that excess body weight causes hormonal imbalances that could tamper with normal regulation of the menstrual cycle. Overweight status always brings in certain levels of insulin resistance, distribution of fat, and reproductive hormones all of which may contribute to the menstrual disturbances.

Overall, the study leaves a rather complicated picture. On the one side, high prevalence of anemia reflects an urgent need to mitigate nutritional gaps pertaining to adolescent girls specifically in considering dietary iron and overall dietary quality. On the contrary, most girls were likely to be within the range of normal growth and menstrual patterns, reflecting some levels of resilience. Overweight girls indeed seem to encounter somewhat different risks, thus stressing the importance of healthy weight management alongside anemia and malnourishment. Addressing both undernutrition and overweight will have a major impact on the reproductive health and overall well-being of adolescent girls (Saira Dars1, Khashia Sayed2, 2014).

1.2.4 Menstrual Hygiene and Menstruation

The study showed alarming trends regarding menstrual hygiene management among school-going adolescent girls. Results indicated that only about one girl in every three was practicing proper menstrual hygiene. This means that a large majority were employing inadequate methods or completely failing to maintain hygiene practices during their menstruation cycles. Some of the practices are infrequent changing of absorbent materials, unhygienic cloths, limited access to a safe disposal facility, or lack of personal cleanliness measures such as regular bathing and hand washing. The inadequacies point to barriers in terms of both knowledge and accessibility that prevent girls from safely and with dignity managing their menstruation.

A trend similar to this seen in the evaluation of awareness levels was also revealed. Approximately one-third of the participants had good knowledge of the process of menstruation and menstrual hygiene. This means they were able to name relevant biological processes of menstruation, understand the necessity for only clean absorbents, repeat frequency of changing sanitary materials as recommended, and state correct methods of disposal. In contrast, the remaining two-thirds showed deficits in understanding; incomplete or incorrect knowledge regarding menstruation characterized them. Some girls had little information or

correct understanding of the physiological basis of periods, while others relied on myths or cultural beliefs that framed their perceptions and practices.

The knowledge-practice gap is a very strong challenge. Even when some girls are aware, awareness does not reflect directly to good practices due to a lack of resources, social taboos, or restrictions set in households and schools. Some may know the importance of sanitary pads, but can't purchase it, while others are known to dispose of pads in a manner that may not be recognized as there is no access to proper disposal facilities. Furthermore, in families and communities where menstruation is taboo, open discourse is simply frowned upon leading to secrecy, embarrassment, and even poor preparedness among young girls.

In the end, such findings point to the critical need for strengthening menstrual health education and making resources available to support safe practices. School programs, coupled with parents and communities, should ensure that they disseminate right and age-appropriate information before menarche and provide an environment that normalizes menstruation. Bridging the awareness-practice test will not just be a step in the right direction towards protecting physical health among adolescent girls, but it also safeguards their confidence, dignity, and participation in public activities. Such gaps will therefore deny effectiveness in menstrual hygiene, making it a continuous unmet need, inviting associated health risks and reinforcement of gender-based inequalities (Bulto, 2021).

Comprehensive awareness and proper understanding of menstruation often drives adolescent girls to adopt unsafe menstrual hygiene practices. Uninformed girls tend to use unhygienic absorbent materials, leave them out for a long time before changing or throw them away inappropriately. All those practices bring them close to serious health risks, such as becoming infected with reproductive tract infections, urinary tract infections, and skin irritations. Repeated infections may result in eventually causing complications leading to reproductive ill health, and poor hygiene may, in more serious cases, be linked to increased susceptibility to life-threatening conditions such as cervical cancer. Menstrual hygiene is thus a matter of not only daily comfort but also a significant public health concern.

The effects are more than simply health. The direct and indirect implications of poor menstrual hygiene management are educational participation, as well a factor hindering social integration. Many girls, particularly in resource-deprived settings, will make themselves absent from school during their periods because of feeling unprepared or having a fear of embarrassment while others do not have access to sanitary materials, private toilets, or water for washing. These girls usually fall into the school dropout category, with regards to poor performance in academic

education, when they remain absent from class. Most often than not, constant absenteeism due to menstruation finds girls placed into the school dropout mode, thereby limiting their future education and employment opportunities. This cycle locks in the gender inequality and limits the ability of young women to realize their full potential and their contributions to the communities.

The social implications are also serious. Those who cannot manage their menstruation well become victims of stigma and were denied participation in daily activities. Cultural taboos on menstruation make them display burns and render them impure, preventing them from doing household and religious activities. Such practices damage self-esteem as well as create inferiority feelings, besides putting obstacles to a quality life. The combined effects of health risks, educational losses due to absence, and social exclusion elaborate how central menstrual hygiene is to individual well-being and societal development.

Such is the challenge in Ethiopia. Even in a school setting, despite being health and socially recognized, the teenage girls cannot receive adequate messages on menstrual hygiene management. Learning institutions, which are supposed to be newline resource centers for accurate information, deny adolescents comprehensive guidance because of resource limitations, lack of trained teachers, or some cultural sensitivities concerning discussions on menstruation. Unfortunately, many girls end up remaining uninformed or misinformed, thus perpetuating unsafe practices. To address this gap, there is a need to incorporate menstrual health education into the curricula of schools, expand access to affordable sanitary materials, and create supportive environments that promote the normalization of menstruation as a natural and healthy process.(Belayneh & Mekuriaw, 2019).

Chapter 2: Data and Methods

2.1 Background:

Menstruation is the natural biological phenomenon which heralds the beginning of reproductive maturity in a girl and usually occurs in the early part of life between puberty and adolescence. The periodic shedding of the inner lining of the uterus lasts for 2-7 days and is an essential part of physical as well as emotional maturity in girls. However, it is ironic that universally common phenomena like these remain insufficiently understood in many parts of the world today, especially in rural and semi-urban areas in India. Various studies show that many teenage girls are ignorant about menstruation before their first experience, which leaves them confused, scared, and predisposed to bad practices of managing their first menstruation. All these perspectives on menstruation are largely dictated by culture, norms, traditions, and taboos. In India, menstruation is considered an impure phenomenon, and consequently, a girl is restricted-from participating in any religious activities, cooking food, and having social involvement during the menstrual days.

These cultural barriers aggravate an already pathetic educational setup and poor access to health services, leading to what is really unsafe menstrual hygiene practice-increased risk for reproductive tract infections (RTIs) and other health problems. In rural and semi-urban areas like Haryana, girls face specific challenges: lower autonomy, no sanitary facilities, and lack of information. Menstruation is still a taboo subject, leading to a nest of false beliefs acting as an impediment to practicing safe measures.

The link between menstrual health and both mental and physical well-being is intricate. Dysmenorrhea, or painful menstruation, is common among young girls and can interfere significantly with their quality of life. Severe menstrual pain, along with other symptoms, can cause absenteeism from school and interfere with academic performance and socializing or extracurricular activities. The emotional perturbations accompanying menstruation—irritability, sadness, anxiety, and lowered self-esteem-are further aggravated by socially restrictive cultural practices. The experience of menstruating can, for some, devastate self-image and confidence, compounding with gendered disadvantage from the outset.

Another important aspect by which menstrual health is influenced is nutrition. Proper nutrition stabilizes hormones, reduces menstrual pain, and prevents deficiencies such as iron-deficiency anaemia, which is very common in adolescent girls in India. Anaemic conditions lead to

fatigue, weakness, and further menstrual irregularities. Bad dietary habits, mostly moulded by cultural beliefs and restrictions during menstruation, might even worsen symptoms. For instance, there is a widespread tendency to avoid certain foods-like sour or cold stuff-during menstruation, even if there is no medical basis. Balanced nutrition, especially adequate iron, calcium, and vitamins, is important in keeping energy levels up, maintaining regular cycles, and supporting reproductive health.

Although menstrual hygiene makes up the basis for nutritional knowledge and mental wellness, hardly any emphasis is placed on menstrual health in the sphere of public health. Very few comprehensive approaches incorporate these facets, especially focused on adolescent girls within the state of Haryana.

The objective of this study is to bridge this gap by assessing menstrual hygiene practices, nutrition knowledge, and psychological health of adolescent girls in the age group 10-19 years residing in Palwal district of Haryana. The extent of knowledge, attitudes, and practices regarding these aspects along with the cross-cutting context influencing them will be examined for discovering existing gaps and proposing appropriate interventions. On the whole, the findings will help formulate strategies for hygienic practices with healthy diets as well as mental health support to enhance the well-being and empowerment of adolescent girls in the region.

2.2 Research Question:

1. What is the concept of menstruation among adolescent girls in the study region?
2. What is the meaning of menstrual hygiene among adolescent girls in selected study region?
3. How nutrition and awareness play an important role on menstrual health among adolescent girls in the study region?
4. What is the association between menstrual health and mental health in selected study region?

2.3 Aims and Objectives:

Broadly the objective of the study is to understand menstrual hygiene practices, nutritional awareness, and mental health affect adolescent are associated.

i. To understand the concept of menstruation among adolescent in selected study region of Haryana, India.

ii. To understand the meaning of menstrual hygiene among adolescent in selected study region of Haryana, India.

iii. To study the role of nutrition and awareness on menstrual health among adolescent in selected study region of Haryana, India.

iv. To study the association of the menstrual health and mental health in selected study region of Haryana, India.

2.5 Methodology:

The study collected the data from female respondent aged 10-19 years from purposively selected district of Palwal, Haryana, India. This is a cross-sectional study.

Simple random sampling was done with around 100 number of sample size (using convenience approach).

Data collection was conducted in the Palwal district of Haryana with formal permission from the concerned school authorities and the informed consent of the families of the respondents. The ethical considerations included a voluntary nature of participation, and that respondents were comfortable with the process. The study area was deliberately selected, given the multiple challenges faced by adolescent girls with regard to menstruation in rural and semi-urban Haryana. These challenges emanate mostly from ignorance, deep-seated cultural taboos, restricted access to healthcare, and limited autonomy for young women in their households and communities. Such an ambience offered a rich opportunity to investigate the interplay of these barriers hindering the realization of menstrual hygiene practices, nutritional awareness, and mental health amongst adolescent girls.

Prior to data collection, every potential participant and their guardian were given an account of the study. In a simple and easily comprehensible manner, the aims and objectives as well as the probable outcome of the study were discussed so that the respondents and their families could make an informed decision on participating. A consent form was given to the prospective

participant that assured confidentiality and voluntary participation and highlighted that no harm would arise from participating in the study. The procedure would build trust and further encourage openness among the participants since menstruation is a sensitive and often stigmatized issue in the eyes of the community.

Study variables were developed so that the socio-demographic profile of respondents, as well as their menstrual health experiences, were comprehensively studied. This included some basic identifiers like the district name, block/sub-district/tehsil, and village/ward/town, making the research site and context-specific to account for geographic variations. Information was collected regarding caste and religion of the respondents to understand how social and cultural structures affect the practices of menstruation. Likewise, the educational and marital status of the respondents was documented, for these influence awareness, autonomy, and attitudes about menstrual health.

In addition, data were collected regarding the educational qualification and occupation of both parents, as parental background is likely to affect adolescents access to resources, awareness, and support regarding menstruation. Yet another parameter noted concerned the place of residence (rural or urban), so that infrastructural and social impacts on menstrual health practices could be analyzed. Biological information including the respondent's age and age at menarche provides insight into early experiences and preparedness regarding menstruation.

Household characteristics were another important aspect of the data obtained. Information was gathered regarding the total number of family members and a gender-wise categorization of male and female members of the family. This lent insight into understanding the household environment, the level of privacy available to the adolescent girl, and possible support systems or restrictions faced by her during menstruation.

With this broad range of variables, the study ensured capturing not merely the individual experiences of menstruation but also the wider socio-cultural and economic milieu within which those experiences occurred. The study, in this multidimensional approach, was able to highlight how the confluence of family background, education, culture, and living standards impact menstrual hygiene, nutrition, and mental health among adolescent girls in Palwal district, Haryana.

Chapter 3: Mental Health and Menstruation among adolescent in Haryana

3.1 Background:

Mental health is integral to the individual's wellness, influencing how we see ourselves, our feelings, and how we interact with the outside world. A person's mental health affects everything from relationships and work performance to stress tolerance and choice-making. There are multiple factors that impact mental health, including but not limited to genetics, environment, and experiences. However, biological mechanisms act as another important player in mental health. One such biological process that is often neglected in any discussion on mental wellness is the menstrual cycle.

For many birthing persons, the monthly cycle manifests with more than just physical symptoms; emotional and psychological signs can also weigh heavily on some. Hormonal fluctuations during the menstrual cycle can produce mental health symptoms ranging from mood swings to irritability, anxiety, fatigue, and even depression. These emotional disturbances are especially prominent days leading to menstruation, oftentimes termed premenstrual syndrome (PMS), or in more severe cases, premenstrual dysphoric disorder (PMDD).

The mental burden during menstruation is not simply biological; it also has cultural and social components that may influence various individual experiences and means of coping with their menstrual cycle. Menstruation is still encircled by stigma in silence in many parts of the world. Cultural beliefs and taboos trace menstruation as "unclean" or shameful and, therefore, find restrictions on day's social participation. It may result in feelings of humiliation, apart from isolating or misunderstanding, especially among young girls and women who are learning how to cope with their reproductive health.

Those societies that do not openly discuss menstruation often compel individuals to suppress what they feel or deny themselves any help for emotional suffering relating to their unpleasant cycle. This also worsens the impact on mental health since people have to wrestle through the intensities of their emotions behind closed doors. The heavy emotional load can accumulate all through one's life without helpful support and understanding and affect esteem with personal relationships, including the general quality of life.

Recognizing the impact of menstruation on women's mental health is important, as it opens the door to more compassionate healthcare, education, and inclusiveness-a greater society where people can feel safe in discussing their experiences. Balancing the physical and emotional

aspects of menstruation may lower stigma, promote understanding, and create avenues by which mental well-being prioritization may not occur only on cycle days but, rather, over a lifetime.

3.2 Tool:

1.	How are you doing?
2.	Are you currently menstruating, at what age your menstruation started? **Probe around:** Current menstrual status, age at menstruation.
3.	How comfortable do you feel discussing this to other people? **Probe Around:** Mother, family female member, other unrelated family member, male members
4.	Who supported you during the initial phase of your first menstruation? **Probe around:** Lack of knowledge/awareness, Supportive family members, friends.
5.	What is the meaning of menstruation according to you? **Probe around:** Misconception, Myth, Cultural belief, Knowledge, Accurate knowledge,
6.	How does the pain during menstruation affect your daily chores? **Probe around:** Absence in school/college, daily activities.
7.	How does menstruation affect manage your day-to-day activities in terms of mental health? **Probe around:** Irritation, loneliness, disturbance, mood swings, anxiety.
8.	Have you ever experienced any restrictions from your family during your menstruation due to social myth? **Probe around:** Do not go outside home, diet restrictions or beliefs, entry in kitchen/ temples etc,
9.	How do you cope up with stress and change in behaviour during menstruation? **Probe around:** Stress relieving activities.
10.	How do you feel about yourself during your menstrual cycle, and does it affect your self-image or confidence? **Probe around:** Demotivation, regret of being a girl, low confidence, emotional instability.

11.	How do you maintain your sense of motivation and purpose during your menstrual cycle? **Probe around:** Activities performed to cope with stress (for example: dance, listening to music, books reading, singing)
12.	Can you please tell me do you experience negative self-talk or lowered self-worth during your menstruation? **Probe around:** feeling left out while at home or with friends, distracted from your goal of life.

3.3 Results:

3.3.1Data:

The study had collected the data on mental health and menstruation from adolescent girls aged 10-19 years from Palwal of Haryana, India. The data on mental health was collected under following questions.

Study population:

Figure 1: Percentage distribution of adolescent by caste in Study population of Haryana, India

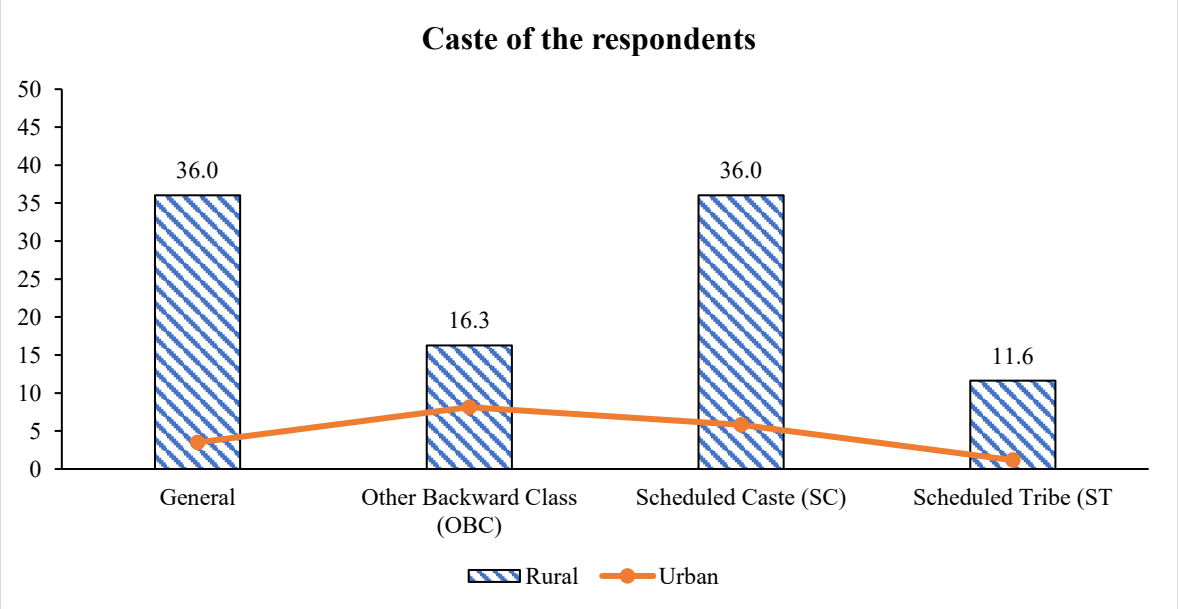


Figure 2: Percentage distribution of adolescent by age in study population of Haryana, India

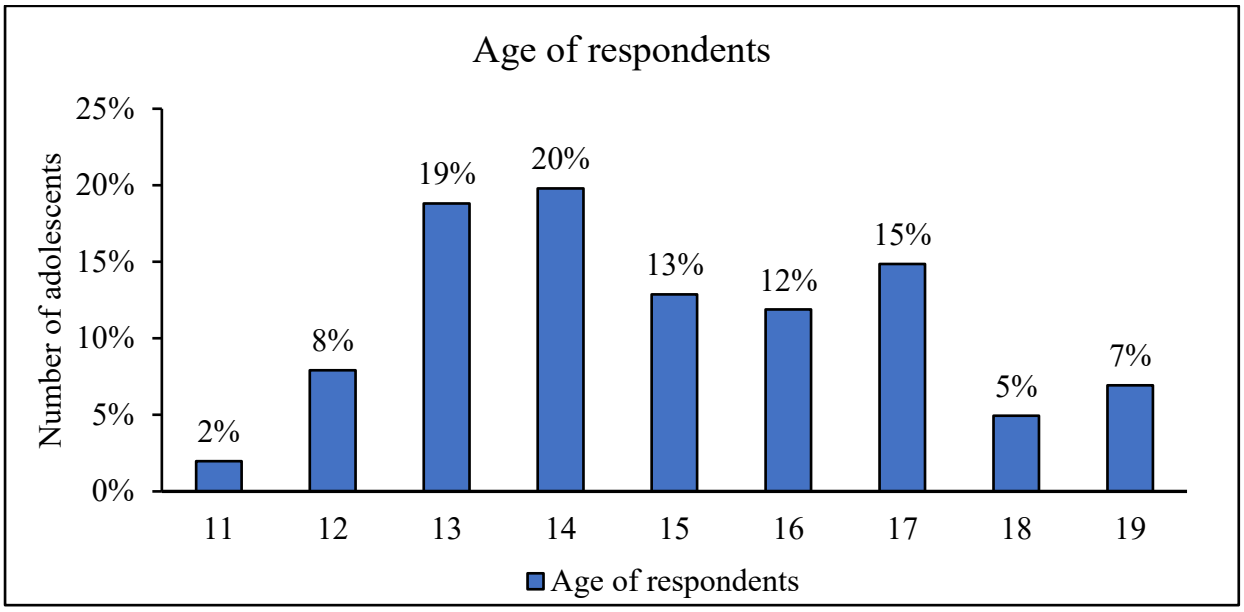
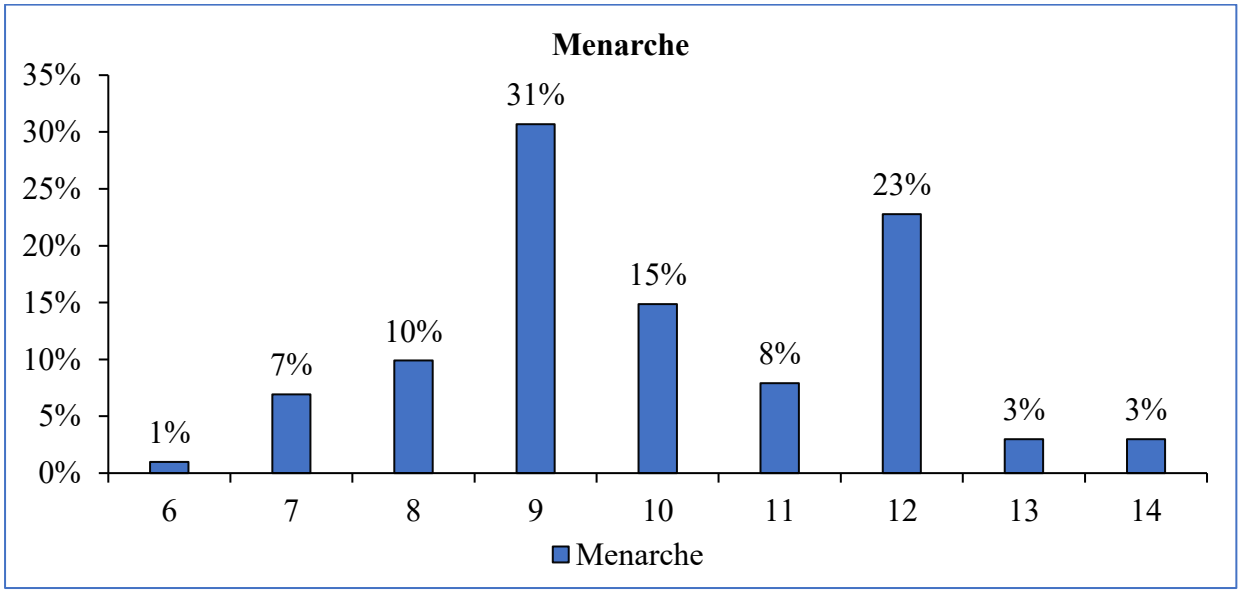


Figure 3: Percentage of adolescent with currently menstruating in study population of Haryana, India



The interview with the adolescent girls indicates that the mental health is also found related to menstruation. The mental health and menstruation were categorized under several themes as follows:

1. ***Emotional and Psychological Impact***

   Most of the participants reported feelings of irritation, anger, or sadness during menstruation, with some reporting feelings of low self-worth or, in some cases, dirty or

ashamed. Some respondents very specifically stated that they try to convince themselves that the pain is normal and that they just have to put up with it.

"It helps me manage it with the understanding that it is a natural course, and I need to keep working. Menstruation also brings to my mental agony- increased irritability, sadness, and frustration. Severe pain affects me both physically and mentally".

Like one of the respondents when asked about how to maintain the calmness when irritation happen due to menstruation. The respondent said that:

"Acha jaise date aati hai na to hum aise sochte hain ki matlab main positive rahun, mann mein acche vichar rahe aur kisi bhi buri cheez ka asar na ho mere mann par, Yoga karte hain. Yoga karti hoon".

- A few respondents really would like to be born men, just to avoid the burdensome feeling and the accompanying discomfort of menstruation.
- Common symptoms of erratic behavior or mood disturbance, some specifically saying their mental state was not quite up to par during those days.
- Coped with all those on a lot of things, including dancing, listening to music, and watching films in response to feeling bad.
- Resting and concentrating on the nutrition side of things were also included as ways of coping with discomfort and maintaining mental well-being.

2. ***Nutritional Beliefs***
    - A firm belief was held on the importance of nutrition during the menstrual period. Many respondents would avoid some foods, especially sour and cold items, because it was believed that these could aggravate menstrual symptoms.
    - Respondents reported that, during their periods, they would lose their appetite, whereas other respondents had cravings for certain foods such as chocolate.
3. ***Social and Cultural Restrictions***

    Restrictions were common during menstruation. Some respondents declared that they were not allowed to take part in religious activities, including going to church services or entering the house of worship. Apart from these religious restrictions, very common were diet restrictions. The girls would be cautioned or forced into avoiding certain foods-sour or cold things-which were believed to harm the health of menstruation. These kinds of restrictions continued to derive from cultural traditions and are not justified on medical grounds but shaped the behavior of girls during menstruation.

They would often find themselves guilt-tripped into feelings of isolation. Alongside these were the attachments attached to the exclusion of certain activities, whether religious, social, or dietary-creating a sense of separation from family and community life. Most of the respondents clearly expressed that this kind of prohibition causes anger, feelings of resentment, or even frustration, as they were neither involved in many events nor sharing, enjoying the meal among others. This exacerbated feelings of betrayal, resulting in emotional trauma whereby menstruation became a painful process, both physically and psychologically and in the social aspects.

4. ***Menstrual Hygiene***

- A majority of the respondents regarded menstrual hygiene as important, stressing the need to stay clean through their periods. Most of them mentioned that they practiced frequent changing of sanitary pads through the day to feel comfortable, avoid getting wet, and lower their chances of developing an odor. Some respondents stressed personal hygiene such as bathing, washing hands, and wearing clean clothes, as part of their upkeep during the period. These practices prove that hygiene is essential not only for physical well-being but also for psychological comfort and confidence.
- Some respondents, however, were thought to have an inadequate understanding about the probable health risks that poor menstrual hygiene could pose to them. A few were oblivious to the fact that infrequent changing of pads, use of unclean absorbent materials, or improper disposal of used products might predispose them to infections like urinary tract infections (UTIs), reproductive tract infections (RTIs), or skin irritations. This indicates that while hygiene seems to be generally appreciated, specific awareness about the medical sequelae of neglecting menstrual hygiene is still limited in some adolescent girl's subgroups.

3.4 Conclusion:

Menstrual Health and Its Interlinked Dimensions: Emotional, Nutritional, and Social Perspectives. Menstruation is a natural way whereby most people express their humanity - it is common to almost half of the universe at some stage in life. This subject: having so much to do and affecting our daily lives, still remains within the walls of myths and silence, with inadequate awareness. While almost everything that has to do with menstruation and physical symptoms-cyclic cramps, fatigue, or hormonal fluctuations- suffices to generate quite a lot of

discourse, there is increasing recognition of a complicated web of consideration of factors emotional, nutritional, and social, which collectively define the menstrual well-being of women and adolescent girls. These intersections are, in turn, the main determinants of the comfort level during menstruation, but also of long-term well-being, mental health and quality of life.

Emotional Dimensions of Menstrual Health: One of the major consequences of menstruation is the emotional turmoil that comes with it. A large number of individuals report mood swings, irritability, sadness, anxiety, or episodes of low self-esteem around menopause. These experiences are hormonal changes linked with raising and lowering the levels of estrogen and progesterone. However, it should be mentioned that emotional balance during periods is not related to hormonal balance only. Mood disturbances are likely to be stronger in women under stress, particularly those who lack social support, or in an environment where menstruation is stigmatized. Feelings of embarrassment, shame, or the constant effort to conceal menstruation can lead to psychological discomfort. Physical symptoms such as abdominal cramps, backache, or even fatigue provide space for mental strain, creating an interaction where the former worsens emotional upset.

Premenstrual syndrome (PMS): even more severe premenstrual dysphoric disorder (PMDD) is further evidence of how emotional and mental well-being during menstruation are tightly intertwined. These conditions can have severe effects on everyday functioning, personal relationships, and productivity. However, emotional disturbances that occur during menstruation are trivialized and, in many cases, suppressed in many communities, which thus adds to the burden of mental health. Therefore, holistic health care calls for recognizing and addressing the emotional dimension of menstruation.

Nutritional Influences on Menstrual and Mental Health: Nutrition is another critical phenomenon in shaping the experiences of menstruation and the related mental health aspects. The food consumed determines the physical and psychological symptoms. For instance, fruits, vegetables, whole grains, and iron-containing foods maintain energy levels and reduce fatigue, while excessive intake of processed foods refined sugar, or caffeine may worsen irritability, bloating, or even affect mood.

Iron deficiency anemia is relevant to the discussion because it is most common to find it among menstruating women whose blood gets lost. Anemia is mostly characterized by constant fatigue, low concentration, or sometimes depression-another more absolute sense of mental well-being.

Cultural and family-imposed restrictions concerning foods during the period add another snarl. Some communities discourage the consumption of certain “hot” as well as “cold” foods during

menses. Such generalizations, especially if not scientifically backed, are likely to lead to poor nutrition and worsen menstrual suffering. Contrary to that, beneficial practices involve consuming enough fluids, meals rich in iron, and shunning foods that cause discomfort: these are enough for improving not only physical symptoms but stabilizing emotions.

Thus, nutrition comes about as a very critical factor: it can either endorse or jeopardize mental health within that period depending on whether a habit is healthy or prohibitive.

Social and Cultural Influences: Menstruation is so much deeply embedded in both culture and the social makeup of a people. Menstruation is perceived, discussed and managed at home and in the communities, thus defining an individual's experience and, hence, the corresponding mental health. Cultural taboos and stigma generally portray menstruation as impure or shameful and lead secrecy and silence around this subject.

Fear, confusion, and embarrassment mark the first encounter for many girls with menstruation: they are unprepared or unacquainted with knowledge about what menstruation is. Myths and misconceptions are perpetuated by the lack of open discussions, leading to a poor understanding of menstrual hygiene and increased anxiety levels. Social restrictions such as prohibiting women from entering kitchens, temples, or participating in community events further reinforce exclusion and inferiority.

In many cases, restrictions imposed by the family go beyond social participation into dietary and behavioral controls that can worsen physical and mental health. For example, when young girls are told to stay inside, not to play, or are prevented from moving about much, they feel isolated and suffer stigma during menstruation. All of these practices result in a negative self-image and lack of confidence, which eventually contribute to the internalization of menstrual shame.

On the positive side, families and communities that support open discussion and normalization of menstruation create an environment that is conducive to psychosocial wellbeing. Menstruation tends to be understood within the biological process; thus, it reduces anxiety and builds confidence and coping mechanisms in girls and women.

Chapter 4: Nutrition and menstrual health among adolescents in Haryana

4.1 Background:

Nutrition is fundamental in sustaining the health and well-being of adolescents, particularly during menstruation, which is usually considered a significant period in their development. Adolescents require more nutrition during this period for the purpose of growth, hormonal balance, and mental equilibrium as they transition through puberty and begin experiencing physiological as well as emotional changes.

Menstruation represents a crossing of biology into the realms of a remarkably decisive time in the life of an adolescent becoming an adult. The symptoms often associated disrupt life for many: abdominal cramps, bloating, fatigue, headaches; all colours of emotional turmoil in mood swings or irritability. What many don't seem to appreciate is just how much food can help or hinder the severity and frequented occurrence of these symptoms.

A balanced diet during that period is not just about eating it right-eating the right nutrients that have to function optimally in the body. For example, you are very much likely to lose significant amounts of iron because blood loss during menstruation can really affect the iron reserves in the body and at worst lead into fatigue or even iron-deficiency anaemia at best. Foods that are rich in iron like leafy greens, legumes, red meat, and fortified cereals will benefit such condition by replenishing iron reserves and boosting energy levels.

The factor of calcium and magnesium includes the fact that these two minerals are responsible for muscle relaxation and nerve function to relieve cramps and tension during this period. Other than that, vitamin B6 and omega-3 fatty acids may help balance emotions and alleviate PMS symptoms by supporting healthy brains and healthy hormones. Staying hydrated and cutting down on salt, sugar, and processed foods will make a noticeable difference in the overall feeling during the period.

Nutrition plays an important role to the emotional health of women after many physical symptoms. Hormonal fluctuations can also act upon different neurotransmitters in the brain and affect moods and stress levels. A diet rich in whole grains, lean protein, fresh fruits, and vegetables gives a body sustained energy and blood sugar stabilization, thus contributing to emotional resilience.

By providing adolescents with nutrition education during menstruation, they are empowered to take charge of their health. Such informed choices and understanding of body functions would help dismantle significant patchy areas of shame or confusion around menstruation. Unfortunately, myths persist regarding food consumption during this period, such as some

foods are harmful or that changes in appetite are a guilt-related concern. Tackling such misconceptions in an open and supportive environment would allow adolescents to be empowered, without feelings of loss.

For the purpose of creating a healthy lifestyle, early encouragement for good eating habits will nurture an environment for wellness. When adolescents are provided with correct knowledge and access to healthful foods, they will feel stronger, more confident, and more resilient as they move through their experience of menstruation and adolescence. Parents, teachers, health professionals, and peers should work together to create an environment in which menstruation is treated as a natural part of life, an experience that should not be hidden or endured quietly.

In so doing, by teaching the importance of nutrition in regard to menstruation, we advance not only the physical well-being but also the emotional and social empowerment of young people at such a pivotal point in their lives.

4.2 Data:

The study had collected the data on Nutrition and menstruation from adolescent girls aged 10-19 years from Palwal of Haryana, India. The data on mental health was collected under following questions.

4.2.1 Tool:

1.	Can you tell me how the nutrition is associated with the menstruation? **Probe around:** Need of diet, balance diet, nutrition.
2.	what you avoid eating during your menstrual phase? **Probe around:** Dietary habits.
3.	Can you please tell me the effect of food on menstruation in terms of cool and warm? **Probe around:** Type of food in terms of cool or warm, avoid or consume?
4.	Can you please tell me about association of food and menstrual cramps in addition with length of your menstrual cycle? **Probe around:** Nature of food, severity of cramps.
5.	How does menstruation affect your food choices? **Probe around:** Favourite food, less hunger.
6.	Do you feel loss of appetite? If yes, then how you complete your daily nutritional requirements?

	Probe around: Balanced meal, change in food during those days.
7.	What are your food cravings during menstrual phase? **Probe around:** Craving of unhealthy food (for example: *pizza, soft drinks etc*).
8.	Can you tell me about the impact of wrong food choices on your menstruation? **Probe around:** What is wrong food choice, Chances of stomach infection.
9.	Can you tell me about the pre- menstrual syndrome (PMS)? **Probe around:** Symptoms, day before the onset of menstruation.
10.	Can you tell me about your preparedness based on PMS for those days (menstrual days)? **Probe around:** change in diet, exercise, yoga, avoiding unnecessary discussion, stay alone etc.
11.	Can you discuss on what are the foods to consume to ease menstrual pain? **Probe around:** Painkillers, home remedies.
12.	How does your body react towards your menstruation? **Probe around:** Weakness, chances of infection, change in diet.

4.3 Results:

1. **General Attitudes Towards Nutrition**:

    - Many of the respondents indicated that nutrition during menstruation is very important for relieving symptoms and maintaining energy levels. Interviewees often associated good nutrition with lessening pain and ensuring regular cycles.
    - There is generally an agreement that some foods can either alleviate or aggravate menstrual symptoms, although the particulars vary for each individual.

2. **Food Preferences and Restrictions**:

    - A significant number of respondents avoid sour and cold foods during periods, as they believe they contribute to cramps and delays in menstruation. Such sour foods include curds, pickles, and citrous fruits.

- Several respondents favored warm foods during their periods, for example, soups, warm milk, and cooked vegetables, for they believed such warm foods aided menstrual flow and alleviated discomfort.
- Desire: Some respondents confess their cravings for some specific foods that include comfort foods like fried items, sweets, and some traditional dishes but feel restricted to eat them due to family advises.

3. **Eating Habits During Menstruation**:

The result suggest that menstruation and nutrition have correlation, although exploring the traditional beliefs and personal experiences surrounding food habits during menstruation in study population of Haryana, India.

The respondents were found aware of foods to avoid during the menstruation and mention that foods which are reason for contrasting hot and cold during the period should be avoided. they mentioned about "Thanda-garam" (contrasting hot and cold foods).

"Thanda-garam nahi khana chahiye jab date aati hai. Agar main baat karun ki jo dard hota hai na aapko jo khana hai uska sambandh hai dard se"

Study also reports the common cultural practice and respondents were found avoiding combining foods with opposing thermal properties. The specific foods like kadhi (yogurt-based curry), raita (yogurt dip), and sometimes even rice (chawal) were mentioned as foods that are often restricted or avoided during this time.

"Jaise koi favorite khana hai, kha pa rahe ho, ya kuch aisa jo pasand nahi hai par ghar wale keh dete hain khane ke liye. uss time par prabhav padta hai khane par, Kadhi khati hu, par mana karte hain ki nahi khani hai"

When questioning the Connection to Pain, they mentioned that whether these dietary restrictions have any real connection to menstrual pain (like backache or leg pain) or if they affect the menstrual cycle itself. The findings from the study seems to be that there might not be a direct, proven link but have external influence on diet. The result highlights that food choices during periods are often influenced by family and household rules ("ghar wale keh dete hain"), rather than personal preference or scientific evidence. This can lead to eating foods one doesn't like or being denied favorite foods.

The result also suggests appetite changes influence by cultural and social ideology. When a question asked about whether appetite ("bhookh") is affected during menstruation, indicating an awareness of the fluctuating hunger levels that many people experience during the menstrual period.

In essence, the interview clearly indicates that there my be a conflict between traditional cultural practices and a modern desire for evidence-based understanding of how diet truly affects menstruation.

Therefore, the association between menstruation and nutrition clearly shows that despite the menstruation is a natural process that causes various physical changes, and nutrition plays a crucial role in managing symptoms and maintaining energy levels, to compensate for blood loss and prevent fatigue and anemia, knowledge and educated adolescent report that it's important to consume iron-rich foods like leafy green vegetables (spinach, kale), lentils, beans, tofu, and lean red meat.

Result also indicate that adolescent foods also report association between bloating and cramps. They report to consume the nuts, seeds, dark chocolate, and bananas during this period which are rich source of magnesium. it helps reduce water retention and ease cramps.

Similarly, some of them report to consume the fatty fish (salmon), walnuts, and chia seeds to compensate the loss on omega-3 Fatty Acids which help in maintain anti-inflammatory lessening period pain.

On the other hand, adolescent report about belief of Thanda and Garam. The cultural beliefs around "hot" and "cold" foods are prevalent, modern nutritional science focuses on replenishing lost nutrients and eating to manage specific symptoms like cramping and fatigue. Listening to your body's needs and maintaining a balanced, nutrient-dense diet is the most beneficial approach.

- Decreased appetite: Respondents report having a lost appetite during the periods, which means that it is either light servings of food or none at all during the cycles.
- Hydration: Common practice, among respondents, is sipping warm liquid like herbal teas or warm milk to stay hydrated and relieve cramping.

4. **Hygiene Practices**:

- The respondents stress the acts of bathing regularly and changing pads frequently during menstruation for hygiene so as to prevent infection.
- Most understand the consequences that poor hygiene may invoke: infections and discomfort, thereby committing themselves to the notion of cleanliness during this period.

5. **Emotional and Psychological Aspects**:

- Some respondents report feeling sad, irritable, or frustrated during menstruation, which may affect motivation and daily activities.
- The emotional impact of menstruation is often coupled with food choices, with some believing that good food choices can aid with an improved mood.

4.4 Conclusion:

Nutrition is a subject that is closely linked to menstrual health, and menstruation is a naturally occurring biological phenomenon, yet often surrounded by myths, taboos, and cultural restrictions which much interfere with practices on food and nutrition during menstruation. Ideas, very particular to what should or should not be eaten, influence food and nutritional practices during menstruation, but lived experiences of adolescent females indicate that such traditional dictates do not necessarily govern their actual dietary choices. Their personal experience, physical comfort, and individual preference almost always weigh more than family advice and restrictions put on them. This reality emphasizes the most important change from family and community beliefs to a focus on direct encounters with discomfort and pain in individual decision-making about menstruation practices. Change is happening: Indeed, this is one of the most important shifts. Decision making by adolescents when it comes to menstruation is, however, usually done by experiences regarding direct encounters with discomfort, pain, and what foods or practices seem to give them relief. The adolescent period can be recognized as an important phase in growth and development with higher nutritional needs than that of childhood due to unique and rapid physical, hormonal, and psychological transformations taking place in the body. Menstrual health is closely related to this developmental stage, and therefore, food choices have a significant impact on how young girls undergo their menstrual experience. This can lead to both increased discomfort in menstrual symptoms such as cramping, lethargy, and irritability, as well as lack of general improvement in these symptoms through a proper balanced diet that is high in essential nutrients. Thus,

studying the interrelationship between nutrition and menstrual health will yield valuable insights into both physical and mental wellness.

In spite of these widespread taboos and cultural restraints, most adolescent girls now prefer to rely on their personal experience regarding whatever constitutes acceptable eating during menstruation. For instance, many believe that one should not eat cold foods, sour items, or even dairy products; however, several girls reported that they consume these items without any noticeable problems. Generation advice often does not matter as much as the immediate experience. Some women have also noted that some of these foods resulted in discomfort, such as feeling bloated or aggravated that cramping was made worse, and as a result had created their unique “do’s and don’ts” on their body responses. Thus, individual agency plays an important role in the diet lives of women. Instead of only learning or practicing blindly inherited limitations, teenagers experiment and adjust based on what brings them comfort or discomfort. A different line running through the questionnaire responses from adolescents is that of a balanced diet during menses. They hold that eating a healthy diet will keep an individual buoyant in combating heavy fatigue and alleviating the severity of the symptoms of menstruation. Symptoms from these minerals aid in minimizing menstrual discomfort: Iron, calcium, and magnesium, included in a balanced diet of whole grains, fruits, and vegetables along with proteins with enough amounts of hydration that give essential vitamins and minerals such as iron, calcium, magnesium, and vitamin b complex-all play a role in minimizing menstrual discomfort. For example, the use of foods rich in iron-both green leafy vegetables and legumes-as well as fortified cereals is considered particularly critical, as menstrual bleeding can contribute significantly to iron deficiency and anemia if not adequately managed. Likewise, the foods rich in calcium and magnesium have a beneficial effect in relaxing muscles, hence relieving cramps. Yet another common practice is the consumption of warm and nutrient-rich meals. Describing how warm foods-soups, porridge, herbal teas, or freshly prepared home-cooked dishes-describe how they are comforting and tend to reduce cramps, abdominal pain, and bloating. This preference for warm foods is partly results of cultural values but also physiological since warmth can stimulate muscle relaxation and circulation. Herbal teas, ginger, and turmeric-based preparations have become so popular since they are believed to bear anti-inflammatory characteristics. But they would not help reduce discomfort but would give psychological comfort too, since they make one feel being cared for and soothing one's self in a difficult day or two during menstruation. Good hygiene in the period was also an aspect inseparable from well-being and comfort.

Nutrition alone could not cope with menstruation without hygienic practices being followed. The importance of clean absorbent materials, changing them very often, washing hands and the body well, and making it as private as possible, was emphasized by adolescent females. Hygiene considered together with correct nutrition constitutes not only the health of someone's physical body but psychological confidence during menstruation as well. For many girls, hygiene is as much a point of concern as what they eat: both determine, together, their comfort and ability to go about their daily lives, such as attending school, doing sports, or socializing. The interrelatedness of nutrition, hygiene, and menstrual health speaks to the fact that education and awareness are crucial. However, most adolescents know very little about the types of nutrients needed during menstruation. They know the general idea of eating healthy during this time, but they may not fully understand which nutrients are most needed or why certain food groups are particularly beneficial during this time. Often, culture discourages the consumption of foods classified as “important” for nutrition, such as milk or citrus fruits. In these cases, health education becomes necessary to debunk myths holding adolescent girls back from making informed choices. Such knowledge opens adolescent’s doors to controlling their menstrual health well since it educates them on the merits of iron, vitamins, hydration, and balanced meals. Added to that, social influences do exert themselves in a delicate but powerful way.

Chapter 5: Menstrual hygiene and Menstruation among adolescents in Haryana

5.1 Background:

A situation when menstruation is not hygienically kept is a situation where the health and dignity of menstruators are kept subordinate to other concerns. Hence, menstrual management goes well beyond the management of the menstrual flow. It includes aspects of health upkeep: preventing infections and maintaining comfort during what could otherwise be a challenging physical and emotional experience.

Management of the menstruation cycle can directly affect physical conditions as well as mental, emotional, and even social well-being.

Access to clean and safe menstrual products, such as sanitary pads, tampons, menstrual cups, or reusable cloth pads; hygienic disposal, such as changing used sanitary pad products in hygienically safe locations, in privacy, with clean water and soap for washing the body and hands, is what menstrual hygiene is all about. Also, for the washing of reusable items and the disposal of used items, there are facilities. Those who are deprived of the basic necessities risk infections, skin irritations, etc., and their reproductive health.

Yet menstruation is so much more than hygienic care; it is imbued with feelings of self-worth, dignity, and confidence. When menstruators are not in a position to take care of their periods comfortably and discreetly, the consequence is an avalanche of shame and anxiety that prevents them from leading a normal life that includes schooling, working, or attending social functions. In many cases, especially for young persons living in underprivileged settings or communities with strong taboos against menstruation, scarce resources for menstrual products could mean missing school, reduced academic performances, and ever-increasing feelings of shame and isolation.

Cultural attitudes and the myths about menstruation greatly hinder the cause. In some cultures, menstruating persons are restricted or feel "unclean", further burdening the stigma and hindering civilized discussions. Such silence discourages people from making inquiries, seeking assistance, or even learning how to care for themselves during their periods.

Meaningfully addressing menstrual hygiene entails a holistic approach-not just providing safe products and facilities but also creating an environment for awareness and education. Schools, families, health practitioners, and community leaders must work together to eradicate harmful taboos and promote menstruation as an unexceptional, yet normal, healthy part of human life.

At the core, menstrual hygiene issues are about ensuring equality, education, and human rights. An environment where people enjoy freedom, knowledge, and resources is one where an individual meets their menstruation with dignity and self-assurance, free from fear, shame, or awkwardness. A conscious effort toward menstrual health will bolster the building of an all-encompassing and healthier world for all.

5.2 Data:

The study had collected the data on Menstrual hygiene and menstruation from adolescent girls aged 10-19 years from Palwal of Haryana, India. The data on mental health was collected under following questions.

5.2.1 Tool:

1.	Can you tell me according to you ***"what is menstrual hygiene"?*** **Probe around:** Hygiene maintenance, etc.
2.	How do you maintain your personal hygiene during menstruation? **Probe around:** Daily bath, wear clean clothes.
3.	Can you tell me about use of napkins on daily basis during your menstrual phase? **Probe around:** No. of sanitary napkins used in general.
4.	Can you please tell me about the blood flow of your menstruation? **Probe around:** Less, medium, heavy in term of changing the napkins (frequency).
5.	Along with napkins do you have prior knowledge of other products? What are those? **Probe around:** Tampons, menstrual cup, period panties.
6.	How does menstrual hygiene affect your body? **Probe around:** Causes infection or healthy menstruation.
7.	Can you please discuss about the colour of the blood as an outcome of menstrual period? **Probe around:** Colour could be red, dark brown, bright red.
8.	Do you ever have any infection due to menstrual hygiene? **Probe around:** Type of infection.
9.	Can you please tell me what are your comfortable hygiene products? **Probe around:** products that is used to maintain personal body hygiene.
10.	Do you have prior knowledge of infection caused by sanitary napkins?

	Probe around: Intimate infection effect on quality off menstrual blood.
11.	Can you please tell me about menstrual pain? **Probe Around:** Pain [in terms of scale [0-10]

5.3 Results:

The result clearly indicate that menstruation and Hygiene Practices have some association. The result based on interview from adolescents on menstrual health and hygiene practices are categorized in sub-heading as below:

1. Personal Hygiene Routines:

The findings highlight personal habits, awareness, and beliefs regarding hygiene management during menstruation. A common practice mentioned is avoiding bathing during the menstrual period. The individual explicitly states they do not bathe on these days. when asking about changing clothes, despite avoiding baths, there is a strong emphasis on changing underwear (clothes) daily for the duration of the period to maintain cleanliness, other than hand hygiene. The importance of keeping hands clean is mentioned by several adolescents, implying it's a practiced habit when handling sanitary products.

A respondent said that *"I mean hum teen bar nahate hain, aur apne kapde change karte hain. Agar nahaate nahi hain, jitne din lagte hain utna kapde change karte hain."*

2. Use of Sanitary Products:

The adolescents were emphasizing the product type. The primary product used is the sanitary pad ("pad neeche lagate hain"). On daily usage, the adolescent reports using approximately three pads per day from morning to night. When asked about other products available in the market (like menstrual cups or tampons), the interviews with adolescents states they have no knowledge about them.

Respondent said that:

"market mein aur bhi cheezein aayi hain neeche lagane ke liye".

3. Menstrual Flow:

The flow pattern described has changed over time. It was very heavy *("bahut zyada")* in the past but is now generally normal, with occasional instances of heavier flow.

The adolescent on flow during menstruation said that:

"Pehle to zyada ho jata tha lekin beech mein kam aata hai… Pehle zyada aata tha par ab normal hai".

4. Perceived Importance of Hygiene:

The adolescent highlighted the good hygiene practices also. They opine that maintaining cleanliness ensures periods pass smoothly *("theek se challenge")*. A strong belief exists that poor hygiene leads to physical discomfort *("ajeeb sa mehsoos hoga")*, a significantly increased risk of infection, and other complications that can worsen (Poor Hygiene).

Therefore, based on the result on hygiene and menstrual health are associated and can be discussed under below mentioned sub-headings.

1. **Importance of Menstrual Hygiene**:
    - When proper hygiene is maintained during menstruation, no infections, skin irritations, or other problems with health arise. It adds to the comfort and confidence individuals have during their periods. "I believe hygiene prevents infections; poor hygiene can lead to infections", said one respondent.
    - Proper hygiene practices prevent reproductive health cases and cultivate an upbeat attitude toward menstruation since this has been stigmatized across multi-cultures.
2. **Hygiene Practices**:
    - Regular Changing of Products: Change your menstrual products whether pads, tampons, or menstrual cups at intervals to avoid leakage and minimize the risks of infection. "I change my pad three times a day; I have a morning one, an afternoon one, and an evening one", one responded.
    - Washing and Cleaning: Respondents are encouraged to wash their hands after using period products. Regular baths clean the body, and they ensure they feel comfortable. One respondent said, "I maintain hygiene by bathing daily, wearing clean clothes and eating good food".
    - Disposal of Products: Used products should be disposed of properly to maintain hygiene as well as to prevent pollution. Many users have said that disposal must be available in public toilets.
3. **Education and Awareness**:
    - When respondent was asked about other products available in the market (like menstrual cups or tampons), They said they have no **knowledge** about them.

They stated hume nhi pata konse products hain. Hume bas pads k bare m pata h."

- Menstrual hygiene education is important to bust all myths and misconceptions about menstruation. Enhanced awareness would enable people to take control of their menstrual health and hygiene. As one of the respondents put it, "I think menstrual hygiene is important for the prevention of infections, irritations, and disturbances of the mood."
- Schools and communities are essential in providing information and resources on menstrual hygiene to create feminine-friendly environments.

4. **Cultural Considerations**:
    - Cultural beliefs and practices can affect menstruation hygiene management. Thus, a proper understanding of the cultural context will eventually aid the formulation of effective educational programs and other interventions.
    - Adolescent highlighted the good hygiene practices also. They opine that maintaining cleanliness ensures periods pass smoothly ("Periods theek se challenge"). A strong belief exists that poor hygiene leads to physical discomfort ("ajeeb sa mehsoos hoga"), a significantly increased risk of infection, and other complications that can worsen (Poor Hygiene).

Therefore, study indicates that a mix of traditional practices (like avoiding baths) and essential hygiene habits (like changing clothes and clean hands) affect the overall menstrual health among adolescent in study population of Haryana, India. It also indicates a gap in awareness about the full range of modern menstrual products available, highlighting an area for potential education. The underlying understanding is that strict hygiene is crucial to prevent infection and manage menstruation comfortably.

5.3 Conclusion:

Different communities have unique ways of looking at menstruation, an impure occurrence. Some institutions would not allow a girl linked with her monthly acknowledgment'" to access education, while others would shun her from religious or cultural ceremonies. Some communities strictly forbid menstruating women from engaging in certain foods while other communities approve of feeding the same women with others believed to breach the discomforts. The dichotomy in these cultural practices in the broader social-identity context increases the women's shame, discrimination, and misinformation. Respect defines dialogue with communities amid modern informed needs. Programs operationalizing community

leaders, parents, and teachers will allow for the disbandment of myths without offending cultures.

Institutional, together with policy truthfulness, is indispensable, particularly when it gets down to menstrual matters. It is a serious economic constraint to sanitary goods with those women living in poverty. Subsequently, this may cause them to find alternatives. The government may part with a solution by offering equal pay, subsidies, or lifecycle free distribution through schools or the health scheme of the concerned area. Schools should be protectors of safety; they must prioritize being partners in this highly lucrative niche through safe and secure schools for this purpose. The situation today needs to change.

Menstrual practices certainly have much more to do than health conditions. It literally affects the educational sector and social aspects, thereby stripping a learner from social acceptation. The safer a girl is able to manage her menstrual practices at school, the less school she would, therefore, less likely leave, thus keeping a good portion of capacity-building. Again, being confident about menstruation makes them play football and other sports to be involved in cultural functions-a reason for the sheer empowerment and a vibrant life-situation without restrictions. For women in professional life, institutional priming not only makes room for them to remain productive while preserving their sense of dignity, but also significantly helps curb stress and absenteeism.

Almost equally important were the environmental implications of menstrual management. Hundreds of tons of disposal pads and tampons are connected to the environment, getting piled up as part of this baby business. This automatically leads to promoting menstrual cups, cloth pads, or biodegradable sanitary napkins, which can observably serve sustainability without compromising hygiene. Consequently, education should play a crucial role in safe cleaning and its reuse for these products to be deemed fairly productive and acceptable. The debate on menstrual health is both an existential juggling game impacting individual health into ecological responsibility.

Keeping silence over menstruation is synonymous with discrimination against women and, al-l-the-while appropriate to the code of the wall. Such an education can tear down the stigma concerning menstruation, allow women to live their true selves, and create spaces that are conducive for their prosperity. When viewed as an element of human dignity, menstrual wellbeing will certainly empower women to occupy positions in decision-making, education, and employment.

Taken together, menstrual hygiene acquires from many folds inherent in itself but well reflects wellness not only across the body but in spirit, too. Practice has to be changed accordingly of

safe practices, gender-sensitized consciousness, and inculcated cultures. This way, the acceptability of one of the experiences of femininity which had earlier been overshadowed by anger, silence, and emergency could return "saturated with health for the whole being'", brief as it is, into her dignity and high spirits. Providing access to education, resources and supportive cultures will make menstruation a matter that can no longer be whispered out of shame but respected alongside other healthy parts of living. The strength that lies in menstrual hygiene is basically that this effort not only works as a safety measure with changing attitudes but also addresses even broader

Chapter-6: Conclusion

The research indicates the reality of menstrual health among the adolescent girls in Palwal Haryana-women's household practices of hygiene, knowledge of nutrition, and mental well-being closely interlinked. The research has concluded, with the understanding that menstrual health is a composite rather than stand-alone outcome of its biological, psychological, nutritional, and socio-cultural determinants. Indeed, the research shows that while menstruation is a common biological experience to all adolescent girls in the world, the understanding, practice, and management of menstruation are deeply influenced by the surrounding environment. This conclusion is significant because it asserts that menstrual health cannot simply be meaningfully improved through the distribution of sanitary products; it certainly requires an integrated approach that brings together awareness, access, nutrition, and psychosocial support.

A considerable group of respondents stated that they did not have much, if any, awareness prior to their first period about menstruation. Such a lack of knowledge made the first experience scary, confusing, and at times traumatic. The first experience of menstruation is etched in the minds of girls and determines their attitudes toward their bodies, their self-confidence, and ways of managing reproductive health later in life, i.e., entering this stage of life with fear and embarrassment rather than acceptance and understanding help manufacture negative perceptions long into the future. Accordingly, this study concludes that early and accurate education about menstruation is vital, not only for its physical management but also for the purpose of developing a positive self-image among adolescent girls.

Another important conclusion was discovery of inadequate menstrual hygiene practices. Many of the girls in the region studied did not regularly get safe, cheap, and hygienic menstrual products. Some depend on cloth, often reused without proper washing, while others changed sanitary materials less often than inspected because they were not aware or didn't have access. Such practices expose girls to reproductive tract infections, urinary tract infections, and skin irritations that could develop into more serious health conditions if not handled. The hygienic management of menstruation is therefore not just comfort; it is health right and dignity. The study supports that improved access to menstrual hygiene management should not only be regarded as a public health priority but also be incorporated into adolescent health programs.

Nutrition was yet another crucial faith shaping menstrual health. The study uncovered the popular misconceptions regarding food intake during periods. Many respondents avoided sour or cold foods: curd and citrus fruits, for instance, and those in other vegetables because cultures

believe they worsened pains during menstrual periods or delayed cycles. Nonetheless, those restrictions not substantiated on scientific grounds deny girls very vital nutrients at time when nutritional needs were particularly high. High prevalence of iron deficiency and anemia were found, and several participants reported feeling fatigued, weak, or had irregular cycles. Meanwhile, those who took balanced diets containing iron, calcium, and proteins had fewer symptoms and exhibited resilience overall. This study, therefore, concludes that nutritional awareness and dietary interventions are vital for maintaining menstrual health and subsequently decreasing associated morbidities. Addressing both undernutrition and overweight concerns is necessary, as both extremes have implications for menstrual irregularities.

The psychosocial definition of menstruation was yet another very significant conclusion from this research study. Many of the respondents reported feeling dejected, showing irritable behavior, mood swings, and even hating themselves during the course of menstruation. These heightened feelings were worsened by the silence and stigma that surrounded menstruation in families and communities, leaving many of the girls unaware or unsympathetic to their reactions. Several participants narrated instances in which they were not allowed to enter temples, kitchens, or participate in household and social activities during their menstruation period. Such restrictions reinforced ideas of impurity and exclusion, impairing their sense of self-worth and belonging. The study thus infers that menstruation is not a mere biological event but rather a socially constructed experience with grave implications for mental health. Addressing these psychological strains involves providing emotional support to these women, creating open forums for discussion, and normalizing menstruation as a healthy part of life.

A study presents itself, detailing a holistic but interconnected view of menstrual hygiene, nutrition, and mental well-being. None of these dimensions can be addressed in isolation, as each one influences and reinforces the other. Poor hygiene begets infection, which visits the body with even greater mental health effects; poor nutrition worsens fatigue and moods; stigma and seclusion aggravate both practice hygiene levels and their intakes. Hence, such conclusion speaks of a call for holistic, multi-sectoral interventions that improve awareness while breaking culturally marginal taboos for accessing sanitary products, balanced nutrition, and supporting mental well-being.

Finally, it's the study conclusion that empowering adolescent girls to manage their menstruation involves health, dignity, education, and gender equality. Menstrual problems were repeatedly mentioned as one of the reasons to stay away from school or lessen attendance to daily activities. When girls are adequately provided with information, resources, and supportive environments, attendance, performance, and confidence improve to a greater extent. Even

greater impact can be yielded in future opportunities, education, and career, and thus can be translated into high gender equality development.

6.1 Discussion:

The results of the study strongly correlate with a substantial amount of literature, which indicates that the lack of knowledge related to menstruation, coupled with restrictive and harmful cultural practices, could adversely affect the health and well-being of adolescent girls. Menstruation, being a natural biological process, can nonetheless be misperceived and misrepresented in several communities. Such misrepresentation weakens the understanding of menstruation and pushes girls to undertake practices that they unnecessarily assume would be beneficial for their health but, more often than not, are contrary to this interest through imposing even more strains on them, physically and emotionally. Awareness regarding hygienic practices of some respondents was at least somewhat reasonable-i.e. cleanliness, the choice of sanitary materials used, and regular changing of pads-while they also upheld traditional cultural beliefs that had no scientific support. Indeed, many girls continued to avoid certain types of food, particularly sour or cold items, because of their belief that such food would interfere with menstrual health. Such practices, well engrained in culture and passed down through generations and communities, were perceived by many as being safe or valuable, yet lacked any real medical or nutritional rationale.

Perhaps one of the pivotal findings of the study was the recognition that mental health had been historically neglected in existing definitions of menstrual health. According to the women who responded to the questions, irritability, moodiness, sadness, anxiety, and mood swings often accompanied their menstrual experience. Many girls, because of these moods, observed that they would withdraw from the normal company of their peers and choose to keep to themselves during their menstrual periods, mainly due to an inbuilt feeling of emotional vulnerability along with the fear of being judged wrongly by others. That small number who did express some confidence volunteered the opinion that some much-needed emotional support would come from family, friends, or teachers. Sadly, on this occasion, the absence of any kind of open discussion on menstruation meant that girls experienced the time alone, without any assurances that they would be supported, or the validation that what they were feeling was real. Notably, the prospect of being unable to discuss their problems made the girls feel more isolated and strengthened the feeling that menstruation was some kind of taboo that must be muzzled rather than seen as a perfectly natural event they could dignify.

It further established that menstruation taboos continue to wield a powerful influence in molding girls' experience. On cultural prohibitions, and social restrain, open discussions were not possible, thus forging a cycle of secrecy and half-truths. Girls were frequently discouraged from discussing even menstruation in the family context, leading their silence to result in obstructions to healthy information and coping strategies. The resulting culture of silence enhanced stigma as well as the girls' feelings of embarrassment and low self-regard. The veil cast around the subject of menstruation also inhibited a basic skill that could have nurtured a greater level of confidence, thereby supported psychological resilience and enhanced quality of life for girls.

Taken together, these implications indicate that menstrual health cannot hope for improvement through a narrowly conceived program that, for instance, entails only the distribution of sanitary materials. Access to products and facilities, while crucial, will not begin to scratch the surface of more fundamental issues underlying the practice. The study's findings have laid emphasis on the necessity for multipartite approach in program design for menstrual health, maximizing the chances for each of four components to have an impact: provision of hygienic products and facilities, disseminating scientific knowledge so as to counter fake beliefs and misconceptions, and creating a socially supportive environment in which menstruation is openly discussed without stigma. Equally important would be the psychosocial and emotional aspect of menstrual health so that girls require not only information and knowledge but the emotional support and reassurance due to them.

At the end of the day, observable trends in this study indicate the urgent need for a comprehensive menstrual health platform. Such interventions would give confidence to adolescent girls in health management during their menstruation, dignity, security in both their physical and emotional health by addressing hygiene, nutrition, mental well-being, and social stigma together.

6.2 Limitations of the study:

- The research has been limited to a single district involving a relatively small number of samples, which may limit the extent to which the results from this study can be generalized to other regions.
- The study could not have the longitudinal follow-up to assess changes over time due to the restrictions in time and resources.

6.3 Challenges faced:

There were many difficulties in collecting data. Some interviewees may have been reluctant to share their experiences with menstruation on account of personal cultural stigma. Permission from parents or institutions delayed the process. There were also few private spaces for interviews, which caused discomfort to some participants. The different educational levels of respondents required adjusting interview techniques so that they could understand well. Also, talking about mental health issues generally is difficult to many people, as most participants indicated that they do not have the language or exposure to articulate the emotional experiences clearly.

6.4 Way forward:

A multi-pronged approach will be required to promote menstrual health for adolescents in Haryana. Comprehensive menstrual education dealing with hygiene, nutrition, and mental health awareness and actively debunking negative myths should be integrated into school curricula. Community programs involving parents, teachers, and local leaders can create a more supportive environment and reduce stigma so necessary for adolescent girls. Access to affordable, safe menstrual products must also be ensured, along with building private, hygienic facilities in schools and public areas. Nutrition education should highlight iron-rich foods and other healthy lifestyle aspects relevant to adolescents. Finally, mental health support for adolescents should be provided through the participatory approach of peer groups, counseling centers, or open dialogue incorporated into the reproductive health programs. These integrated interventions will empower adolescent girls to confidently manage their menstruation, enhance health outcomes, and ultimately not only ensure gender equity.

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