A STUDY OF MENSTRUAL PRACTICES, CUSTOMS AND INTERVENTIONS FOR ADOLESCENT GIRLS IN GOA

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DECLARATION

I, Kajal Paresh Rivankar hereby declare that this thesis represents work which has been carried out by me and that it has not been submitted, either in part or full, to any other University or Institution for the award of any research degree.

Place: Taleigao Plateau.

Date: 17-01-2022 **Kajal Paresh Rivankar**

CERTIFICATE

I hereby certify that the above Declaration of the candidate, Kajal Paresh Rivankar is true and the work was carried out under my supervision.

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ABSTRACT

1. Background of the Study

Menstruation is a normal phenomenon in the lives of girls and women worldwide. The onset of menses, also called menarche, occurs during adolescence and is accompanied by predominant physiological and psychological changes (Belayneh & Mekuriaw, 2019). Adolescence is a critical phase in one's life and the development of individual potential, as it is a phase characterized by rapid brain development (Blakemore SJ, Mill KL, 2014). In addition, it is a period when one's social environment plays a crucial role in the individual's overall development. At this time, girls become exposed to various new environments such as schools, new friends, and social realities, and these have an impressionable role on the adolescent as she prepares for this new phase (Belayney & Mekuriaw, 2019; Patton G.C. et al., 2016).

World Health Organisation (WHO) defines adolescence as between 10-19 years (WHO, 2011). India is a diverse country with the world's largest adolescent population of around 253 million, and every fifth person is between 10 to 19 years (UNICEF, 2020). It is a home of 120 million adolescent girls who do not share the same menstrual experience. Substantial variations exist between states, villages, cities, and between the rich and poor.

There has been much literature published in recent years around the subject of adolescent sexual initiation patterns, physical and psychological development as well as the changing behavior patterns among adolescents (Armour et al., 2020; Brown et al., 2020; Min et al., 2020; Riley et al., 2020). These studies also highlight the linkages between individual, social, sexual networks, family, peers, and institutional restrictions on the development of adolescents. In addition, adolescent concerns like obesity, HIV/AIDS,

substance abuse, mental health, internet addiction disorder, menstrual cycle research are some of the areas which are studied (Schulenberg, J et al., 2001; D Hansen, 2014; Kuss D. et al., 2013; Maureen E. Lyon et al., 2018; Bobel C et al., 2020).

While menstruation is a normal biological function, it has been an important area of research for anthropologists and feminist studies because of its social, cultural, political, and economic implications. Socio-cultural taboos, awareness, practices, amenorrhea, dysmenorrhea, poverty, menstrual experiences of disabled women and transgender are areas of research that are primarily focused (Agampodi, T. C., & Agampodi, S. B. 2018; Ahmad, S., Singh, J., & Dwivedi, A. 2019; Behera, D., Sivakami, M., & Behera, M. R. 2015; Hennegan, J. et al. 2020).

2. Menstruation and Adolescent Girls

2.1. Menstrual health and hygiene and adolescent girls

Most of the studies regarding the menstrual experience of adolescent girls have been conducted in schools and have a focus on menstrual health and hygiene (Armour et al., 2020; Belayneh & Mekuriaw, 2019; Bhusal, 2020; Hennegan et al., 2020; Sharma et al., 2020; Yaliwal et al., 2020).

A study based on 60 peer review articles and over 30 interviews with experts and practitioners in menstrual health suggested that Uttar Pradesh and Bihar had low standards of menstrual hygiene as compared to other parts of the country (McCammon et al., 2020). The author (ibid.2020) found that about 71% of the adolescent girls did not know about menstruation, with 70% thinking the process to be dirty and 40–45% following unsafe and unhygienic practices.

Studies have argued for; a) the need to integrate the promotion of hygienic menstrual practice into the health care system, b) comprehensive efforts to implement policies to improve menstrual awareness and safe and hygienic practices (Bhusal, 2020; Kaur et al., 2018; Min et al., 2020).

Van Eijk et al. (2016) argues that only 50% of the girls had knowledge about menstruation before menarche and that the use of commercial pads was more common in the urban than the rural population. The same study discussed the restrictions, especially regarding religious activities faced by menstruating women (ibid. 2016).

2.2. Socio-Cultural Menstrual practices and Adolescent Girls

Discriminatory socio-cultural practices around menstruation also exist. In the Achham district of Nepal, for example, the practice of seclusion of a menstruating woman, known as *Chhaupadi*is practiced where she is made to stay in a small shed or place away from the house and restricted from taking a bath for 5-7 days (Thapa et al., 2019).

In Gambia, Africa, menstruation is considered a period of impurity. Therefore, several restrictions are imposed such as prohibition from entering the mosque, touching or reciting the Quran, and compulsory fasting during Ramdan (Shah et al., 2019).

Santina et al. (2013) found in a cross-sectional survey in Sidon and its suburbs conducted among 389 post-menarchal adolescent girls (13-19 years) that most practiced restrictions during menstruation based on socio-cultural beliefs. These restrictions included; a) prohibition from the removal of unwanted hair, b) forced dietary regimens, c) prevention from walking barefoot, d) restriction from touching plants, and c) attendance at social gatherings was forbidden (ibid.2013).

Agyekum (2002) discusses several discriminatory practices around menstruation in various communities such as; a) Judaism that terms a menstruating woman as *'niddah'* and prohibits sexual intercourse and all activities until she has taken a purification bath, b) the *Amaxhosa* community of South Africa that practices *intonjane,* which includes seclusion for eight days followed by a function with rituals and animal sacrifice before she is ready for marriage and *inkciyo* which is a physical examination to determine her virginity, c) In Nigeria, Tanzania and Ghana where women were not allowed to cook, attend social gatherings or various other activities, menstruation could be spoken about only in euphemisms, and menstrual blood and sexual intercourse were considered to be harmful to men (Mohammed & Larsen-Reindorf, 2020).

Kaur et al. (2018) discuss how the availability of sanitary pads does not ensure their proper utilization and disposal, especially among communities that continue to follow discriminatory practices around menstruation.

There are certain practices in India where the menarche or first period of a woman is a celebration, but some deep-seated cultural taboos exist. For example, Kaur et al. (2018) discuss regions in India where; a) menstrual fluid is used for black magic and witchcraft, b) the burial of bloodied menstrual clothes is considered a taboo, and women are expected to wash bloodied clothes only at night, c) women are not allowed to wash their hair as it is believed to impede blood flow. Garg et al. (2001) discuss menstrual taboos practised in Delhi, such as avoidance of sexual intercourse and prohibition from entry into the kitchen, while Banerjee (2019) argues that the current taboos and practices around menstruation include; a) denial of entry to the prayer room and kitchen, b) the burial of clothes used during menstruation to ward off evil spirits, c) myth that exercises during periods aggravate

dysmenorrhoea and d) believing that when a menstruating woman touches a cow, it can become infertile.

3. Gaps in Research

Most of the studies on socio-cultural practices around menstruation have been critiques of social practices or health and hygiene. While some have been descriptive accounts of community cultural practices, others have been gendered analyses of social relations. However, there is little work on an analysis of adolescent needs together with an analysis of state and civil society interventions. Furthermore, very little research has been done on menstruation that focuses on the dimension of policy. This study may be viewed as a case study of a seemingly advanced state in terms of several Human Development indices, namely Goa, and is an attempt to understand the menstrual needs of adolescents and the points at which state intervention is possible. Studies on menstruation in Goa have mainly been focused on menstrual hygiene management or reproductive health (Patel, Sheena, et al., 2019; Cacodcar et al., 2016). Socio-cultural practices, taboos, and myths in Goa are not yet researched.

4. Significance of the Study

Despite adolescence being such a crucial phase in the development of an individual, it is largely overlooked by policy and health interventions. The neglect of adolescent health and well-being has resulted in minimal investments in programming, human resources, and technical capacity compared with other age groups. Consequently, there are significant gaps in

our understanding of adolescent health needs, the evidence base for action, civil society structures for advocacy, and the systems for inter-sectoral action (Patton G.C et al., 2016).

Goa ranks 3rd in the Niti Aayog's Sustainable Development Goals (SDGs) India Index 2020-2021. There are about 17 goals: health, education, gender, economic growth, and environment (Govt of Goa, 2020). However, despite being ahead in various developmental indicators, there is a prevalence of menstrual taboos and cultural practices that negatively impact adolescent girls' health.

This study is located in the State of Goa, where the adolescent population (between 10-19 years) constitutes 15.4% of the total population (Census 2011). Studies on menstruation in Goa have mainly focused on menstrual hygiene management or reproductive health (Patel, Sheena, et al., 2019; Cacodcar et al., 2016).

This study has attempted to analyze social and cultural practices related to menstruation from the standpoint of the female adolescent population of Goa and critically reviews the existing government and civil society initiatives for adolescents. Adolescents in India continue to have unmet healthcare needs, and one of the reasons might be the silence around menstruation and its associated issues. This doctoral thesis titled 'A Study of Menstrual Practices, Customs, and Interventions for Adolescent Girls in Goa' attempts to document and analyze how adolescent girls experience menarche, the social practices and customs related to menstruation in Goa. Oral narratives of adolescent respondents about experiences with menarche and menstruation are collected and analyzed.

5. Aim of the Study

This study aims to document and analyze how interventions and adolescent girls experience menarche, the social practices and customs related to menstruation and to understand its implications for women's positioning within society. In addition, menstrual hygiene management, their basic understanding of menstruation, sex, and pubertal changes are analyzed in the thesis to understand adolescent health needs and the developmental interventions required.

6. Objectives of the Study

- To understand and evaluate the sources of information through which adolescent girls learn about human reproduction and bodily changes, especially around menstruation.
- To study the religious and social restrictions, customs, and beliefs imposed on adolescent girls and the social practices during menarche and menstruation.
- To critically evaluate the state and civil society interventions for adolescent girls.

7. Research Questions

To meet the objectives of this research, this study tried to address the following research questions:

- To understand and evaluate the sources of information through which adolescent girls receive knowledge about human reproduction and bodily changes, especially menstruation.
  - What is the basic understanding of menstruation, sex, and pubertal growth among adolescent girls?
  - What are the sources of knowledge about menstruation, sex education, and pubertal changes?
  - What are the menarche experiences of adolescent girls?
- To study the religious and social restrictions, customs and beliefs imposed and practised during menarche and menstruation on adolescent girls

- What are the religion-related and cultural practices around menstruation followed in Goa?
- What are the social exclusion practices followed in Goa?
- What are the myths around menstruation prevalent among adolescents in Goa?
- What are the local terms used to refer to menstruation in Goa?

- To evaluate state and civil society interventions for adolescent girls.
  - What are the different types of services offered to adolescent girls by government bodies in Goa?
  - What individuals and non-government organizations carry out programs and interventions in Goa?

8. Methods and Tools of Research

This study has used a combination of both qualitative and quantitative research methods. Due to the topic's sensitive nature, namely, menstruation around which there has been much silence among the adolescent population in Goa, qualitative data was collected through in-depth interviews. In addition, it was felt that if the respondents were college students, a cross-section of both urban and rural populations would be included.

Two colleges were selected for this study through purposive sampling, considering the ease of access for the researcher. Permission was sought from the respective College Principals to interview students. The researcher was permitted to interview those students who would visit the girl's common room. A total of 158 students were interviewed for this study. The sample of respondents was chosen based on the availability sampling method.

During the data collection, due to the Covid-19 pandemic, this researcher had to improvise on the data collection, and some of the data were then collected online using a google form. This may be viewed as a limitation, but alternate data collection methods had to be explored to complete the study to cope with the pandemic. The 158 respondents were selected from: a) Dyanprassarak Mandal's College and Research Centre, Mapusa, Bardez Taluka, North Goa, and b) Sai Nursing and Paramedic Institute, Sankhalim, Bicholim taluka, North Goa.

Dynanprassarak Mandal's (DM's) College and Research Centre offer Bachelor in Science, Bachelor in Arts, Bachelor in Commerce, Bachelor in Business Administration and Bachelor in Computer Application Programmes and Sai Nursing and Paramedic Institute offers Diploma in X-ray technology, Diploma in Medical Laboratory Technology and Diploma in Auxiliary Nursing Midwife. Seventy-five in-depth interviews in DM's College, Mapusa, and 83 adolescent students from Sai Nursing school, Sankhali, responded to the online google forms. The data were analyzed using SPSS and MS Excel.

The responses collected from the adolescents are both qualitative as well as quantitative. Qualitative data was chosen to explore the knowledge, perceptions, beliefs, and practices around menstruation and other bodily changes.

Qualitative data was also collected from various government departments and NGOs through key persons, field visits, and telephonic interviews. In addition, the websites, annual reports, citizens' charter, pamphlets were accessed to understand the schemes and interventions.

9. Organisation of the Chapters

This thesis titled 'A Study of Menstrual Practices, Customs, and Interventions for Adolescent Girls in Goa' consists of six Chapters. Below is a summary of each of the Chapters.

Chapter One: The 'Why' and 'How' in the study of Menstrual Health of Adolescent Girls: This Chapter is divided into three sections:

Section one includes Introduction, Menstruation: A Health Concern, Menstrual Health, Adolescents and Adolescents in Goa: Demographic Overview, Background and Scope of the Study, Significance of the Study, and Operational definition of concepts.

Section Two includes Aim and Objectives of the study, Research Questions, Research Design, Universe of the Study, Selection of the field area for the study, Sampling method, Sampling size and techniques, Data collection method, and tools used for the study.

Section Three discusses the Organization of Chapters and the Limitations of the Study.

Chapter Two: Menstruation and Adolescent Girls: An Overview

This Chapter is based on the literature review and discusses adolescent health and rights. It flows as follows: Introduction, Defining Adolescence, Need to study Adolescence, Adolescent Health and Rights: Current Scenario, Menstrual Health and Adolescent Girls in India, Menstrual Activism and Advocacy, Menstrual Exclusion Practices and Taboos: Global To Local, Menstrual Health and Adolescent Girls in Goa and Conclusion.

Chapter Three: Menstruation, pubertal changes and sex: Learning processes among adolescent girls

Chapter Three based on field data gathered from adolescent girls. The Chapter begins by describing the Socio-demographic profile of the respondents. Among 158 respondents, 43.7% were 18 years old, 31% were 19 years old, and only 25.35% were 17 years of age. 79.1% of respondents belonged to rural areas, and only 20.9% belonged to urban areas. 74.1% of respondents said they learn about menstruation and bodily changes at the age of 11-14 years. The age in which most sample females (46.2%) know about sex belonged to the age group of 13-15 years. Most females (79%) discuss menstruation and related topics with their friends. The primary source of menstruation is parents for most of the respondents, and they received knowledge about biological (41.1%), hygiene (45.6%), and socio-religious restrictions (13.3%). In addition, 93% of respondents said they had attended a menstrual session at their school.

The respondents gave varied responses about their knowledge of menstruation. 20.9% of the respondents had detailed knowledge about menstruation. 50% gave half information such as egg fertilizes; it is related to pregnancy and part of reproductive function. 29.1% gave wrong or no information at all. They said that menstruation purifies the blood, and it cleanses the body. 96.4% of the adolescent girls knew about menopause, while 3.2% were unaware. Those who were unaware felt that women menstruate throughout their life.

Analysis of Language used for menstruation reveals exclusions. Almost half of the study sample says that another name of menstruation is periods. They also provide some local names of menstruation such as monthly cycle (17.1%), *Bhair jala* (7.0%), menses (1.3%), and happy birthday (3.8%). Other terms include *kawlo afudla (*touched by crow) and *bhasthe*

(untouchable). Menstrual Cycle, Menses, *Mhano (month)*, *Bhair jala*, *kawlo afudla (*touched by crow), *bhasthe* (untouchable), *Adchan* (problem), *Haat bhaile* (one who should not be touched by hand), *Basla (sitting separetly)*, *Shock yeta (untouchable, if touched get shocked)*, Happy birthday.

Chapter Four: Menarche experiences, socio-cultural exclusions, nd Menstrual health practices

This Chapter discusses taboos and myths about menarche and menstruation, perception towards menstruation and bodily changes, socio-cultural practices around menarche and menstruation, menarche stories and experiences, menstrual health practices, types of menstrual absorbents used, the discomfort experienced during menstruation, participation in religious and sports events during menstruation and other sources of knowledge. Chapter Four is divided into three sections.

Section One discusses the menarche experiences of adolescent girls. 66.5% of adolescent girls got their periods first, belonging to 12-14 years. It can be seen that the majority of the adolescent girls rate their first menarche experience as bad (39.17%) and reported they were scared (35.83%). 85.35% of women claimed they first approached their parents, primarily mothers, when they got their first menarche. 89.9% of adolescent girls say there were no celebrations at home when they first menstruate. Only 10% of adolescent girls said they had few celebrations during their first menarche. Those celebrations were the preparation of good food, especially sweet dishes (6.3%), and a few religious activities such as Pooja (1.9%) were performed at their side.

Menarche Stories narrated by 158 respondents were all distinct, yet there were some common features. For maintaining real confidentiality names of the respondents are changed.

Aruna experienced her first period during her cousin's wedding, whereas; Siya got during a Pooja at home. Sadhana got the first period during Chaturthi. All three girls felt that experiencing menstruation during a function put them into embarrassment in front of family and relatives. They expressed that they felt they missed out on celebrations.

Swati, Shreya, and Rashmi had no idea about menstruation when they experienced it for the first time. They cried and were very fearful, later were confronted by their mothers. One of the respondents narrated that she was scared that a crow might touch her when she went to the bathroom during menstruation. More such stories are narrated in the thesis.

Section Two discusses the socio-cultural practices and myths, and taboos around menstruation. For example, almost 71.5% of adolescent girls follow religious restrictions during their periods.

Religious restrictions included not worshipping God (6.6%), prohibition to touch any sacred thing and going to any religious place (55.2%), prohibition to enter the kitchen (1.9%), and 14.2% are following total exclusion. In addition, 60.8% believe that menstruation is not bound by religion, whereas 27.8% believe it is bound by religion, whereas 7% of the respondents said they have no idea about it.

Adolescent girls' take on whether they need to pluck flowers during menstruation shows that 58.9% of adolescent girls agree with this myth, and only 20.9% of the adolescent girls don't agree with it. 55.1% of respondents said it's true not to visit any religious place during menstruation as they might contaminate it, whereas 29.7% of the respondents do not agree with the given myth. Almost 53.8% of adolescent girls believe that they should not visit any religious place as God might punish them. More than half of the sample respondents (56.3%) believe that menstruating women should

not prepare pickles as they might spoil them, whereas 23.5% didn't agree with this. 76.6% of adolescent girls believe that they should not enter the kitchen during menstruation. 74.1% of respondents agree that women should not use the common well during menstruation, whereas only 11.45% of adolescent girls disagree.

Section Three discusses menstrual health management among the respondents. 35.4 % of adolescent girls said they don't experience any discomfort during menstruation. Among 64.6% who experience discomfort, physical pain in the form of period cramps is experienced by 50.0%, nausea by 3.2%, general discomfort by 6.3%, and dizziness by 0.6%.

75.3% of adolescent girls said they use sanitary pads as a menstrual absorbent, and 20.3% use cloth. 4.4% of respondents said they use sanitary pads and cloth during menstruation. When they are at home, they prefer using cloth, and when outdoor, they use a sanitary pad.

Chapter Five: State and Civil Society Interventions for adolescent health and education in Goa.

This chapter overviews government interventions and civil society and individual interventions on menstruation, menstrual health and hygiene management, and menstrual health education**.** In addition, movements against menstrual taboos and social exclusion practices, interventions to promote eco-friendly menstrual products, and other related interventions are critically discussed.

Schemes and programs of Government departments such as Directorate of Health Services, Department of Women and Child Development, Goa AIDS Control Society (GSACS), Goa Education Development Corporation (GEDC), and Nehru Yuva Kendra Sanghathan were studied.

The work of non-government organizations namely Sangath, Human Touch, Mineral Foundation of Goa, Children's Rights in Goa, COOJ: Mental Health Foundation, Anyay Rahit Zindagi (ARZ), EcoFemme, SAME project, Sahas, Chitrangi, Konkani Bhasha Mandal, Green The Red, Wasteless Project and Bhumi Project, Sai Life Care Foundation was analyzed for the study.

There is a distinct difference between government organizations and NGOs working for adolescents in Goa. Government schemes and programs are largely welfare in nature where financial aid is given in cash or kind. Government departments also undertake adolescent health education programs.

Non-government organizations' work includes creating awareness on adolescent health development, promoting eco-friendly menstrual products, mental health, research, video blogging, personality development, nutrition, and HIV/AIDS.

The government organizations are silent about the social exclusion practices around menstruation in their schemes and programs.

Chapter Six: In Conclusion

This chapter attempts to state the summary of findings by correlating study findings and existing literature in this field. The chapter also gives policy recommendations, limitations of the study and changes faces and learning during the research work.

CONTENTS

	Page
Acknowledgement	iii
Abstract	xi
Contents	xxiv
List of Tables	xxxiv
List of Figures	xxxv
List of Boxes	xxxvi

Chapter One	**The 'Why' And 'How' In The Study Of Menstrual Health Of Adolescent Girls**		1
	SECTION ONE: The Why		2
1.1	Introduction		2
	1.1.1	Self reflexivity note	3
1.2	Menstruation: A health concern		5
1.3	Menstrual health and adolescents in Goa: Demographic overview		7
1.4	Background of the study		8

1.5	Making a Case for the Study of Adolescents	10
	SECTION TWO: The How: Methods Used In The Study	13
1.6	The Research Design	13
1.7	Objective of the Study	14
1.8	Research Questions	14
1.9	Universe of the Study	16
1.10	Field Area for the Study 1.10.1 In-depth interviews of adolescent girls 1.10.2 Data Collection from Government and NGO's	17
1.11	Sampling Method and Techniques	20
1.12	Sampling Size	21
1.13	Choosing Data Collection Method and Tools	21
1.14	Items of Information	22
1.15	Limitations of the Methodology	23
	SECTION THREE: Organization Of The Thesis	24
1.16	Organization of the Thesis	24
Chapter Two	**Menstruation And Adolescent Girls: An Overview**	27

2.1	Defining adolescence	27
2.2	Adolescent health and rights: International perspective	30
2.3	Adolescent health and rights in India: Current scenario	32
2.4	Menstrual health: An adolescent girls concern and an overview on hygiene	36
2.5	Menstrual activism and advocacy	42
2.6	Menstrual health and adolescent girls in India	46
2.7	Government interventions on menstrual hygiene, menstrual health, and customs	54
2.8	Menstrual exclusion practices and taboos: global to local	57
2.9	Menstrual health and adolescent girls in Goa	61
Chapter Three	**Menstruation, pubertal changes and sex: Learning processes among adolescent girls**	63
	SECTION ONE: The Knowledge Source	63
3.1	Family-The Primary Source of Knowledge	65
3.2	Learning About Adolescent Development in Formal School	66
3.3	Peers and the Hushed Discussions	69
3.4	Learning About Menstruation Through Language	70

3.5	Government and NGO Intervention to Educate on Adolescent Health		72
3.6	The New Player: Social Media and Internet		72
	SECTION TWO: What and When do Adolescent Girls Know?		73
3.7	Knowledge about Menstruation		73
	3.7.1	Age at Which Adolescent Girls Came to Know about Menstruation	73
	3.7.2	Knowledge on the Reasons Why Women Menstruate	74
	3.7.3	Knowledge of the Menarche Age Range	75
	3.7.4	Knowledge Whether Menstruation Stops	75
	3.7.5	Knowledge of Menopausal Age	76
3.8	Knowledge About Pubertal Changes		76
	3.8.1	Awareness Before Experiencing Pubertal Changes	76
	3.8.2	Knowledge About Pubertal Changes	77
3.9	Knowledge About Sex		78
	3.9.1	Age at Which Adolescent Girls Came to Know About Sex	78

	SECTION THREE: Perception and Comfort Levels of Adolescent Girls about their Bodies		79
3.10	Comfort Levels With Bodily Changes		79
3.11	Perception of Authentic Sources of Information		81
3.12	Perception on the Right to Know About Sex		82
3.13	Perception of Adolescent Girls on Various Myths Around Menstruation		82
Chapter Four	**Menarche Experiences, Socio-Cultural Exclusions, and Menstrual Health Practices**		85
4.1	Age at Menarche		85
4.2	Initial Feelings During Menarche		86
4.3	First Person Approached After Menarche		87
4.4	Customary Celebrations Around Menarche		88
	4.4.1	Narratives of Menarche Experiences of Select Respondents	89
4.5	Socio-cultural Practices Around Menstruation		92
	4.5.1	Levels of Socio-Cultural Restrictions	95
		4.5.1.1 Total Exclusions	95
		4.5.1.2 Partial Exclusions	95
		4.5.1.3 No Exclusions	95

	4.5.2	Participation in Socio-cultural Activities During Menstruation	95
4.6	Discomfort experienced during menstruation		97
4.7	Type of menstrual absorbents used by adolescent girls		99
4.8	Person who purchases menstrual products and lingerie for adolescent girls		100
4.9	Comfort level in buying menstrual products		103
Chapter Five	**State and Civil Society interventions for adolescent health and education in Goa**		**104**
	SECTION ONE: Government initiatives and NGO's role in working for adolescent health and education in Goa		105
5.1	Government Interventions for Adolescent Health and Education		105
	5.1.1	Directorate of Health Services	105
	5.1.2	Directorate of Women and Child Development, Government of Goa	106
	5.1.3	Goa Education Development Corporation (GEDC)	107
	5.1.4	Goa State Aids Control Society (GSACs)	108
	5.1.5	Nehru Yuva Kendra Sangathan	109

5.2	**Role of NGO's Towards Adolescent Health and Rights in Goa**		109
	5.2.1	Anayay Rahit Zindagi (ARZ)	109
	5.2.2	Chitrangi (Konkani Bhasha Mandal)	110
	5.2.3	COOJ Mental Health Foundation	110
	5.2.4	Children's Rights in Goa (CRG)	111
	5.2.5	Eco Femme	111
	5.2.6	Green the Red	112
	5.2.7	Human Touch	112
	5.2.8	Mineral Foundation of Goa	112
	5.2.9	Nirmala Institute of Education's Atmashodha Counseling Cell	113
	5.2.10	Sahas	113
	5.2.11	Sai Life Care	114
	5.2.12	Sangath	114
	5.2.13	Videos Volunteers	115
	5.2.14	Wasteless Project	115
	SECTION TWO: Menstruation and Adolescent Girls: Thematic Interventions in Goa		115

	5.3	Menstrual health education	115
	5.4	Menstrual health and hygiene management interventions	116
	5.5	Movements against menstrual taboos and social exclusion practices	117
	5.6	Menstruation, environmental concerns and interventions	117
	5.7	Entrepreneurship in making menstrual products	118
	5.8	Understanding interventions by government and civil society organizations	119
	SECTION THREE: Interventions in area adolescent health and education: A critical perspective		121
	5.9	Critique on State Government interventions	121
	5.10	Critique on Non-Government organizations interventions	122
	5.11	Further scope of interventions	123
Chapter Six	**In Conclusion**		**124**
6.1	Summary of findings		124
	6.1.1	Pubertal changes: knowledge and comfort	124

	6.1.2	Socio-cultural practices around menarche and menstruation	128
6.2	Some comparative insights from literature		130
6.3	State and civil interventions for adolescent girls		135
6.4	Critical debates on adolescent health and education in Goa		137
	6.4.1	The challenge to define 'adolescence.'	137
	6.4.2	Adolescent menstrual education: role of stake-holders	137
	6.4.3	Working towards eliminating socio-cultural practices	137
	6.4.4	Menstrual products, choices, and adolescent girls	138
	6.4.5	Menstrual dialogue: A way to debunk , menstrual taboos	138
6.5	Policy Recommendations and Suggestions		138
6.6	Challenges faced and learning during the research work		139
Appendix I	Interview schedule for adolescent girls		142
Appendix II	Interview schedule for Government and NGOs		147
References			148

	List of Tables	**Page**
Table 1.1	Adolescent population in Goa	7
Table 3.1	Adolescent health and education sessions in school	67
Table 3.2	Topics covered during health education sessions	68
Table 3.3	Menstruation discussion among peers	69
Table 3.4	Age at which adolescent girls learn about menstruation	73
Table 3.5	Knowledge on the reason why women menstruate	74
Table 3.6	Knowledge on the menarche age range	75
Table 3.7	Knowledge on whether menstruation stops	76
Table 3.8	Knowledge of menopausal age	76
Table 3.9	Age at which adolescent girls came to know about sex	79
Table 3.10	Comfort levels with bodily changes	80
Table 3.11	Perception of the authentic sources of information	81
Table 3.12	Perception of adolescent girls on myths	83
Table 5.1	List of interventions for adolescent health and education	119
Table 6.1	Regional studies that highlight the primary source of information for adolescent girls	131
Table 6.2	Age of menarche across India	133

	List of Figures	**Page**
Figure 1.1	State map of Goa	17
Figure 3.1	First informant on menstruation	64
Figure 3.2	Sources of information on pubertal changes	64
Figure 3.3	Sources of information on sex education	65
Figure 3.4	Topics discussed among peers about menstruation	70
Figure 3.5	Awareness about pubertal changes before experiencing	77
Figure 3.6	Knowledge on bodily changes during adolescence	78
Figure 3.7	Right age to know about sex	82
Figure 4.1	Age at menarche	86
Figure 4.2	Initial feeling during menarche	87
Figure 4.3	First person approached after menarche	88
Figure 4.4	Type of menarche celebrations	89
Figure 4.5	Socio-cultural practices are followed	93
Figure 4.6	Type of socio-cultural practices followed	93
Figure 4.7	Participation in any religious functions during menarche	96
Figure 4.8	Participation in sports activities during menstruation	96
Figure 4.9	Participation in trekking and picnics during menstruation	95

Figure 4.10	Discomfort experienced during menstruation	98
Figure 4.11	Type of discomfort experienced	98
Figure 4.12	Type of menstrual absorbent used	100
Figure 4.13	Person who purchases sanitary napkins	101
Figure 4.14	Person who purchases lingerie	102
Figure 4.15	Comfortability level while buying menstrual products	103

	List of Boxes	**Page**
Box 4.1	Priya's (name changed) menarche experience	89
Box 4.2	I do not follow any restrictions: Prajakta Naik	94
Box 4.3	Priya (name changed) on facing religious restrictions and later changing perception	94
Box 4.4	A group of DM's College students feel embarrassed when they menstruate during festival	94
Box 4.5	Namita (name changed) shares her irregular menstruation problem	99
Box 4.6	Discussion on forward message about sanitary pad usage causing cancer	100

CHAPTER ONE

THE 'WHY' AND 'HOW' IN THE STUDY OF MENSTRUAL HEALTH OF ADOLESCENT GIRLS

> Gender inequality, discriminatory social norms, cultural taboos, poverty, and lack of essential services often cause girls' and women's menstrual health and hygiene needs to go unmet. In addition, adolescent girls may face stigma, harassment, and social exclusion during menstruation (UNICEF 2019:13).

This chapter is divided into three sections. Section one briefly discusses the 'why,' that is the significance of studying menstrual health among adolescent girls. Section two outlines 'how', namely, the methods used in the study, and Section three outlines the organization of the thesis.

SECTION ONE

THE WHY

1.1 Introduction

- Smita (name changed) thinks she will die because she suddenly sees a chocolate brown stain on her underwear and cannot understand it. Her mother tells her not to come into the kitchen and tells her to lie down.

- Kavita (name changed) is not allowed into the house after bleeding. No one tells her the reason for forcing her to stay in an isolated room, and she is sure that she is guilty of some wrongdoing.

- Sadhana (name changed) menstruated first during Ganesh Chaturthi when she was 12 years old and was not allowed to participate in any Chaturthi rituals. She felt terrible about it. She expressed that getting her first period during Ganesh Chaturthi was the worst thing to happen as the whole family and relatives came to know, and it wasn't very comfortable.

- Gauri (name changed) did not disclose her first period to her mother for two days as she was scared that her mother would scold. Her mother noticed the bloodstains after two days and asked her. Gauri started crying out of fear. Her mother also told the teacher about it, which made Gauri angry.

- Meeta (name changed) said that she applied *Haldi* (turmeric) to her vagina to stop the bleeding as she was terrified and did not know what to do. She thought of using a band-aid but couldn't find it. So she told her mother

when she was back from work, and later she got some clarification on her bleeding.

These are a few of the experiences shared by the adolescent respondents, which indicate that though menstruation is a natural biological function of the body, it is associated with fear, embarrassment, silence, emotional distress and is considered taboo.

Menstruation is a normal phenomenon during the reproductive age in the lives of girls and women, but for a girl who experiences menarche, it is anything but ordinary (Sharma et al. 2020). Therefore, ensuring the health of adolescents is an essential social priority that requires the engagement of parents, healthcare providers, schools, teachers, and young people themselves (ibid, 2020). Adolescence is generally a time of good health; however, because of how issues like menstruation are dealt with by society, it is a time of great mental stress and physical discomfort for young girls (Crosnoe and Johnson 2011).

1.1.1 Self reflexivity note

I experienced menarche when I was 12 years old. Though my mother was a health professional, I was not comfortable sharing what was happening with me. After a few days, I told my elder sister. She gave me a sanitary pad and said that all girls get it. My mother prepared unique dishes like chicken *xacuti (*Goan cuisine*)* and *kheer (*sweet dish). It was confusing. On the one hand, there was a celebration; on the other hand, she told me not to go near the *pooja ghar (*temple at home*)* or any worship place.

I was left with many doubts about why we experience menstruation? Will the blood flow stop? Do my other friends also get periods?

etc. Later after a couple of years, I started discussing menstruation with my school friends. But all the information received was not authentic. So we started reading books on biology from the school library to understand the subject. During class 9, we had a chapter on human reproduction, which our science teacher gave us for self-study. I stapled those pages of the chapter and focused on other lessons. Slowly, I grew through experience and reading books; I learned about menstruation and other bodily changes. Later, when I entered the field of social work, I was keen on educating adolescents about menstrual health, sex education, and related concerns. I have been conducting sessions on such topics for adolescents in Goa for more than a decade through various programs organized by the government and NGOs. Simultaneously I developed an interest in doing academic research in this field.

The feminist research paradigms like the Standpoint feminist theory are the starting point of my research. I connect my personal lived experiences of menarche and menstruation with my desire to make a difference in adolescent menstrual education through my academic work. Standpoint theory gives voice and empowers the oppressed group to value their lived experiences (Harding 2004).

Feminist scholars working within several disciplines—such as Dorothy Smith, Nancy Hartsock, Hilary Rose, Sandra Harding, Patricia Hill Collins, Alison Jaggar, and Donna Haraway—have advocated taking women's lived experiences, particularly experiences of (caring) work, as the beginning of the scientific inquiry. Central to all these standpoint theories are feminist analyses and critiques of relations between material experience, power, and epistemology, and of the effects of power relations on the production of knowledge (Naples 2013).

This thesis is a voice of select 158 adolescent girls from Goa who have shared personal information about menarche and menstruation

experiences. In addition, they have expressed their socio-cultural practices, sources of information, and their perception of their bodies during the research work.

While reading about existing menstrual studies in Goa, I realized that there is very little documentation on how menarche is experienced by young girls, on local social-cultural customs; and interventions by government and non-governmental sectors in Goa.

1.2 Menstruation: A health concern

Menstruation is a particular concern of adolescent girls. Nevertheless, menstruation is a normal phenomenon during the reproductive age in the lives of girls and women experienced worldwide (Belayneh and Mekuriaw 2019). The onset of menses occurs during adolescence, during which predominant physiological and psychological changes occur (Belayneh and Mekuriaw 2019).

While it is clear that adolescent girls were not mentally prepared for menstruation, a question arises: Are girls being given the care they require at this stage in their lives? Adolescence is a global concern recognized by the World Health Organization (WHO) and international covenants like the United Nations Convention on the Rights of the Child (UNCRC).

Dr. Flavia Bustreo (Assistant Director-General for Family, Women's and Children's Health, WHO) opines that interventions for an adolescent age group are totally missing from national health plans for decades and that even small investments in adolescents will result in healthy, empowered adults and also contribute to ensuring healthier future generations (Bustreo 2017). In addition, the World Health Organisation (WHO) recognizes the period of adolescence as a period of life with specific health and developmental needs and rights (Bustreo 2017).

According to Article 24 of the (UN Convention on the Rights of the Child), a child, meaning every human being below the age of eighteen years, is entitled to the highest standards of health care:

> States Parties recognize the child's right to enjoy the highest attainable standard of health and facilities for treating illness and rehabilitation of health. Accordingly, States Parties shall strive to ensure that no child is deprived of their right of access to such health care services (UNCRC 1989: 7).

Article 24 of the UNCRC is also concerned with the harm that can be caused by holding on to traditional practices that are harmful to children:

> States Parties shall take effective and appropriate measures to abolish traditional practices prejudicial to children's health. (UNCRC, 1989: 7).

Commitments to Every Woman Every Child's Global Strategy for Women's Children's and Adolescents' Health (2016-2030) commissioned by the Partnership for Maternal, Newborn & Child Health (PMNCH) hosted by WHO and the Every Woman Every Child Secretariat and Family Planning 2020 report in 2017 draws attention towards adolescent health. Investing in adolescent health was essential to realizing the Sustainable Development Goals (SDGs) (Child 2015).

As per the World Health Organization report on 'Health for the World Adolescents: A Second Chance in the Second Decade (World Health Organization 2014), there were one billion adolescents in the world. WHO guidelines state a need to work in areas like care in pregnancy, childbirth, and the postpartum period for adolescent mother and newborn infant, contraception, prevention and management of sexually transmitted infections, and safe abortion care to ensure the reproductive health of adolescents worldwide.

1.3 Menstrual health and adolescents in Goa: Demographic overview

India is a diverse country having the largest adolescent population in the World of around 253 million, and every fifth person is between 10 to 19 years (UNICEF 2020). It is a home of 120 million adolescent girls who do not share the same menstrual experience. Substantial variations exist between states, villages, cities, and the rich and poor.

The adolescent population (10-19 years) constitutes 15.4% of the total population of the State of Goa (Census, 2011). In India, the adolescent population is 20.9% of the total population (ibid, 2011). From the statistics, it is evident that they are a significant population, but policy formulators have not taken this age group as distinct so far. One reason could be that various stakeholders define adolescent age groups differently (see table 1.1).

Table 1.1: Adolescent population in Goa

Age group (completed years)	1991	2001	2011
	Numbers (in a million)		
All ages	838.6	1,028.6	1,210.6
Adolescent (10-19 years)	177.7	225.1	253.2
Young (15-24 years)	153.5	190.0	231.9
Adult (18 years or more)	475.3	603.1	762.0

Source: Census of India, 2011

1.4 Background of the study

Adolescence is a critical phase in one's life and the development of individual potential, as it is a phase characterized by rapid brain development (Blakemore and Mills 2014). In addition, it is a period when one's social environment plays a crucial role in the individual's overall development. At this time, girls become exposed to various new environments such as schools, new friends, and social realities, and these have an impressionable role on the adolescent as she prepares for this new phase (Belayneh and Mekuriaw 2019; Patton et al. 2016).

There has been much literature published in recent years around the subject of adolescent sexual initiation patterns, physical and psychological development as well as the changing behavior patterns among adolescents (Armour et al. 2020; Brown et al. 2020; Hennegan et al. 2020; Min et al. 2020). These studies also highlight the linkages between individual, social, sexual networks, family, peers, and institutional restrictions on the development of adolescents. In addition, adolescent concerns like obesity, HIV/AIDS, substance abuse, mental health, internet addiction disorder, menstrual cycle research are some of the areas which are studied (Patrick and Schulenberg 2013; Hansen et al. 2014; Kuss et al. 2013; Grossoehme et al. 2020; Bobel et al. 2020).

While menstruation is a normal biological function, it has been an important area of research for anthropologists and feminist studies because of its social, cultural, political, and economic implications. Socio-cultural taboos, knowledge, attitude and practices, amenorrhea, dysmenorrhea, menstruation and disabled women, menstrual experiences of transgender, period poverty are areas of research around menstruation that carried out in parts of India and in other countries (Agampodi and Agampodi 2018; Ahmad, Singh, and Dwivedi 2019; Behera, Sivakami, and Behera 2015; Hennegan et al. 2020).

While several menstrual hygiene management interventions address health-related issues associated with menstruation, it is evident from the State of Goa that practices of social exclusion that could be detrimental to the health, physical and mental development of young girls continue to be observed. This is evident from the data gathered during this research and discussed in chapter four.

In India, most women are uncomfortable discussing menses, which is considered a social taboo. Adolescent girls don't have any reliable sources of information regarding the topic (R. Kaur, Kaur, and Kaur 2018). The most common sources of information available to them are their peers, family members, and religious institutions. The information they receive is often selective and surrounded by misconceptions. "Being cursed," "having a disease," or "a punishment from God" are examples of how menstruation is viewed by the people of developing countries (ibid, 2018). As a result, adolescent girls consider menstruation an embarrassment that should not be discussed. This can impact the vulnerability of adolescent girls to mental, emotional, and physical problems. These conditions can also impair the daily activities, academic performance, school attendance, and social relationships of adolescent girls (Belayneh and Mekuriaw 2019).

Most of the studies regarding adolescent girls' menstrual experience are conducted in the schools (Armour et al. 2020; Belayneh and Mekuriaw 2019; Bhusal 2020; Hennegan et al. 2020; Sharma et al. 2020; Yaliwal et al. 2020). As there are few studies on social and cultural practices concerning menstruation in Goa, this study has focused on the adolescent population of Goa and has attempted to discuss various factors of menstrual education and traditional practices in Goa.

1.5 Making a case for the study of adolescents

An adolescent goes through a series of physical, social, emotional, and psychological changes. They are considered neither children nor adults as they are in their transitory phase of life. Adolescents are deemed to have an adult body that can respond and behave like an 'adult' and have a mind and heart that may still be as fragile and sensitive as a child (Stangor and Walinga 2019; Mago, Ganesh, and Mukhopadhyay 2005). During this age of puberty, there is a sudden spurt in growth. Since it is a transitory phase, physical, social, emotional, and psychological maturity is in progress among adolescents. Therefore, they can't be termed as adults or children. They are a separate category in themselves (Stangor and Walinga 2019).

Due to these characteristics present among adolescents, their issues have become a global concern as they are tomorrow's adults and on whom the future depends. The rising issues like drug abuse, youth suicides, juvenile crimes, and other problems have drawn the attention of government and civil society organizations to plan for remedial and prevention measures (Göçmen et al. 2021; Bates and Trujillo 2021).

There is a rise in demand in research all over the World focused on adolescent issues from various perspectives like reproductive health, sexual health, education, psychology, to list a few. In addition, researchers from multiple disciplines like Sociology, Public Health, Social Work, Psychology, and Medicine have taken an interest in studying adolescents from their areas of specialization due to the growing issues (Göçmen et al., 2021; Duby et al. 2021; Jörns-Presentati et al. 2021).

The adolescent population has reached a record of 1.8 billion people, understood as the largest generation of adolescents in history. Consequently, there is a growing demand for understanding their needs and

standing as fellow citizens in their totalitarian growth and producing a holistic communion of happiness and everlasting prosperity (Lee et al. 2016).

Adolescents need opportunities to prepare themselves for the more extraordinary entrance into life. Therefore, they need explicit attention to their unique developmental processes during this stage. These characteristics play an essential role in shaping them into optimistic and responsible adults. Hence adolescent behavior and understanding play an important role in policies and programs to reach this population with various productive strategies and developmental modules specific to certain sectors and conditions (Lerner and Galambos 1998; Manorama and Desai 2020; Cicchetti and Toth 1996).

The various attitudes of adolescents are influenced by their peers; often, social adjustment and understanding of social forces play a crucial role and want to widen their circle of interaction and yearns for the sense of inclusion and appreciation (Cotterell 2013). But when this want is not satisfactorily met, they might develop hatred and lack of self-esteem, affecting their growing years and inability to thrive with social groups and begin to develop the attitude of reclusiveness (ibid, 2013).

The development of a moral and emotional consciousness plays a vital role in adolescents' thoughts, which later materialize into belief systems in the future (Stortelder and Ploegmakers-Burg 2010). For example, suppose there isn't a proper understanding of moral and lawful establishments, such as the basic understanding of the difference between right and wrong. In that case, the adolescent develops gross abnormalities with conflicts and constant pressures on what a particular individual has to do in a situation, such as religion, spirituality, sex, etc. (Cingel and Krcmar 2020; Stangor and Walinga 2019).

Adolescent Sexual and Reproductive Health (ARSH) comprises a significant component in preventing global ill health (Parida, Gajjala, and Giri 2021). Although neglected, the need for protocols and awareness has started to gain prominence in 2002. The UN General Assembly's special session on children recognized the need for formulating health programs and initiatives about adolescent sexual health and needs (Kitts and McDonald 2002). In 2003, Conventions on the Right of a Child issued a general comment recognizing the needs of adolescents and young adults (*General Comment No. 4 (2003): Adolescent Health and Development in the Context of the Convention on the Rights of the Child* 2003). Other supporting organizations are the Convention on the Elimination of all Forms of Discrimination against Women and the right to health and aspect accepted in various forums such as the Universal Declaration of Human Rights and the International Millennial Developmental Goals (Morris and Rushwan 2015b). Out of the 1.8 billion adolescents living worldwide, 90% live in middle or low-income countries facing a torrential downpour of various factors like poverty and lack of basic amenities to livelihood (Christian and Smith 2018).

The risk of not giving ARSH its due position has dire consequences. It results in various harmful impositions, especially for girls who have early pregnancies, putting them at high risk and robbing them of educational achievement (Sibanda 2011). Adolescent girls also risk contracting various sexually communicable diseases like AIDS and various forms of subjugation like sexual coercion, exploitation, and violence (Nyato et al. 2019; Mavundla, Strode, and Essack 2022). Their long-term outcomes are exponentially harmful to adolescents. There is regional variation in experiences diversified by age, sex, marital status, schooling, migration, sexual orientation. Access to healthcare and education varies across various platforms and parameters, such as the socio-demographic availability of resources (Patton et al. 2016).

This study aims to document and analyze how adolescent girls experience menarche, the social practices and customs related to menstruation to understand its implications for the positioning of women within the society. In addition, menstrual hygiene management, their basic understanding of menstruation, sex, and pubertal changes are analyzed in the thesis to understand adolescent health needs and the developmental interventions required.

SECTION TWO

THE HOW: METHODS USED IN THE STUDY

This doctoral study of Menstrual Practices, Customs, and Interventions for Adolescent Girls in Goa have used a mixed quantitative and qualitative methodology. Quantitative data specify numerical assignment to the phenomena under study, whereas qualitative data produces narrative or textual descriptions of the phenomena for the study (Johnston and Vanderstoep 2009). The adolescents interviewed in the study are discussed using both quantitatively and with qualitative narratives. In addition, the interventions of government and civil society are discussed qualitatively, giving an in-depth and richer understanding of the subject under study (ibid, 2009). Thus, the study gives breadth (quantitative) and depth (qualitative) understanding of the subject.

1.6 The research design

The study has used a descriptive-exploratory type of research design. Descriptive studies intend to provide descriptive data on either larger or small groups. They tell us something about the group and identify the

existence of variables and characteristics of the group (Johnston and Vanderstoep 2009).

The data collected from 158 adolescent girls from two colleges in Goa is explorative as they have shared their knowledge, perceptions, beliefs, and practices around menstruation and other bodily changes.

The responses by the organizations regarding work done by them for adolescents are descriptive. In addition, in-depth interviews were conducted to study the work done by the stakeholders working for adolescent health and education.

1.7 Objectives of the study

a) To understand and evaluate the sources of information through adolescent girls learn about human reproduction and bodily changes, especially around menstruation.

b) To study the religious and social restrictions, customs, and beliefs imposed on adolescent girls and the social practices during menarche and menstruation.

c) To critically evaluate the state and civil society interventions for adolescent girls.

1.8 Research questions

Many questions arose while reading literature on the topic and understanding from my field experience. Since this is a single research activity conducted solely by me, I restricted research questions that concur with the objectives of my study. It is essential to draft the right questions as it gives

direction to the research study (Daly 2007). Research questions are closely tied with theory. Some questions come from theory, observations, and intuitions (Johnston and Vanderstoep 2009). Based on these parameters, I have raised the following research questions for the current study:

a) To understand and evaluate the sources of information through which adolescent girls receive knowledge about human reproduction and bodily changes, especially menstruation.

1. What are the sources of knowledge about menstruation, sex education, and pubertal changes?
2. What is the basic understanding of menstruation, sex, and pubertal growth among adolescent girls?
3. What are the menarche experiences of adolescent girls?

b) To study the religious and social restrictions, customs and beliefs imposed and practiced during menarche and menstruation on adolescent girls

1. What are the socio-cultural practices around menstruation followed in Goa?
2. What are the myths around menstruation prevalent among adolescents in Goa?
3. What are the local terms used to refer to menstruation in Goa?

c) To evaluate state and civil society interventions for adolescent girls.

1. What are the different types of services offered to adolescent girls by government bodies in Goa?

2. What individuals and non-government organizations carry out programs and interventions in Goa?

1.9 Universe of the study

The universe consists of all survey elements that qualify for inclusion in the research study. The precise definition of the universe for a particular study is set by the research question, which specifies who or what is of interest. The universe may be individuals, groups of people, organizations, or even objects (Lavrakas 2008).

The universe for my study is the state of Goa. Therefore, adolescent girls between the age group of 17-19 are probable respondents.

1.10 Field area for the study

Goa is a geographically small state. However, Goa has the best gross enrolment ratio (GER) among female students in higher education (18 years and above) as compared to other states in India (Baruah 2021; S. S. Kumar 2021). Thus, approaching and interviewing adolescent girls through educational institutes was suitable for the study. Furthermore, both the colleges attract students from urban, suburban, and rural parts of North Goa. The state map of Goa (Figure 1.1) shows the location of the two colleges selected for the study. Considering the researcher's convenience, both the colleges are located in the North Goa district.

Figure 1.1: State Map of Goa

Source: https://en.wikipedia.org/wiki/List_of_taluks_of_Goa (modified by Paresh Rivankar)

To gather information about adolescent health and education interventions, all the government and non-government organizations working for them were also interviewed in the second phase of the data collection.

To achieve the objectives of the research study, the data collection was carried out at two levels:

1.10.1 In-depth interviews of adolescent girls

Girls between 17-19 years of age were chosen as respondents for the study because they have already experienced menarche and would be

better positioned to narrate their experiences and respond to their reproductive health and rights.

Two colleges were chosen for the study:

- Dynanprasarak Mandal's (DM's) College and Research Centre offer Bachelor in Science, Bachelor in Arts, Bachelor in Commerce, Bachelor in Business Administration and Bachelor in Computer Application Programmes
- Sai Nursing and Paramedic Institute offer Diploma in X-ray technology, Diploma in Medical Laboratory Technology and Diploma in Auxiliary Nursing Midwife.

Fieldwork began in DM's College by seeking permission from the Principal of the College. I had plans to interview respondents based on the student's roll maintained by the college by using a simple random sampling technique. But the Principal suggested using the girl's common room to interview the adolescent girls who use the common room during free time and recess as they cannot disturb the classes. I began my fieldwork there from July 2015 to October 2015. The girl's common room in this college was spacious, and students would come and sit there if they reached late to college, bunked any class, or sat there during recess time or if they had a free lecture, and if they had after extra college classes. I started to sit there from 8.00 am to 2.00 pm. On average, 5-6 interviews were taken 30 to 45 minutes each day. It was also essential to understand the respondents' body language while answering the interview.

Since the earlier collected data was insufficient, new data were collected in May 2020. Since there was complete lockdown due to the coronavirus pandemic, I administered the interview schedule through Google

Forms. Total 83 adolescent girls from Sai Nursing School, Sankhalim (Bicholim taluka), filled the online form.

1.10.2 Data collection from Government and NGO's

Interviews and focused group discussions were conducted among organizations working in menstrual health and education for adolescents in Goa. A preliminary survey was made to locate them. Visits were made to each organization to interview the staff of each organization.

Right to Information (RTI) applications were filed in four Government Departments that directly work with adolescents to seek annual reports and other information relevant for the study

The Government departments and bodies contacted and interviewed are 1) Department of Women and Child Welfare, 2) Directorate of Health Services, 3) Goa AIDS Control Society (GSACs), 4) Goa Education Development Corporation (GEDC), and 5) Nehru Yuva Kendra Sanghathan.

Non-Government Organisations (NGOs) that were interviewed are 1) Anyay Rahit Zindagi (ARZ), 2) Bhumi Project- Sai Life Care, 3) Children's Rights in Goa, 4) Chitrangi- Konkani Bhasha Mandal, 5) EcoFemme, 6) Green the Red, 7) Human Touch, 8) Mineral Foundation of Goa, 9) SAME project, 10) Sahas, 11) Sangath and 12) Wasteless Project.

Data was also collected during Sanghmitra Coalition meetings (adolescent convergence model project of women's Studies department, Goa University) and through their IEC materials, publication, and websites. Personal visits to the organizations were also made to get more in-depth data. In departments like Goa Education Development Corporation and the Directorate of Health Services, information about the schemes was obtained through filing RTI (Right to Information) applications.

1.11 Sampling method and techniques

According to Alberto Trobia, as quoted in Lavrakas (2008), "Sampling is the selection of a given number of units of analysis (people, households, firms, etc.), called cases, from a population of interest. Generally, the sample size (n) is chosen to reproduce, on a small scale, some characteristics of the whole population."

Availability or convenience sampling technique under non-probability sampling method was used to choose the adolescent girls as respondents from chosen colleges. Convenience sampling or availability sampling relies on data collection from population members conveniently available to participate in the study(Mdikana 2021). Thus, respondents for my study were interviewed when they came to use the girls' common room. To maintain the confidentiality of the respondents stating their name in the interview schedule was optional. However, few respondents requested that only their initials should be mentioned.

For the second level of data collection, the snowball sampling technique was used to identify the organizations working for adolescents. In snowball sampling, respondents are asked to suggest other similar respondents for the study (Howitt and Cramer 2011). Likewise, during the preliminary survey, first I went to organizations known to be working for adolescents like Nehru Yuva Kendra Sangathan, Directorate of Sports and Youth Affairs, Department of Women and Child Development, and Directorate of Health Services. From these organizations, I learned about the work of other organizations: Goa State Education Development Corporation, Sangath, Human Touch, and all others.

1.12 Sampling size

For the first level of data collection, 75 students from one educational institute and 83 from the other educational institute were interviewed using the availability sampling technique. The second level of data collection was carried out by interviewing all 17 organizations identified through the snowball sampling technique. Thus, 175 respondents were interviewed to generate primary data for quantitative and qualitative analysis.

1.13 Choosing data collection method and tools

A representative sample of 158 female students from two educational institutes was analyzed. "The survey of a single group, even randomly selected, precludes one from establishing causality. It is possible to go one step beyond just describing the characteristics of the subjects and to look for relationships between pairs of traits" (Daly 2007). This study has interviewed adolescent girls in their late teens studying in two different colleges. Smaller sample size helps to go in-depth of the subject. Personal interviews with stakeholders and adolescent girls with half of the sample size helped to gain understanding beyond the structured data collection tool.

Interview schedules were used to interview the adolescent girls and the organizations working for them for conducting the survey. A pilot study was conducted to test the tool by interviewing five female adolescents and two organizations. Online Google form was also used to collect data during the pandemic. The Google form contained the same questions from the interview schedule.

Focused group discussion as a tool for data collection was also used. For example, the FGDs in Sanghmitra (adolescent convergence model

project of women's Studies programme, MPS, Goa University) meetings were conducted with representatives from each organization working for adolescents in Goa. Focus groups originated in the work of the famous sociologist Robert Merton when he researched the effectiveness of propaganda using a method he termed *focused interviewing* (Merton and Kendall 1946; Howitt and Cramer 2011).

Focused group discussions are also known as 'Group Interviews' and 'focus group Interviews (FGD).' The objective of focused group discussion is to interview a group, which is seen as holding consensus via interaction in a 'focus group discussion.' Kitzner and Barbour define FGD as any group discussion called a focus group as long as the researcher actively encourages and attends to the group interaction' (Barbour 2008).

1.14 Items of information

Based on the objectives, a list of information items has been prepared, which helped understand the scope and draw limitations of the study. This listing helped to prepare data collections tools, i.e., interview schedules and focused group discussion key points:

- Creation of knowledge by adolescent girls about their bodily and associated changes
    1. Sources of information on adolescent health and rights
    2. Knowledge about sex and the sources of their knowledge about sex
- Knowledge, attitude, and experiences around menarche and menstruation
    1. Knowledge about menstruation among adolescent girls
    2. Attitude towards menstruation among female adolescent girls
    3. Personal experiences of adolescent girls during menarche
- Practices followed during menarche and menstruation in Goa

The experiences, perceptions, and customs of menstruation were explored through qualitative data through the survey method. In addition, an attempt was also be made to compile and state various practices around menstruation.

The programs and interventions by the government to respond to adolescent reproductive health and rights in Goa:

- Compilation of programs at the central and state level by the government for adolescent girls' reproductive health in Goa
- Compilation of interventions at central and state level by the government for adolescent reproductive health
- Contribution by civil society institutions towards reproductive and sexual health of adolescent and young adults

The role of government and civil society in addressing adolescent needs was understood through a descriptive study of young girls' services, programs, and schemes. The study tried to understand the extent of their work and attempted some interventions to converge the services through coalition. Secondary and primary data were gathered from the organizations and government departments.

1.15 Limitation of the methodology

- The study was restricted to adolescent girls from two colleges. Thus, the study can be replicated in other talukas and colleges.

- There is also scope to study adolescents in early adolescent (9 to 12 years) and middle adolescent (13 to 16 years) as this study focused on late adolescent girls.

- Due to the pandemic, some data was collected in online mode. The interviews conducted personally felicitated to ask some questions in Konkani when not understood. The respondents' body language was also observed, which was not possible with online interviews.

SECTION THREE

ORGANIZATION OF THE THESIS

1.16 Organization of the Thesis

The thesis 'A Study of Menstrual Practices, Customs and Interventions for Adolescent Girls in Goa' contains six chapters.

Chapter One: The 'Why' and 'How' in the study of Menstrual Health of Adolescent girls is divided into three sections.

Section One introduces the study with a note on the background, significance, objectives, and research questions. Then, concepts used in the research are operationalised to understand them in the study better.

Section Two discusses research methodology by giving clarity on research design and defining the universe of the study. This chapter also explains the selection process of the study's field area, sampling method, sampling frame, techniques used, sampling size, data collection method, and tools used for the study.

Section Three states the organization of the chapters and states the limitation of the study.

Chapter Two: Menstruation and Adolescent Girls: An Overview is based on the literature review and discusses adolescent health and rights: an international perspective, the current scenario of adolescent health and rights

in India and its relationship with menstrual health and adolescent girls in India, menstrual exclusion and cultural practices and taboos across the globe.

Chapter Three: Knowledge and Sources of Information about Menstruation and Associated Changes are based on responses of 158 adolescent girls. There are two sections in this chapter.

Section One contains the socio-demographic profile of respondents, understanding about menstruation and menarche among respondents, the meaning of menstruation as perceived by adolescent girls, their perceptions about why women menstruate, their understanding of menstruate stops, and their understanding about menopause.

Section Two examines the sources of knowledge about bodily changes. For example, learnings from family members, learning about menstruation from peers and other sources.

Chapter Four: Menarche and Menstruation: Beliefs, Experiences, and Practices in Goa discuss taboos and myths about menarche and menstruation, perception towards menstruation and bodily changes, socio-cultural practices around menarche and menstruation, menarche stories and experiences, menstrual health practices among 158 adolescent girls, types of menstrual absorbents used, the discomfort experienced during menstruation, participation in religious and sports events during menstruation and other sources of knowledge.

Chapter Five: State and Civil Society Interventions in Goa discusses an overview on government interventions on menstruation**,** an overview on civil society and individual interventions on menstruation, menstrual health and hygiene management interventions**,** menstrual health education**,** movements against menstrual taboos, and social exclusion

practices, interventions to promote eco-friendly menstrual practices and other interventions.

Chapter Six: In Conclusion discusses the summary of the findings and brings out some critical debates around adolescent health and education. It also states policy recommendations, challenges faced, and learnings during research.

CHAPTER TWO

MENSTRUATION AND ADOLESCENT GIRLS: AN OVERVIEW

The researcher discussed broad issues concerning adolescents in the previous chapter, especially menstrual health. The earlier chapter also details the research methods used, the organization of the thesis, and self-reflexivity. This chapter gives a thematic literature review and draws attention to the lacunae in the knowledge available on adolescent menstrual health, especially in Goa.

2.1 Defining adolescence

Adolescence is generally defined as the transitional stage of physical and psychological development from puberty to legal adulthood. Adolescence marks an important facet where important social, biographic, economic, demographic events propel one to the next stage known as adult life. It stands as one of the most rapid stages of human development. Biological maturity precedes psychosocial maturity in this juncture of life, and individual and socio-economic factors play an essential role in shaping the individual (Backes and Bonnie 2019). Experiences of growing up may differ among adolescents due to various factors like epidemiological, cultural, social, and economic threats to health Age is usually a convenient way to define adolescence.

The World Health Organization (WHO) recognizes adolescents as people between 10-19 (Bustreo 2017). However, non-western societies have

not defined a strategy for defining the stage of adolescence except the physical manifestations except the onset of puberty and unique visual markers (clothing and accessories) and various changes in interactions and likings (Curtis 2015). In non -western societies, this generally spans for about 2-4 years after childhood. In contemporary societies, adolescence lasts between 10-15 years (ibid, 2015).

G. Stanley Hall defines adolescence as a process of physical and psychosocial rebirth. It synthesizes profound corporal development with matured existential essence and integrates the developing self within the family, community, and culture. Unfortunately, transitional age youth is associated with disconnected adolescents and young adults at the risk of poor developmental outcomes (Grinder 1969).

The stages of adolescence are broadly classified into three stages (Salmela-Aro 2011):

Early Adolescence (11-13 years):

This is the stage where there are noticeable physical changes such as gain in height and weight, hair growth in private areas, skin and hair starting to become oily, development of breasts and menstruation in females, and testis development penis in males. In addition, there is a significant change in men's voice structures and facial hair growth. Emotionally, there is a struggle with a sense of identity with more prominence for a social circle over parents, moodiness with increased effort and thought on presentation, habits due to peer pressure.

Middle Adolescence (14-17 years):

The development of primary and secondary sexual characteristics with increased sexual attention, love, and passion, getting into romantic

relationships. There is also an increase in aggression and anti-social tendencies, with some heightened moral reasoning and role models.

Late Adolescence (17-19 years):

There is a sense of assertion and development of qualities and traits unique to an individual, with career interests, drive towards success, and will to fit into societal moulds.

Disaggregation is particularly relevant from a global perspective, and; hence there is a separation of adolescence into early, middle, and late adolescence.

> Adolescents are young people between the ages of 10 and 19 years who are often thought of as a healthy group. Nevertheless, many adolescents do die prematurely due to accidents, suicide, violence, pregnancy-related complications, and other illnesses that are either preventable or treatable (WHO 2021).

UNICEF also defines adolescents between 10 to 19 years in the WHO lines but keeps room for flexibility if there is early or late maturity. According to them, "The developmental stage of adolescence is understood as the period from 10 to 19 years of age, acknowledging that characteristics of this stage may extend up to age 24 and that adolescent well-being is also determined by early child development before age 10". (UNICEF. 2002; Diers 2013)

Medically and socially, adolescents are defined between 10 to 19 years. But legally, as per the Indian Penal Code, 1860, the age of consent of rape victim is 18 years contrary to adolescent age defined, which considers adolescent to be till 19 years of age. Similarly, according to Indian personal laws and the Special Marriage Act, 1954, the age of marriage for girls is 18 years and 21 years for boys. This means girls can get married in adolescence,

which is considered the transition phase in life where physical and emotional maturity may not be there.

National Youth Policy, 2014 defines 'adolescents' as those aged between 13 to 18 years, and 'youth' included is below 29 years. And it recognizes that these are not homogenous groups. The India Reproductive and Child Health program defines 10-19-year-olds as adolescents. However, the Central Government's Integrated Child Development Services (ICDS) states that adolescent girls are between 11 and 18 years old. The Constitution and labor laws of the country consider all people below the age of 14 to be children. The Government of India's (GOI) tenth Five Year Plan report adheres to the WHO definition as stated above (CREA).

Girls in recent years start their menarche from 8-9 years onwards (TOI 2014). While understanding various definitions, a question arises: 'Is there a laxity among various government agencies in defining and working for adolescents in India?' 'Is there a need to rethink and re-conceptualize the definition of an adolescent?' The concerned policy and lawmakers must reconsider the definition of adolescent age to bring about uniformity and work by converging the services for the development of adolescents.

2.2 Adolescent health and rights: International perspective

Adolescents face higher risk and complications due to pregnancy, amounting even to death, in adolescent pregnancy, anemia, HIV, other STIs, postpartum hemorrhage, and various other complications (Baltag and Chandra-Mouli 2014). Low socioeconomic status and substance abuse have been denoted as various abortions with poor offspring for adolescent mothers. Awareness of contraception is dismally low in adolescents (Polaneczky 1998). Unsafe abortions are opted for due to low availability and awareness of contraceptives with various physically debilitating and fatal consequences due

to unsafe abortion (Osaikhuwuomwan and Osemwenkha 2013; Rwamba 2021). HIV/AIDS has affected young people are the most. There are five million young people affected by HIV/AIDS. Globally, young women make up 60% of all young people living with HIV/AIDS. STIs are also alarming in 20-24 years old followed by 15-18 years (Morris and Rushwan 2015a).

Normalizing menstruation is essential to empower adolescent girls to play a vital role in uplifting the community (McLaren and Padhee 2021). However, ongoing menstrual taboos continue to provide negative reinforcement on women and hinder the ability of girls to manage their menstruation with confidence and dignity. Unmet menstrual education needs have taken center stage, and various research studies prove that compromised menstrual hygiene management negatively impacts the overall wellbeing of the adolescent. Menstrual health also serves as an under-recognized component of sexual and health education. The significance of understanding the menstrual cycle is paramount for both men and women to dismantle existing social structures and crush patriarchal societies to bring about harmony, empathy, and better understanding (Stewart et al. 2021; O'Flynn 2006). A Girl's early experience of menstruation is said to have significant implications for their adult perception of these phenomena (Rutter 1996; O'Flynn 2006). The first instance of menstruation plays a vital role in the belief system (Wilson et al. 2018). The majority of girls experience their first period during adolescence. At this stage, the menstrual cycle has different characteristics from the adult women and often occurs at irregular intervals (Adams Hillard 2008). In adolescence, the girls do not understand menstruation, and their mothers are the most common source of menstrual knowledge.

Additionally, adolescent girls commonly have negative perceptions about menstruation and do not consult with health care professionals because they feel ashamed of their bodies. Inadequate menstrual

knowledge and a negative attitude toward menstruation can lead to poor menstrual hygiene practices among adolescents (R. Kaur, Kaur, and Kaur 2018). Poor hygiene practices can influence physical and psychological health and quality of life, resulting in infections of the reproductive tract, school absences, social restrictions, and psychological stress (Altangarvdi et al. 2019).

Knowledge about menstruation and hygienic practices plays a significant role in ensuring female health (Belayneh and Mekuriaw 2019). Women with better awareness and knowledge of menstrual hygiene and management often safely manage their menstrual bleeding. It has been reported that poor hygiene practices and menstrual management can cause serious medical problems such as reproductive and genitor-urinary tract infections, cervical cancer (R. Kaur, Kaur, and Kaur 2018). During menstrual periods, smell or dropping of sanitary materials in schools have also often resulted in fear, confusion, and shame for adolescent girls. This can also negatively influence their academic performance, confidence and may cause psychological stress (Belayneh and Mekuriaw 2019; Deshpande et al. 2018).

2.3 Adolescent health and rights in India: Current scenario

Gender inequality is one of the chief reasons for considering menstruation as taboo and menstruation hygiene being neglected in India (Garg and Anand 2015; Mahon and Fernandes 2010). Unequal rights given to men and women result in women's voices being ignored within households and communities that significantly impact women's health (Moss 2002). Due to cultural restrictions and superstitions, menstruating women are prohibited from utilizing water and sanitation facilities. In some reported cases, menstruating women are not allowed home as menstruation is considered impure. Therefore, a comprehensive program that engages both men and

women should be launched in India to improve the current scenario (Gundi and Subramanyam 2019; R. Kaur, Kaur, and Kaur 2018).

It has been highlighted that adolescent girls are often exposed to adverse experiences during their menstruation periods and face restrictions on various activities and religious rituals; some face superstitions associated with menstrual absorbents (Gundi and Subramanyam 2019). Furthermore, the lack of knowledge and awareness could influence adolescent girls' self-esteem and social mobility as several reports bullying about menstruation in this sensitive age (Gundi and Subramanyam 2019; Caruso et al. 2017). Furthermore, this lack of awareness and hygienic practices among menstruating females could adversely affect their reproductive health.

It is estimated that 19.2 % (231 million) of the population in India is aged between 15-24 years and 20.9% (253 million) are adolescents (M. Sivakami and Rai 2019). This means that one-third of India's population is young, translating into a larger workforce in the future, thus contributing to more significant economic growth and development. This age group must understand its full potential, which can be achieved with better health, education, and future livelihood opportunities (Government of India 2014; M. Sivakami and Rai 2019). The government has been showing great interest in the policies for adolescents with the National Youth Policy 2014 with greater emphasis on livelihood, skills development, marginalization of tribal and rural youth, sexual and reproductive health, nutrition, and others (Government of India 2014).

Recently, menstrual hygiene management has been discussed among policymakers in India. In 2014, the central government launched a new adolescent health program, *Rashtriya Kishor Swasthya Karyakram* (RKSK), which includes a menstrual hygiene scheme to increase public awareness, provision of facilities, and safe disposal of sanitary napkins in rural areas

(Chatterjee 2020). The Rashtriya Kishor Swasthya Yojana, 2014 implemented a nationwide program to address the issues of 10-19-year-olds. Organizations working on menstrual health management and hygiene have come together to form Menstrual Health Alliance India. In the past three years, several state governments have started distributing sanitary pads for free in schools in Odisha, Andhra Pradesh, Chhattisgarh, Maharashtra, and Kerala (Chatterjee 2020).

India's adolescents face many barriers regarding limited access to resources, education, life skills, employment, and sexual, reproductive health services (M. Sivakami and Rai 2019). Inequalities exist among adolescents in terms of geography, religion, culture, socioeconomic status, and marital status, affecting their transition from adolescence to adulthood (Wilson et al. 2018; Moss 2002; McCammon et al. 2020). Large scale studies such as the National Family Health Survey, District Level Household Survey, and National Youth Survey were also examined for their SRH component of young people. A complete understanding of SRH (sexual and reproductive rights) and the various dynamics revolve around young people. Some research is available on menstruation and its practices, early marriage, childbearing, reproductive tract and sexually transmitted infections, contraceptive use, HIV/AIDS, sexual abuse, and violence (Glasier et al. 2006; Morris and Rushwan 2015a; Otoo-Oyortey and Pobi 2003).

In contrast, research is generally lacking in SRH of people with disabilities, sexual minorities, and migrant groups. The onset of menstruation is an essential physiological change occurring among girls. Lack of discussion around menstruation makes it taboo, with many girls not being prepared for it. As a result, menstruation is considered impure and dirty, leading to fear and trauma, with restrictions related to work, sex, clothing, food, exercise, playing, mobility, and withdrawal from school (Ahmad, Singh, and Dwivedi 2019).

Early marriage leads to early childbearing (Naroor and Tribhuwan 2017), with 12% of women in the 15-19 age group having a child. A high risk

of pregnancy complications with pressure to produce a male child is seen. Premarital sex among adolescents has become the topic of discussion in developing countries, especially India. Rural-Urban differences in sexual acts have been noticed in never-married youth, increasing the ratio of rural youth to urban ones. Besides multiple partner sex activities, a significant number of young people report not using a condom during sexual intercourse. Adolescents who access pornography and aren't aware of sexual and reproductive health guidelines are more prone to early sexual activity and sexually transmitted diseases. In DLHS-3, only one-fourth of the married adolescents were aware of symptoms of RTI'S and STD'S. Knowledge about symptoms of STIs is low among adolescents (Parida, Gajjala, and Giri 2021). Due to social constraints, men are more concerned with obtaining sexual pleasure and avoiding infections using condoms rather than preventing unwanted pregnancies. This places the entire burden on giving birth and rearing children on females with associated social repercussions in premarital pregnancy. Seeking treatment for sexual transmitted infections is low among people living in rural as compared to urban areas (Desai et al. 2021; P. Kumar et al. 2021). to rural areas as there is a lack of amenities and awareness about sex education and general seclusion of the subjects among the community. Married adolescent girls generally do not prefer treatment as denoted in some studies (Dyalchand et al. 2021; P. Kumar et al. 2021; Desai et al. 2021).

Globally, India accounts for 7% of HIV-infected adolescents, with mortality leading to 9% and 11% of 15-19-year-olds being newly affected (Bharat and Sethi 2019). Among young adults, married women are at a higher risk of HIV due to a relative lack of awareness and safe sex practices, lack of perception, lack of agency, and unequal gender norms. Young women who engage in commercial sexual activity are stigmatized by society, leading to access to health services (ibid 2019). Adolescents who live with an HIV-positive status constantly live with the stigma of being secluded for fear of contamination. The constant questioning of their morals and an increase in children whose parents are affected with AIDS are dead, leading to them

becoming adolescents and a lifetime of sorrow and psychological complications. Non-consensual sexual relations account for about 18%, with a steady increase in abuse and marital rape (Miiro et al. 2018).

Reproductive health is of great importance, especially in Goa, where fertility is lowering, anemia among women is high, imbalanced child sex ratio, high suicide rate, and late marriages are prominent. Adolescents' reproductive health holds significance for future parents (Vernekar and Desai 2019; Cacodcar, Naik, and Oliveira 2016). Health is one aspect, but socio-cultural factors may influence reproductive health. On one side, we talk about and propagate reproductive health and rights among people, but on the other side, the socio-cultural factors may also impact in a significant way (Ahmad, Singh, and Dwivedi 2019).

Reproductive and sexual health and rights are gaining importance in recent years, but we still have a long way to go ensure them. There is no separate policy for adolescents, unlike a child, youth, women, and senior citizens. Adolescents are as crucial as other age groups and need attention to developing them as better citizens by ensuring accessibility to knowledge, health, education, and safeguarding their rights. Adolescent issues are significant because of their development during this transitory phase.

2.4 Menstrual health & hygiene: An adolescent girls concern

Menstrual hygiene management (MHM) is a significant issue affecting women's health worldwide. Menstrual health is an integral component of women's health. It significantly influences the physical, mental, and social well-being of women. Menstrual health management and menstrual health literacy are broad topics with many stakeholders and vast disciplines of active studies and contributions (Critchley et al. 2020). Menstrual health literacy refers to the level of capacity a person has to obtain, process, and further understand basic information about menstruation so they can make appropriate health decisions (ibid 2020). Lack of knowledge serves as an

important risk factor for all women. Reproductive health and menstrual hygiene are essential aspects of women's lives. Many developing countries, including Zambia, India, Ghana, etc. (Mohammed and Larsen-Reindorf 2020; Agyekum 2002; McCammon et al. 2020; Chandra-Mouli and Patel 2017), a natural process of menstruation is dealt with secrecy. Health, hygiene, sexual and reproductive health are recognized areas for health interventions in schools providing information to enable girls to make informed choices (Yaliwal et al. 2020; Vernekar and Desai 2019). The context is significant on how the girls are not determined, but there is an individual behavioral change in such circumstances. Various approaches address the socio-economic and cultural factors that impact the girl during her menstrual periods (Ahmad, Singh, and Dwivedi 2019).

Poor awareness, lack of knowledge, and unsafe menstrual hygiene practices have clinical significance for the girls themselves and their future offspring. The problem of lack of menstrual literacy gets worse with lower socio-economic contexts. It has been reported that 40–45% of adolescent school girls have poor knowledge and unsafe hygienic practice of their menstrual bleeding. There is a need to integrate hygienic menstrual practices in the health care system. Comprehensive efforts are required to implement essential policies to improve girls' awareness (R. Kaur, Kaur, and Kaur 2018; Min et al. 2020; Bhusal 2020). Several health promotion theories and approaches could be taken up (Davis et al. 2018).

Studies conducted in Zambian schools highlighted a population consisting of 51 girls aged 13-20 in the grades of 9-12 in three secondary schools in the Mongo district (Mutunda Lahme and Stern 2017). All had attained menarche. The description of menstruation began with very immediate practical realities. Over time, the girls started to develop rapport with the interviewer. Certain key facets were noted; menstruation was fraught with humiliation, stress, and shame due to a lack of understanding from male peers. The most devastating effect was observed on their education (Mutunda

Lahme and Stern 2017; Chinyama et al. 2019). While most female teachers supported the students, male teachers showed gross forms of humiliation and disgust towards underperforming girls during menstruation. There were many girls and men due to the Zambian culture of stigmatizing menstruation, which led to scant awareness and female fertility circle before menarche. The students who had some knowledge knew about it only as a biological event and were not prepared to the extent to which menstruation affects their short-term goals from school records to long-term complications such as loss of self-worth. Lozi tradition included an initiation process that the girls were supposed to go through on the onset of menarche (Mutunda Lahme and Stern 2017). The girls were isolated from their families for three weeks to six months, and after menarche, they were forced into early marriages. Poverty also served as a significant barrier. They could not purchase menstrual pads and resort to unhealthy practices like rags, leaves, and tissue leading to infections and various physiologic abnormalities. Structural and environmental abnormality also served as a key factor as there was inadequate water supply in a lot of schools and homes leading to them walking for long distances. Another hurdle was that they were allowed to dry their underwear and menstrual products due to lack of laundry lines leading to increase moisture and fungal infestation (Lahme, Stern, and Cooper 2018; Mutunda Lahme and Stern 2017; Chinyama et al. 2019).

Poor menstrual management affects many girls globally. A study was conducted in the Entebbe sub-district, a semi-urban area in Wakiso district, Uganda (Miiro et al. 2018). The sub-district contains 13 registered secondary schools for students 12-17 years. Fourteen key informants said that menstruation was the main impediment to school. The main reasons why menstruation kept girls away from schools were lack of access to protection methods and privacy for menstrual health management in schools. The constant fear of having a menstrual accident and subsequent humiliation from boys were also cited as a factor. Girls also had the feeling of being dirty and serving as a subject of ridicule. Stocking sanitary towels, plenty of water

supply, analgesics to relieve pain, and privacy were some of the critical factors raised by students. In qualitative studies, girls reported missing school four times more than when they were not menstruating and a barrier to school attendance among rural girls in Uganda. In addition, 10% of the girls reported missing school during periods, with 20% missing at least one day of school during periods (Miiro et al. 2018). In the rural populations of Guatemala, there is a lack of sexual and menstrual education in adolescent girls (Barker et al. 2018). The primary purpose of this project was to educate young girls on the aspects of menstrual hygiene and management, female anatomy and reproduction, and the reason for absenteeism from classes during the cycle. The adolescents had little knowledge of the practices and were eager to learn, and were filled with gratitude for the menstrual kits offered. A study was conducted in urban and rural schools in four provinces of Indonesia: Papua, East Jawa, South Sulawesi, and Nusa Teneggara Timur.

Sixteen urban and rural public schools were randomly selected, and a sample size of 886 participants was selected (Davis et al. 2018). The study identified poor menstrual hygiene practices among half to three-quarters of adolescent school girls in Indonesia despite knowing menstrual products. Lack of knowledge about menstruation and MHM proved a significant and independent predictor of poor MHM among participants in this study. Those with lower knowledge are likely to report poor MHM than girls with high levels of knowledge. This is consistent with findings from studies in West Bengal, India, and Ethiopia, where positive associations between knowledge and MHM among adolescent girls have been reported (Davis et al. 2018; Roy et al. 2021; Lim 2018; Fisseha, Kebede, and Yeshita 2017). Data reflects the connection between rural residence and the poor. MHM indicates differences in the availability or quality of menstruation education as sexual and reproductive health education is less commonly provided in rural areas (Davis et al. 2018).

Menarche is attributed as positive enforcement to "sexual maturity." However, in marked contrast, a study of educational materials proved the central point conveyed to adolescent girls was a hygienic crisis (Chandra-Mouli and Patel 2017). A study was conducted on 18 post-menarchal girls and 18 pre-menarchal girls, and 18 boys. All were in sixth to eighth grades, belonging to the middle and upper urban areas. They were asked to complete a questionnaire. There were mixed reactions to menstruation. Neither group is comfortable talking about it, especially males, nor were 50% of the groups worried about getting menstruation. The girls generally learned information from their mothers or friends. Many negative attitudes and aspects of physical discomfort in menstruation were already ingrained in young girls going to the phase of menarche (Walmer 2021). In Ethiopia, educational interventions on menstrual hygiene emerged as essential elements to improve girls' knowledge and confidence regarding menstrual hygiene and management (Chandra-Mouli and Patel 2017).

A menstrual cycle pattern provides a view into female reproductive biology. A cross-sectional descriptive study was conducted among 120 selected female nursing students of Eleyele and University College Hospital in Ibadan. Out of the 120 participants, 53% experienced moodiness, and 47% experienced irritability, with 57% having a headache, 53% had a weight gain during the premenstrual periods, whereas 60% and 20% respectively during the menstrual period and various other physical manifestations. Although about 70% of the women use sanitary napkins and clean clothing materials, tampons were used for management (Moronkola 2006).

Polycystic ovarian syndrome leading to obesity, growth of facial hair had negative reinforcements on the adolescents in the growing up years (Witchel, Oberfield, and Peña 2019). The women will remain the focus of reproductive health activities since the sexual and reproductive health burden falls on a woman far more than men. Menstruation is considered an indication

of a woman's positive reproductive health status of a woman but the issue of premenstrual and postmenstrual symptoms still serves as a threat (Brooks-Gunn and Ruble 1982).

In a study conducted in Srilanka, the most commonly perceived health disorder among adolescent school children was menstrual disorders (Chandraratne and Gunawardena 2011; Agampodi and Agampodi 2018). In Beruwala, it proved challenging to make the girls even talk to Midwives on menstruation as it was considered dirty (Agampodi and Agampodi 2018). Several unpublished studies from 2009-2018 in Rajratha University of Srilanka show that menstrual issues were the leading perceived health problem. For many conditions related to menstruation (heavy bleeding), the girls were unwilling to seek medical help as they were embarrassed to discuss it. The embarrassment was mainly due to cultural issues, even undergraduate medical students. The School curriculum does not include menarche until 12, with various cultural stigmas and lack of awareness as chief causes (Agampodi and Agampodi 2018). The United Nations Population Fund (UNFPA) 's Water Aid initiative in Sri Lanka hopes to break these barriers (Agampodi and Agampodi 2018).

Seasonale hit the markets in the year 2003. It was the first extended-cycle oral contraceptive drug designed to suppress women's and girls' monthly menstruation, offering women the possibility of having four rather than 12 cycles of menstruation a year (Mamo and Fosket 2009). It promised a reframing of the body and promised to provide life-changing results. Using oral contraceptives (that suppress menstruation) safely lets women and girls choose and under their cycles and keeps their hormonal profiles under check. Suppression of bleeding by this means that the inconvenience of menstruation can be handled in exceptional circumstances, especially for women and girls who are athletes or under various circumstances where menstruation will serve as a hindrance or when bleeding poses sanitary problems or in severely mentally challenged individuals (Mamo

and Fosket 2009). But the problem many individuals face with such a reaffirmation is that the problems women face due to menstruation are diverse, but the ideology that menstruation itself is a threat is far-fetched. The author first starts to produce a concept that women's bodies are messy and producing menstrual suppression is the best solution. With the rapid and subsequent increase in the use of pills, the aspect of bodies being reshaped like other lifestyle pharmaceuticals brings about a new structure rather than treating the existing human body and its ailments (Mamo and Fosket 2009). Reconfiguring bodies indirectly plays to the cultural propaganda that menstruation is a disorder or impediment and superimposes it with narratives of inconvenience and limits menstruation to restriction of freedom and lack of cleanliness. Its various campaigns never focused on the woman with menstrual disorders rather than giving a discourse about making woman's lives easier (Mamo and Fosket 2009). There exist several menstruation-related programs around the World (Armour et al. 2020). This includes NGOs providing sanitary products, reproductive health guidelines or MHM information, and investment schools to improve water and sanitation facilities. Many national governments, such as South Africa and India, have also begun subsidizing the provision of sanitary pads (reusable and disposable) to girls in school (Critchley et al. 2020; Chatterjee 2020).

Many campaigns and efforts were launched recently to address the hygienic practices among adolescent girls during their periods, but all these measures were inconsistent and lacked operational effectiveness and uniformity (Hennegan et al. 2020). Interdisciplinary efforts are needed for better awareness of menstrual hygiene practices, menstrual knowledge, attitudes, norms, and restrictions.

2.5 Menstrual activism and advocacy

Breaking the chain of silence around menstruation is essential for women and girls to achieve and exercise their full potential. Even today,

Indian society is facing a lot of reluctance to discuss menstruation-related issues. Menstrual hygiene has empirically been the entry point to raise broader issues like gender equality and women empowerment (Vishwakarma, Puri, and Sharma 2021). The Indian state's health policies have failed women as they do not recognize that considering women as impure during menstruation is a cause of women's health inequity. This very denial by the state policy of women's gendered health experience can be termed as menstrual injustice (Manorama and Desai 2020).

Ever since the cosmopolitan magazine recognized 2015 as "The year, the period went public, "a small but growing number of lawyers and activists have turned their eyes towards the intersection of law, public policy, and menstruation (Bobel 2015). The term menstrual equity refers to the idea that approximately one-half of the human population menstruates for a major portion of their lives. Activist Jennifer-Weiss Wolf said that" Our issues aren't all the same, whether you are discussing access, participation, democracy and justice in regards to menstruation" (Crawford et al. 2019).

In April 2016, Newsweek ran a feature on menstrual activism. The cover featured an unwrapped tampon against a deep red background. Significant, bold, and contrasting white words read: "There Will Be Blood. Get Over It. Period Stigma is hurting the economy, schools, and the environment. But the crimson tide is turning." When a mainstream, high-circulation news organization ran a feature like this, it signaled that something had shifted in the urgency around menstrual culture (Bobel and Fahs 2020).

A paper titled "Periods and Workplace policy" proposes expanding federal employment law to normalize and de-stigmatize menstrual management at work (Karin 2019). Currently, effectively recognizing periods at the workplace is a policy that protects workers' needs to manage their periods. Other laws fail to recognize access to breaks, flexible scheduling, and

safe spaces to apply sanitary products. Dearth in menstrual education and shame associated with menstruation face discrimination and psychological stress (Hennegan et al. 2020). The proposal wants to create menstrual accommodations at work, including access to job-protected break times and flexible hours, access to safe water and facilities with the presence of sanitary products (Karin 2019).

An article called menstrual justice examines menstrual justice as structural intersectionality. The operation of subordinating powers affects different and overlapping classes of persons with a specification to adolescents (Crawford et al. 2019).

Menstruation and menstrual health have started to move from the margins to the center in terms of media, policymaking, in scholarly literature in various fields especially public health. An article by Sebert Kuhlmann et al. shows that two-thirds of the women who participated in the study could not afford needed menstrual supplies over a year (Kuhlmann, Henry, and Wall 2017). The article provides a welcome shift, highlighting the vast inequalities in women's healthcare across different strata of society. Adequate menstrual management should be regarded as a fundamental human right. The insidious ways in which poverty is perpetuated are portrayed and how menstrual cycles are associated with food inadequacy and transportation facilities. An intersectional approach to menstrual health can be explored based on income, race, ethnicity, age, and needs across the life cycle. Menstrual activism should also cover the areas of migrants and refugees, homeless women who lack toilet facilities, and menstrual health products (Crawford et al. 2019). Menstrual stigma and perpetuating negative incomes are to be studied and determined. Studies show that adolescents have limited knowledge of menstruation and changes during puberty and negative and ambivalent feelings (Phinney 1996; Fingerson 2012). There are instances where health care educators are not equipped to recognize menstrual disorders where it takes up to 6 six years to determine endometriosis. Unmet menstrual needs

serve as a barrier from women performing in society (M. Sivakami and Rai 2019; van Eijk et al. 2016; Davis et al. 2018). The rights of a menstrual shift towards government organizations as we cannot depend on the local organizations to fix menstrual needs due to lack of accountability.

The article points out that the Women, Infants, and Children (WIC) and Supplemental Nutrition Assistance Program (SNAP) benefits do not cover menstrual products (Kuhlmann, Henry, and Wall 2017). The removal of the "tampon tax" also serves as an important governmental intervention (Crawford and Spivack 2017). We can use products as a natural entry point, but products alone will not normalize menstruation and change socio-cultural norms. A study on the neglected Korean feminist history talks about the social discourses and campaigns such as the 'Menstruation festival'(Ganguly and Satpati, n.d.), 'Pads up down campaign'(Fadnis 2017), and 'Blood sisters solidarity' (Roh 2019). It considers the difference in strategies regarding menstrual health in the socio-cultural context covering the aspect of menstruation with ecofeminism talking about the use of alternative pads substituting conventional non-biodegradable pads. The early research on women's reproductive health was to claim power over men (Roh 2019). In the 2018 book It's Only Blood, Swedish journalist Anna Dahlqvist explores the global movement to center attention on menstrual health, looking at the incomprehensible paradox: how can women's procreative capacities, from which all humanity springs, be revered, while evidence of this menstruation is shamed. Through the man's eyes, women are reduced to a sexual object meant only for the sexual gratification of males and procreation. These are basic steps to take menstrual hygiene into our own hands (Dahlqvist 2018).

- Breaking silence: challenging menstrual shame and secrecy is a job for all of us to break notions of patriarchy.
- Talking healthcare into their own hands: women should take their health and hygiene and put it on the center stage of their lives for everlasting happiness.

- Paying attention to women from all disadvantaged backgrounds and providing them equal access to healthcare and opportunities (Tucker et al. 2019).

The menstrual Status Quo of shame, secrecy, and fixed notions is broken through visual and performance art, ritual, blogs, campaigns, workshops. In contrast, some activists look at menstrual health as the source of feminine power (Bobel 2010). Still, there are certain contradictions to this principle in which the aspect of menstruation being a normal physiological is super inflated with structural components. There is a focus on the global menstrual health care industry to provide more awareness campaigns and bring about low-cost and safer alternative methods of menstruation (Zhongming, Wangqiang, and Wei 2021). The vital sign campaign from the American Academy of Paediatrics reframes menstruation as the vital indicator of woman and adolescent health (Bobel 2019).

2.6 Menstrual health and adolescents girls in India

Females constitute half of India's population, yet gender disparities remain a critical issue in India impacting women, adolescents on education, health, and workforce participation. Boys and girls mostly have equal rights up to adolescence, but girls start to face severe restrictions in their agency and mobility after puberty. In addition, there are about 355 million menstruating girls in India, yet millions of women across the country still face barriers to accessing affordable menstrual healthcare options (N. Kaur and Byard 2021).

A landscape analysis report considered 60 peer review articles and over 30 interviews with experts and practitioners in menstrual health. The report suggested that Uttar Pradesh and Bihar had low standards of menstrual hygiene compared to Tamil Nadu and the Country research for India with 72 interviews from adolescents with adolescent girls from Rural and Urban areas

of Kanpur, UP, and Coimbatore, Tamil Nadu. The interviews of 32 influencers like mothers, sisters, teachers, and community health care workers (FSG 2016).

Girls do not consistently have access to proper education and menstrual practices. About 71% of the girls did not know about menstruation, with 70% thinking the process is dirty, girls do not have access to quality healthcare products concerning menstruation, and lack of proper sanitation facilities, with 63 million adolescent girls having no proper access to toilets (Mahon and Fernandes 2010).

Uttar Pradesh is India's most populous state, where adolescent girls in rural areas are worse in hygienic practices than in urban areas. Schools lack resources and proper infrastructure to support menstruating young girls (McCammon et al. 2020). Implementing the government's scheme regarding hygienic menstrual practices has also faced significant problems, especially regarding inadequate field workers' scientific knowledge and their inability to community awareness (Chatterjee 2020). Cultural attitudes towards menstruation also vary across the country, and the awareness campaigns should also consider local context before launching any public awareness campaign (Yaliwal et al. 2020). Due to cultural taboos, families remain illiterate; even the availability of sanitary pads does not ensure its utilization due to a lack of knowledge about how to properly use and dispose of sanitary pads. Affordability is another problem financially low-income families face: they use dirty clothes (R. Kaur, Kaur, and Kaur 2018). The biggest challenge regarding lifting the silence over menstruation and educating the community lies in rural India.

In India, menstruation activism plays a vital role in the community's education regarding menstrual health and hygiene, mainly focusing on adolescent girls. The Child in Need Institute (CINI) is a non-profit organization addressing adolescents' sexual and reproductive health and rights. The organization is reaching out to adolescent girls in schools for

awareness of menstrual hygiene and health by counseling them about taking supplements of iron-folic acids during their periods (Chatterjee 2020). In 2019, *Ab Meri Baari* (My turn now), a nationwide campaign, was launched to build awareness about adolescent rights and presented a charter of recommendations that included ensuring that sanitary pads are available in child care centers.

There is strong evidence about widespread anecdotes of discrimination, restriction, and isolation. The enablers for improved menstrual health are menstrual education and various aspects of puberty in classrooms, emphasizing the practical aspects of managing menstrual health rather than theoretical aspects (Chandra-Mouli and Patel 2017). Out-of-school girls are primarily left out of menstrual programs, and existing out-of-school girl programs are based on limited information, so the education pattern should be all-inclusive. In addition, most girls depend on female influencers like sisters and mothers, which reinforce many negative beliefs. Field programs generally focused solely on menstrual health management and awareness show tremendous potential.

In contrast, more extensive programs that highlight menstrual health as a part of sexual education make menstruation only a process for becoming a mother, and hence such programs are ineffective (Crankshaw, Strauss, and Gumede 2020; Hennegan et al. 2020). Menstrual health awareness programs about product adoption have a low scope and scale. Menstrual health programs generally focus on period management and not on psycho-social issues (Hennegan et al. 2020).

In 2015, surveys were conducted among menstruating school girls in classes 8-10 among 43 government schools through stratified random sampling in 3 Indian states (Maharashtra, Chandigarh, and Tamil Nadu) (Muthusamy Sivakami et al. 2019). In comparison with 10 model schools from the states which were under the NGO's or UNICEF with a focused menstrual education program were chosen. More girls were informed about

menstruation before menarche (56%) in model schools than in regular schools (39%). Girls reported menstruation affected school attendance, concentration and was associated with pain, fear of stain, or smell. Absenteeism during menstruation was comparatively lower in Tamil Nadu and Maharashtra than in Chandigarh (Muthusamy Sivakami et al. 2019). Pain medication and disposable pads were associated with lower absenteeism in school (Benshaul-Tolonen et al. 2020; Davis et al. 2018). Inadequate options for menstrual hygiene in low and middle-income conditions. Inadequate menstrual hygiene had gross effects on the system, leading to infections of the reproductive tract. Girls should be aware of menstruation and the use of menstrual hygiene products, which are talked about with the help of WASH- water, sanitation, and hygiene programs in school (Benshaul-Tolonen et al. 2020). A systemic review of Indian studies showed that barely half (48%) of adolescent girls in India knew about menstruation with worrisome disposal methods (Muthusamy Sivakami et al. 2019).

In another Meta-analysis conducted between 2000-2015, data from 138 studies involving 193 subpopulations and 97,070 girls were extracted. Among 88 studies, half of the girls reported knowing about menstruation before menarche, and the use of commercial pads was more common in the urban than the rural population with general poor disposal methods. Menstruating women experienced many restrictions, especially in terms of religious activities. A lower level of absenteeism was noted in girls who used commercial pads, half of the girls had toilets in schools, and approximately one-third of the population changed absorbents in their facilities (van Eijk et al. 2016).

Clothes were traditionally used to absorb menstrual flow. Still, disposable pads have started to gain prominence, and lack of water and sanitation leads to difficulty in drying pads. In addition, girls preferring to hide their pads in closed spaces rather than drying them in the sun leads to an infestation of microbes. Insertable menstrual products such as tampons and

menstrual cups were rarely mentioned in the study. The lesser use of these products can be related to notions on virginity, despite invalidation between hymen and the use of menstrual products (van Eijk et al. 2016).

Another descriptive cross-sectional study was conducted among adolescent girls between 10-19 years of age who had attained menarche in the rural district of Barabanki. A total of 640 adolescent girls were included in the study. The study found that 387 were using sanitary pads, 627 washed their hands before using pads, and 457 girls were regularly bathing during menstruation. However, only 146 were washing their genitals while changing pads. Moreover, many girls were disposing of menstrual pads in a concealed manner at home and school. The risk of having unsatisfactory menstrual practices was 210 girls, and most of the mothers of these girls were illiterate. Therefore they could not educate them on healthy practices, and 430 girls had safe menstrual practices. Socio-economic strata also favored girls of better socio-economic strata (Ahmad, Singh, and Dwivedi 2019).

In Delhi, a cross-sectional study involving 187 students from four governmental schools aged 13-15 years determined the factors that serve as a barrier preventing them from practicing menstrual hygiene. On 40% of the girls had information on menstruation before menarche. However, most girls (95.7%) did not know the source of menstrual blood. 17% believed a woman was impure during menstruation, and about half the girls were absent during 2-3 days of their menstrual cycle. Furthermore, 34% of the girls did not bathe during menstruation, and dysmenorrhea was a common cause among 60% of the girls. Strategic behavioral change innovations should be done to obtain sustained knowledge, attitudes, and practices to ensure the better health of adolescent girls (Rastogi, Khanna, and Mathur 2019).

In West Bengal, a study was conducted in the peri-urban area of Duttabad in the North 24 Paragana District. A total of 90 adolescent girls aged 16, 17, 18 were selected, were not present in wedlock and completed two years of menstruation after menarche. Underweight girls attained menarche

comparatively at a later stage compared to healthy and overweight girls. Underweight girls experienced mood swings, irritability, lower abdominal pain, back pain, and PMS symptoms. Nutrition played an essential role in healthy reproductive outcomes, and hence socio-economic strata played a crucial role in shaping health and symptoms (Samanta, Thakur, and Goswami 2019).

In a convenience sampling method, 32 adolescent girls (8 girls who did not attain menarche, 24 who attained menarche were taken) between August and September 2012 from a government girl's secondary school in Thane, Maharashtra. Group discussions and a thematic analysis were done. Most of the participants lacked adequate knowledge on menstruation; all communications between friends and their ones with their mothers were limited. Financial constraints and difficulty obtaining pads were also factors (Behera, Sivakami, and Behera 2015).

Qualitative research and in-depth interviews were conducted with mothers of 23 intellectually disabled adolescents. The inclusion criteria were children with an IQ of 20-50 between the ages of 11-19 who had attained their menarche in seven institutions. Menstrual issues were more profound in disabled adolescents than their counterparts. Most of the mothers recounted that they were handling the menstrual needs of their daughter on their own with little support. The mothers found it difficult to enforce sanitary napkin use on their intellectually challenged daughters and often had to use the process of coercion. The adolescents found it extremely difficult to wear a napkin and were not given menstrual education as they were seen as too naïve. The lack of training makes them feel uncomfortable about bleeding and the use of sanitary napkins rather than their inability to recognize. Most mothers preferred their daughters to be at home during the menstrual cycle as they were utterly dependent on the mother for changing their sanitary napkins. Since school was one of the happy phases for adolescents, they found it hard to be confined to their homes during the days of the cycle.

The aspect of menstrual hygiene is lacking in intellectually challenged adolescents as there is no proper guidance in terms of school. They are not given menstrual awareness programs and hence have to depend on mothers or other figures in their life like sisters etc., for their basic menstrual needs. There is no form of continuous education and reinforcement to understand the aspects better. The aspect of being conscious about one's own body develops with socialization. Some intellectually challenged individuals have redundant or nil social skills and understanding. Hence, they were openly talking about it to Male members or may even leave the toilet open during changing napkins, leading to distress among mothers. With decreased cognition relaying information and understanding them proved difficult for them. Hence, education proved to be a challenging task. Physical discomfort and mental manifestations such as mood swings and irritability led to more problems. Repeated training of the adolescent and positive reinforcements helped in some leading to good results. In contrast, in some cases where the adolescents were utterly dependent on the mother, the mother sometimes did hysterectomies.

Numerous studies have shown that principles used to guide menstrual hygiene in non- intellectually challenged individuals can be used to intellectually challenged individuals with various campaigns and awareness programs in place (P. Thapa and Sivakami 2017).

In India, menstruation is considered a "Women's Topic," and men are not included in the discussion. This exclusion of adolescent boys fails to understand menstruation as a social epidemiological entity with existing gender inequalities (R. Kaur, Kaur, and Kaur 2018; Gundi and Subramanyam 2019). Therefore, it is imperative to engage boys for a meaningful role in improving women's health. Therefore it is equally important to study men's knowledge and beliefs regarding menstruation and female reproductive health and their menstruation-related experiences (Gundi and Subramanyam 2019).

A study on the boys' knowledge of menstruation and his views towards the process was conducted in 8 schools with 85 boys aged 13-17 years by a multinational research team to develop evidence-based guidelines for menstrual health management throughout schools in Tamil Nadu, Chattisgarh, and Maharashtra. Biological functions regarding menstruation were poorly understood, all recognized cultural rites and girls' behavior was withdrawn and seen as a recluse during that period. Some learned about puberty in the curriculum, but it was not in-depth, and many learned it from informal sources. Few boys displayed a hostile attitude, whereas some thought it was a disease. Lack of education and awareness with negative reinforcements from culture played the central part in menstruation's perception, leading to polarity, patriarchy, and generalized ignorance. Few boys felt pity over their sisters during menstruation (Mason et al. 2017).

A study titled *'Menarche and Menstruation in Rural Adolescent Girls in Maharashtra, India: A Qualitative Study'* (Behera, Sivakami, and Behera 2015) explored the perceptions, practices, and experiences related to menarche and menstruation among rural Indian adolescent girls. A convenience sampling method was employed to select the 32 adolescent girls. Among these 32 respondents from rural Maharashtra, eight girls were those who did not reach menarche, and 24 girls attained menarche studying in 9th Standard (14-15yrs age group). FGD guidelines and unstructured questions, 5 Focused group Discussions (30-40 mins) were analyzed through thematic analyses. In addition, their awareness, sources of knowledge, and perceptions on menarche and menstruation; their experiences of physical and psycho-social changes after menarche, socio-cultural practices, menstrual hygiene management practices, and their experiences of menstrual morbidities and coping mechanisms were studied.

Most of the participants, especially girls without menarche, lacked adequate knowledge about menstruation and its processes. All communications regarding menstruation were between friends, whereas

mothers played a limited role. Some girls used sanitary pads, while most girls still used old clothes. Financial concerns and difficulty obtaining sanitary pads were major obstructions to their use. These girls reported a lack of awareness and appropriate care for menstrual morbidities, which impacted their educational attainment. Socio-cultural and mobility restrictions practiced during menstrual periods**:** abstaining from worshipping God, cooking and some of the household work, not touching the preserved food grains, especially rice, stored powdered spices, pickles, etc. (ibid 2015).

A recent study on menstrual morbidities, menstrual hygiene, cultural practices during menstruation, and WASH practices in adolescent girls of north Karnataka, India, highlighted that cultural belief and inadequate facilities at school lead to school absenteeism and poor academic performance. Openness to the topic and ground-level recognition of school deficiencies should reduce school absenteeism. The study also suggested the inclusion of Menstrual Hygiene Management in the school curriculum for better education of adolescent girls (Yaliwal et al. 2020).

The study suggested that a relevant strategy needs to be developed to provide correct knowledge about menstruation among adolescent girls, such as including adolescent-friendly services in the school curriculum and training mothers and teachers to provide friendly counseling to the girls. In addition, the study recommends the installation of menstrual pad vending machines in schools and colleges so that girls can easily access sanitary pads at a subsidized rate. During menstruation, special care and support can also prevent several adverse events in adolescent girls' lives (Yaliwal et al. 2020; Senderowitz 1999).

2.7 Government interventions on menstrual hygiene, menstrual health and customs

There are various government initiatives and interventions to tackle menstrual hygiene and health and combat menstrual taboos.

In 2014, the central government launched a new adolescent health program, *Rashtriya Kishor Swasthya Karyakram* (RKSK), which includes a menstrual hygiene scheme to increase awareness—as well as access to, use of, and safe disposal of high-quality sanitary napkins—among adolescent girls in rural areas in states such as Kerala, Maharashtra, and Odisha (Chatterjee 2020).

Menstrual hygiene is often considered a multi-dimensional issue that requires integrated action from various disciplines like the Department of Education, Health, Women, and Child Development and Water Sanitation Hygiene (WASH) (Hennegan et al. 2020). In 2005, the Government of India launched the National Rural Health Mission (NRHM), and menstrual hygiene education and promotion were included as a vital responsibility of the community health workers (Accredited Social Health Activist; ASHA) (Sharma et al. 2020). In 2015, the Ministry of Drinking Water and Sanitation published guidelines on MHM (MHM-Guidelines 2015). In addition, there have been a lot of efforts at national and international levels to focus on this issue through various platforms, including the making of a film named 'Padman' and the launch of menstrual hygiene campaigns (Sharma et al. 2020).

In India (Barua et al. 2020), the organizations that are currently working towards adolescents and menstrual health are:

- UNFPA INDIA: Supports the Ministry of Health and Family Welfare to develop the National Adolescence Health strategy, Rashtriya Kishor Swasthya Karyakram (RKSK) and supports the development of low-cost sanitary napkins (UNFPA 2012),

- UNICEF INDIA: Supports the development of India's national MHM Guidelines. Provides leadership training for stakeholders, policymakers, and decision-makers on MHM (UNICEF 2019),
- WASH (water, sanitation, and hygiene) in Schools aims to increase the number of girls completing primary school and entering secondary school, with MHM as a critical strategy. This involves partnering with the government to provide MHM education, counseling in schools, and installing sanitary pad vending machines (Bhardwaj 2020),
- WASH UNITED INDIA: Game-based MHM Curriculum, currently being piloted and tested in a few states to empower girls to overcome the stigma around menstruation. The game also engages boys as supporters and teachers for sustained guidance (Muralidharan, Patil, and Patnaik 2015). Menstrual Hygiene Day Advocacy effort to elevate the issue of MHM within the development sector (Bhardwaj 2020). The Great WASH Yatra (Nirmal Bharat Yatra) is a mobile carnival that engaged over 16,000 people in schools and communities across 5 Indian states on sanitation, including MHM (Chanam 2012),
- WATER AID: provides information about menstruation to women and girls and men and boys to address taboos (George 2015), adapts existing WASH services for MHM needs, that is ensuring space to wash menstrual cloth (Muralidharan, Patil, and Patnaik 2015), provides access to MHM products (hygienic clothes or disposable sanitary pads), rains key stakeholders (district-level health and frontline workers) (MHM-Guidelines 2015),
- Ministry of Health and Family Welfare (MoHFW): The Rashtriya Kishor Swasthya Karyakram (RKSK), India's national adolescent health strategy, launched in January 2014 to prioritize access to MHM information, support, and MHM products through Adolescent Friendly Health Clinics and counselors.
- Ministry of Drinking Water and Sanitation (MoDWS): The Swacch Bharat Mission (SBM), India's national cleanliness program launched

in October 2014, is run in rural areas by MoDSW and urban areas by MoUD. It prioritizes sanitation infrastructure (e.g., individual and community toilets, solid waste management) and awareness programs for behavioral change. The MoDWS recently took the lead in drafting the National MHM Guidelines.

- Ministry of Human Resource Development (MoHRD): The Sarva Siksha Abhiyan (SSA, 2000-01) and Rashtriya Madhyamik Shiksha Abhiyan (RMSA, 2009), which aim to provide elementary education for all and enhance access to secondary education, respectively prioritize sanitation infrastructure in schools as a way to improve school retention. Additionally, Swatch Bharat: Swatch Vidyalaya, 174 India's national sanitation guidelines, emphasizes MHM facilities in schools (for example, incinerators).
- Ministry of Women and Child Development: The SABLA program (2011), integrated service to improve health, nutrition, and empowerment for girls, suggests providing awareness.

2.8 Menstrual exclusion practices and taboos: Global to local

Menstruation serves as the only topic of discussion that is met with both reverence and exclusion at the same time. Various cultures and countries have exhibited various stigma and taboos concerning menstruation (Garg and Anand 2015). Dismantling them first needs a clear understanding of the source, manifestations, and the extent of the damage. The various taboos are often life-threatening and bring about long-term psychological damages.

Taboo is the act of placing certain restrictions on specific acts and utterances in society (Lambek 2021). These prohibitions indicate that specific actions are restricted within a society and are either shamed or hurt when they continue to do so (Hennegan et al. 2020).

In Nepal, a qualitative study was conducted in the Achham district of Nepal. Two commonly conducted menstrual practices were seen; one was

the seclusion practice known as Chhaupadi where women were secluded. The second is to stay in a small shed or place away from the house and be restricted to take a bath in public water sources for 5-7 days, whereas in separation practice, women can stay in the house but still face several restrictions. The cultural beliefs generally labeled menstruation as impure with poverty. Illiteracy played a significant factor in enforcement, and the menstrual awareness programs brought about a slow change (S. Thapa, Bhattarai, and Aro 2019).

The Gambia is the smallest country in mainland Africa. The study was conducted in seven schools within four rural villages of Gambia, and it had a predominantly Muslim population. Menstruation was considered a period that was impure and unclean, and a girl had to purify herself before returning to standard practices. In addition, religious restrictions for Women, such as entering the mosque, touching or reciting the Quran, and fasting during Ramadan, were highlighted by the women during the study (Shah et al. 2019).

A community-based cross-sectional survey was conducted in 2010 among 389 post-menarchal adolescent girls aged 13-19 years at five high schools in Sidon and suburbs. Two hundred girls noted that they practiced restrictions during menstruation based on their socio-cultural beliefs. For example, some would not remove unwanted hair because it was impure during menstruation; many changed their diet regimens and did not walk barefoot. In addition, some did not touch plants as it is believed a woman's touch during that period on a plant hurts the plant's growth and does not attend social gatherings, which negatively impacted their activities and life structure (Santina et al. 2013).

'Niddah' is defined as a menstruating woman in Judaism, and she is prohibited from any form of activities until she has taken the purification bath and should avoid sexual intercourse. *Amaxhosa* ethnic group is one of the largest ethnic groups in South Africa. There is a seclusion practice known as

Intonjane, which refers to the female rite to a passage at menarche, and a function was initiated where the girls were said to be ready for marriage due to the development of sexual and reproductive maturity and were secluded for eight days with rituals and animal sacrifice. The second part of the ritual was known as *inkciyo*. After that, there was a physical examination of the vagina to determine whether the hymen was intact, exclude any malpractices, and receive a considerable bride price. In Nigeria, Tanzania, and Ghana, menstruation was considered harmful and impure, and women were not allowed to cook, attend social gatherings or do various other activities.

Verbal taboos among Akan speakers of Ghana were studied and concluded that euphemisms were developed not to utter the word menstruation. Two models were generally seen. A positive model attributed menstruation to fertility and the arrival of a protective visitor, whereas a negative model included menstruation as negative, revolting, messy, and subjected to seclusion. In Yurok, menstrual blood was considered a poison and would contaminate anything it came to contact. In the island of Wogeo, menstrual blood and sexual intercourse were considered to be harmful to men (Agyekum 2002). A recent study on menstrual knowledge, socio-cultural restrictions, and barriers to menstrual hygiene management in Ghana highlighted that open discussions about menstruation and its management are not encouraged, and girls are considered unclean and impure during the period of menstruation. None of the schools had a regular supply of water in WASH facilities, a mirror for girls to check their uniforms for bloodstains, or soap in the toilet facilities for handwashing (Mohammed and Larsen-Reindorf 2020).

In India, there are certain practices where the menarche or first period of a woman is a celebration, but some deep-seated cultural taboos exist. Even in the 21st century, some parts of the country where the burial of bloodied menstrual clothes is considered taboo. It is also believed that menstrual fluid could be misused for black magic, so women should wash the bloodied clothes during menses only at night. Menstrual waste has also been

associated with witchcraft and superstitions, like considering menstruating women as toxic and not washing their hair as it is believed to impede blood flow (R. Kaur, Kaur, and Kaur 2018).

A study was conducted in a northern slum in Delhi among 380 women. Many taboos were noticed, and the community and the strongest was avoidance of sexual intercourse during menstruation. Avoidance of sex was supposed to prevent the harmful effects of menstruation on men's and women's bodies. Women also did not enter the kitchen during that time as they were considered impure. Some women of the Muslim religion during menstruation as cold water leads to swelling of the fallopian tube and abdominal pain (Garg, Sharma, and Sahay 2001). An observational, descriptive, and cross-sectional study was done on 146 girls who had attained menarche in a school setting among rural adolescent girls in 3 schools in India. 75.3% of the population thought the practices regarding menstruation were important for society. Menstruating women are generally branded as impure. According to Hinduism mythological story, menstruation was because Lord Indra had slain Vitras. Women took up the killing of the brahmana on behalf of women Indra, and hence they bleed every month. The current taboos that are being followed are:

- Not entering the prayer room
- Not entering the kitchen
- Certain principles associate shame and consider it an evil process.
- Some women bury the clothes they use during menstruation to ward off evil spirits.
- Many young girls believe that exercising during periods aggravates dysmenorrhoea, but it is said to cure it.
- It is believed that when a woman touches a cow during menstruation, the cow becomes infertile (Banerjee 2019).

Various euphemisms to denote menstruation have also been noted in states like Kerala where menstrual blood is denoted as a pollutant restricting

a woman's agency, mobility, and empowerment. In Tamil Nadu, a young girl had died in a cyclone of 2018 due to seclusion and staying in a dangerous circumstance during menstruation.

2.9 Menstrual health and adolescent girls in Goa

Goa has a prominent adolescent population. Although few studies concerning menstrual awareness and hygiene have been conducted on adolescent girls residing in Goa (Vernekar and Desai 2019; Sharma et al. 2020), there is still a study a lot of scope in this field. There is a need for a broader study on the adolescent population of Goa regarding menstrual hygiene management strategies, awareness, facilities, and restrictions among various segments of society to understand the restrictions and problems faced by the female adolescent population regarding menstrual hygiene. Some of the existing literature related to menstrual hygiene practices by adolescents in Goa is discussed below.

A cross-sectional study was conducted among adolescents in South Goa. The students were selected by random sampling method and were interviewed by a pre-planned and structured questionnaire. 87.1% had regular menstrual cycles, and 92.8% had normal menstrual flow. 63.4% had no or mild dysmenorrhoea, whereas 31.2% had moderate dysmenorrhoea, and 5.5% had severe dysmenorrhoea. The symptoms asked for were nausea, abdominal pain, vomiting during periods. Itching during urination, burning in the vulva was also considered in the study. With 80.9% developing pearly white vaginal discharge, 18.1% reported curdy white vaginal discharge and 0.8% had complicated greenish discharge, and 0.2% had blood-stained discharge (Cacodcar, Naik, and Oliveira 2016).

The problems related to menstruation were prevalent, with menstrual regularities being frequent during the first few years after menarche. Other symptoms such as amenorrhoea and profuse bleeding may denote a pathological abnormality (Cacodcar, Naik, and Oliveira 2016).

A cross-sectional study was conducted between August 2018 and September 2018 regarding knowledge about the origin, causes, and sources. Two hundred seventy-three students were selected from 5 schools aged 11-16 years under the Rural Health and Training Centre, Madur, which were rural schools. It was noted that 83.9% knew about menstruation before attaining menarche. The majority of students received knowledge from their mothers, and 54.8% knew that the source of menstruation was from the uterus. In comparison, 35.9% of the girls were aware the cause of menstruation was physiological. There were a lot of stigmas attached to menstruation with religious and cultural practices (Vernekar and Desai 2019).

Menstruation is generally considered a physiological process, but the psycho-social and cultural implications vary, with drastic changes and measures being initiated to eradicate various wrong notions, facts, and beliefs entrenched in various societies. Menstruation is a natural occurrence in women's lives and usually starts during adolescence, an age of transition. However, adolescent girls are naïve, and looking for information about these changes in their lives may cause some anxiety among them. Therefore, adolescent girls and their guardians must understand what to expect and manage their menstrual cycles with proper hygiene. In this chapter, the situation of menstruation and menstruation hygiene among adolescent girls of India was reviewed, highlighting public awareness, hygiene facilities, and problems adolescent girls face.

The Indian society has to consider a replenishing and multi-structural model that encompasses all aspects with the help of both governmental and non-governmental organizations. The aim is to bring about a holistic change in how menstruation is viewed and how the physiological process can be made something that is not a nightmare for adolescents in India, as menstruation is one of the main precursors for positive health and well-being.

The studies conducted in Goa show the need for early detection of a lot of symptoms regarding menstruation for early diagnosis of harmful conditions and bringing about positive reinforcements that will help the adolescent's mental health in the long run.

CHAPTER THREE

MENSTRUATION, PUBERTAL CHANGES AND SEX: LEARNING PROCESSES AMONG ADOLESCENT GIRLS

In the earlier chapter on literature review, we have attempted to understand existing literature on adolescents, adolescent health and rights, adolescent menstrual health and contemporary concerns in India and Goa, interventions by government and civil society organizations, and menstrual exclusions practices across Globe and Goa in specific. In this chapter, how, when, and what adolescent girls learn about pubertal changes, menstruation, and sex. Adolescent girls' perception and comfort level about their bodies are also described. The chapter is divided into three sections, a) Sources of information on pubertal changes, menstruation, and sex, b) Knowledge about pubertal changes, menstruation, and sex, and c) Perception and comfort level of adolescent girls about their bodies.

SECTION ONE
THE KNOWLEDGE SOURCE

Learning about one’s body, bodily changes, menstruation, and sex education is ongoing. It starts when someone tells us about it or reads or experiences it. There are pools of sources from which adolescent girls seek or are exposed to information. From some sources, they learn intentionally and from some unknowingly. Family, school, peers, social media & the internet,

books, customs, religion, government & NGOs are the primary agencies from which adolescent girls can learn. Figure 3.1, figure 3.2, and figure 3.3 below show sources of information for adolescent girls about menstruation, pubertal changes, and sex education.

Figure 3.1: First informant on menstruation

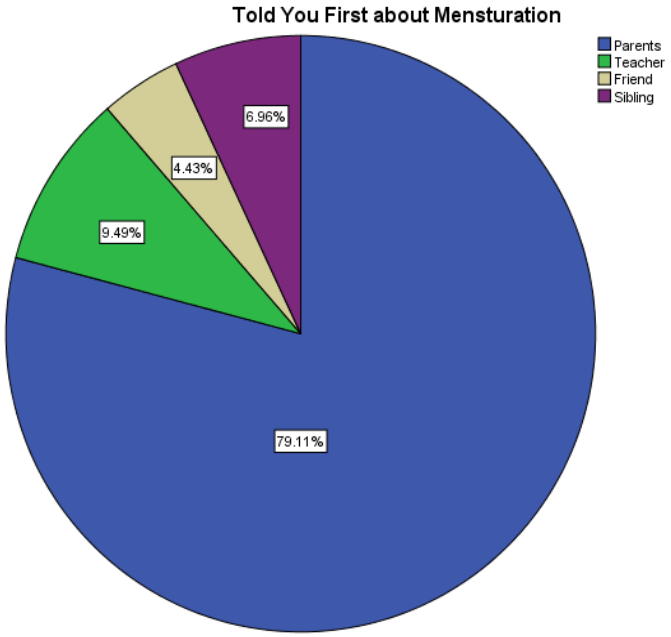


Figure 3.2: Sources information on pubertal changes

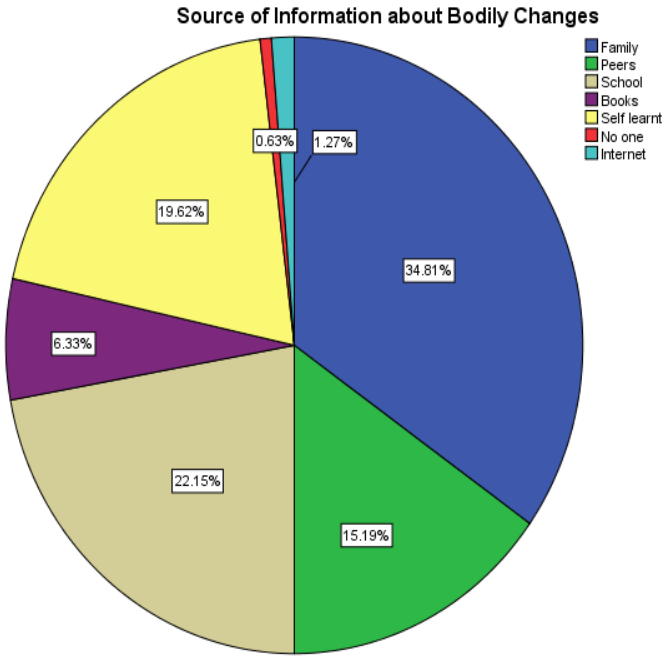
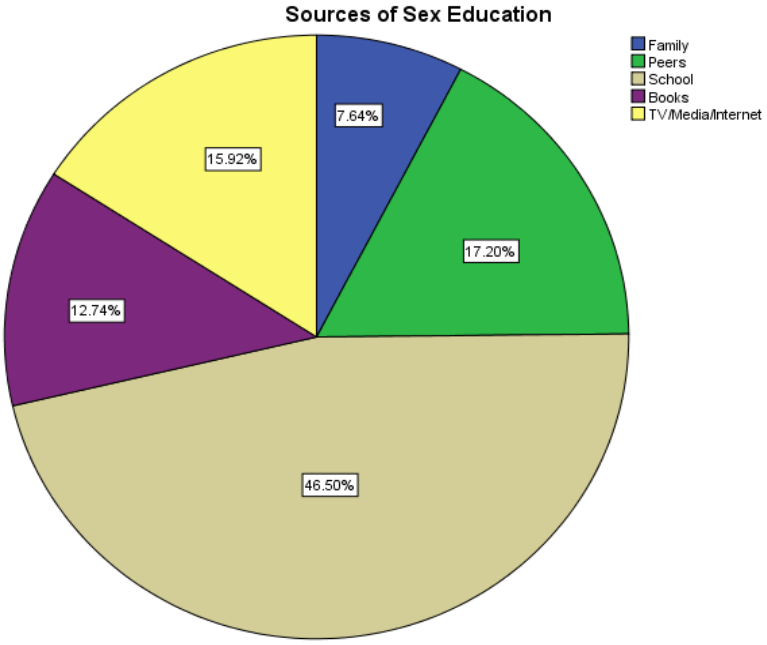


Figure 3.3: Sources of information on sex education



Girls learn about pubertal changes mostly from school (22.15%), peers (15.19%), and self-learned (19.62%), as indicated in the figure. 3.2. It can be seen in figure 3.3 that almost 46.2% of the respondents said that they received sex education in their school. The data suggests that families of adolescent girls do not talk much about sex with their children as only 7.6% of adolescent girls said that their source of sex education is their family. Adolescent girls also came to know about sex from other sources like peers (17.20%), books (12.74%), and the internet (15.92%).

3.1 Family- the primary source of knowledge

Family is the primary agency of socialization for an individual. Therefore, we can observe that adolescent girls seek information about menstruation mainly from family (79.11%) (see figure 3.1), but when it comes to knowing about other bodily changes, only 34.81% of the adolescent girls

seek information from the family. Furthermore, only 7.6 % have talked about sex with their family members (see figure 3.2 and figure 3.3.). Thus, we can infer that menstruation is discussed with the family, mainly the mother, but for other pubertal changes and sex education, adolescent girls seek information from other sources.

The adolescent girls said that while talking about menstruation for the first time, their mothers or elderly female in the family told them about menstrual hygiene (45.6%), biological development (41.1%), and socio-cultural restrictions (13.3%).

3.2 Learning about adolescent development in formal school

In the standard eighth science textbook curriculum under the non-evaluative section, there is a lesson on 'reaching the age of adolescence. This lesson discusses characteristics of adolescents, puberty, and related changes in the body, as well as mental, intellectual, and emotional changes, hormonal changes, menstruation, sex chromosomes, reproductive health, nutrition, and personal hygiene topics, are touched upon in this chapter.

The adolescent education section of the science book in standard ninth of Goa Board is also non-evaluative. This section is excluded from the exam portion; thus teacher doesn't feel the compulsion to teach it and is left for self-study as shared by the respondents. There are two chapters under Adolescent Education. One is on 'Understanding Adolescence' and the other on 'Skill Development.' Understanding Adolescent covers defining adolescence and objectives of adolescent education program. Different aspects of adolescence like physical, psychological, emotional, sociocultural, and behavioral are briefly discussed in this chapter. Also, the needs of adolescents like nutrition, education, life skills education, and concerns of adolescents are discussed. Lesson two on skill development discusses ten life skills in three categories: Thinking skills, social skills, and negotiation skills in brief.

The formal education system should treat these topics as equally important. Adolescents will be well informed about their bodily changes and develop their life skills from an authentic source. This will help them develop their personalities. Unfortunately, adolescent development education in formal schooling is primarily based on medical science and ignores the socio-cultural aspect of growing as an adult.

Though the science teachers do not teach these lessons, they are discussed by school counselors, resource persons organized by the NGOs, health educators, or doctors from the Directorate of Health Services or Goa AIDS Control Society. They undertake one or two sessions per year for the adolescent girls in Goa. The module is not standardized for all resource persons who interact with the adolescents in school. The education, knowledge, experiences, personal beliefs and prejudices, and level of comfortability of the resource persons play an important role in 'what' knowledge and beliefs are passed about adolescent health and education to the adolescents.

Table 3.1: Adolescent health and education sessions in school

Attended any health education session in schools	Percentage
Yes	93%
No	7%

Table 3.1 indicates that almost 93% of adolescent girls said they attended adolescent health education sessions when in school. This is a good sign that educational sectors in Goa provide awareness sessions to their students on adolescent development.

Table 3.2: Topics covered during health education sessions

Topics covered during health education sessions in school	Percentage
Overview of menstruation (hygiene, period pain, reproduction, pads usage)	75.9%
Sex education	7%
Mental health	0.6%
Do not remember	16.5%

The most common topic covered during the adolescent health and education session was menstruation, sub-topics like pads, proper disposal method, and dealing with period cramps (75.9%). In these sessions, only 7% of the adolescent girls said sex education topic is touched. Only one respondent said that mental health (0.6%) was discussed. 16.5% of respondents either have not attended any session on menstruation in their school or do not remember what topics were covered in those school sessions.

As far as sex education is concerned, Goa Board introduces asexual and sexual reproduction among plants in standard seventh. In the Eighth standard textbook, adolescents are introduced to two lessons, one on 'Reproduction in Animals' and another on 'Reaching the age of adolescence. In the reproduction in animals lesson, different reproductive parts (male and female) and their functions are discussed pictorial. The fertilization process, development of the embryo, test-tube babies are discussed. It is interesting to note that there is no mention of the vagina and also how sexual intercourse takes place. The description appears to be very technical.

We have also to note that sometimes pubertal changes occur as early as 9-10 years onwards among some girls, and curiosity among adolescents may lead them to seek information from other unreliable sources. The adolescents are already 13-14 years old in the standard eighth. Thus it could be late to introduce sex education to them.

3.3 Peers and the hushed discussions

It is highlighted in table 3.3 that most females (75.3%) discuss menstruation-related topics with their friends. Only 22.8% of girls said that they do not discuss menstruation-related topics with their peers. However, 1.9% of girls did not answer this question.

Table 3.3: Menstruation discussion among peers

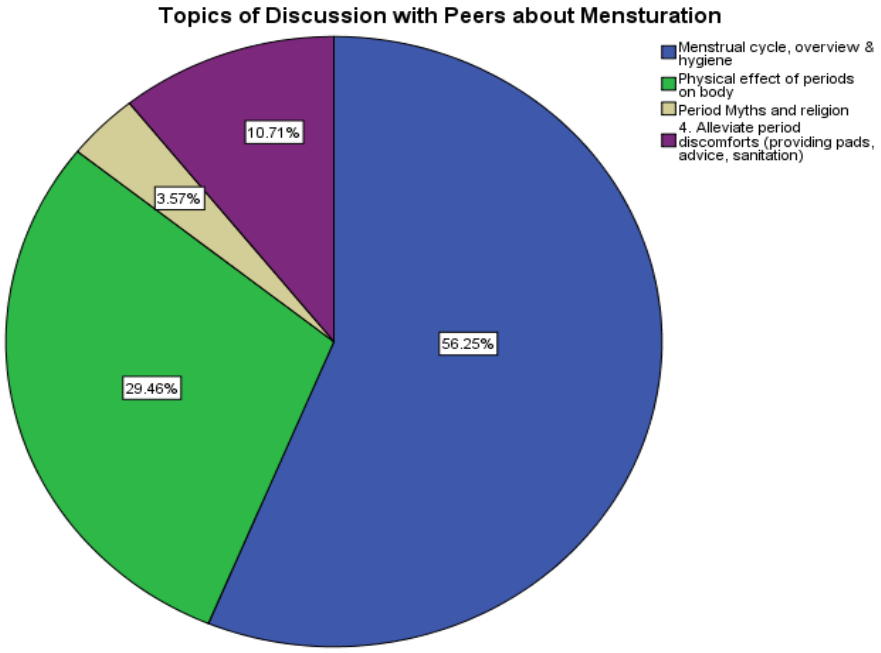
Menstruation discussion among peers	Percentage
Yes	75.3%
No	22.8%
N/A Responses	1.9%

As 75.3% of adolescent girls said they discuss menstruation with their peers, they mostly talk about the menstrual cycle, menstrual hygiene, physical changes in the body due to periods, myths regarding periods, and ways to lessen period discomfort with their peers.

Figure 3.4 shows that 39.9% of girls discuss menstrual cycles and hygiene 20.9% of girls discuss physical pain due to menstruation. In addition, 2.5% of girls discuss period myths and the role of religion, and 7.6% of girls discuss ways to alleviate period discomfort, either by asking for sanitary pads

or getting advice from their peers. Almost 22.8 % of girls didn't discuss menstruation with their peers, and 1.9% did not provide any response

Figure 3.4: Topics discussed among peers about menstruation



3.4 Learning about menstruation through language

Menstruation in the local language (*Konkani*) is known as *'Mhaino'* (Month) or *'Masik Pali'* (monthly cycle). However, there are numerous terms that adolescent girls shared during data collection that they refer to menstruation. These words used in the local language, i.e., Konkani, primarily give a meaning which means 'to exclude' or 'unclean.'

- *'Bhair javap' (one to be excluded):* A menstruating woman must practice total exclusion where she is not allowed in the kitchen and has to stay separately. There is fear of contamination, and some who support this practice say that women get some rest from daily chores.*'Kawlo Afudlo' (touched by crow):* Indirect way of telling that she becomes untouchable if crow touches someone.

- *Bhasthe* (untouchable): Menstruating women are not allowed to touch anyone or anything
- *Adchan* (problem): Menstruation, a biological function of the body and a normal bodily function of women of reproductive age, is considered a problem because of the restrictions imposed on them during menstruation.
- *'Haat Bhaille' (*one who should not be touched by hand*):* No one can touch her during menstruation as she is considered impure or polluted.
- *mhaino (*month*):* Mhaino refers to *the* monthly cycle, and there is no derogatory meaning attached to it.
- *'Basla' (*excluded, sitting*)*: As menstruating women sit separately in one place assigned to them, this term is used.
- *Shock yeta* (untouchable, if touched, gets shocked): This term tells the children to not touch the menstruating women in the family.

These are commonly used terms in Goa. Each of the terms people use indicates that menstruation is considered something to be ashamed of, impure, and excluded. Usage of such terms may transmit an understanding among the adolescent girls that they should consider themselves impure and that menstruation is not something healthy or natural but something which 'God' will punish them. These terms can become one of the sources of information for adolescent girls about menstruation. Menstruation has been considered dirt, polluting, impure in Goa or India and in societies and cultures Worldwide (Kissling 1996; Laws 1990).

In an informal discussion among a group of adolescent girls in DM's College, Mapusa, they expressed that the girls also use code language like Happy Birthday, batli futli/guddi futli (bottle or bottle cap broke), date, Rosy Aunty (Red Aunty), Pipe *futle* (Pipe broken), Chumps (foolish or stupid person) to refer to menstruation. These terms as well reflect shyness or taboo around the topic of menstruation.

3.5 Government and NGO interventions to educate on adolescent health

The role of government and NGO interventions is discussed in detail in chapter five of the thesis. Both Government and NGOs carry out adolescent health and education.

School counselors appointed by Goa Education Development Corporation (GEDC); research persons from Goa AIDS Control Society (GSACs); doctors, extension educators, health workers under ARSH program of Directorate of Health Services and resource persons through SABLA scheme of Directorate of Women and Child Development conducts adolescent health sessions mainly in educational institutes.

From the NGO sector in Goa, organizations like Human Touch, EcoFemme, Child Rights in Goa (CRG), ARZ (Anyay Rahit Zindagi), wasteless project, Konkani Bhasha Mandal, conducts sessions for adolescents on different aspects of adolescent health and education.

3.6 The new player: Social media and internet

Social media and the internet are a new-age source of knowledge almost about everything for everyone. For example, almost 15% of the respondents said they learned about sex from the internet.

SECTION TWO

WHAT AND WHEN DO ADOLESCENT GIRLS KNOW?

Section one of this chapter shows how adolescents learn about menstruation, pubertal changes, and education. This section will tell us when and what they know about various topics around adolescent developments.

3.7 Knowledge about menstruation

By now, we know the sources of knowledge and type of information adolescent girls receive about menstruation. Now let us see what they know about menstruation and menopause.

3.7.1 Age at which adolescent girls came to know about menstruation

Table 3.4 shows that the age at which the majority of the respondents learn about menstruation is 11-14 years. It can be seen that 74.1% of respondents say they learn about menstruation and bodily changes at the age of 11-14 years. Only 7.6% of females learn about menstruation, bodily changes, and sex at 7-10 years old.

Table 3.4: Age at which adolescent girls learn about menstruation

Age you learn about menstruation	Percentage
7-10 years	7.6%
11-14 years	74.1%
15-18 years	18.4%

3.7.2 Knowledge on the reason why women menstruate

Only 20.9% of adolescent girls have detailed knowledge about menstruation (refer to table 3.5). However, 24.1% knew menstruation has something to do with the reproductive cycle of the female body, 18.4 % of girls said that women menstruate so that they can get pregnant. Other responses included removal of impure blood (10.8%), menstruation helping to clean women's bodies, the egg is not fertilized (4.4%), hormonal changes (3.2%), and 9.2% said that they don't have an idea why women menstruate.

Despite school sessions, discussion in the family and friends, referring to books, learning from the internet and other sources, the majority of the adolescent girls could not explain the reason behind menstruation adequately.

Table 3.5: Knowledge on the reason why women menstruate

Knowledge on why women menstruate	Percentage
The egg is not fertilized	4.4%
To become pregnant	18.4%
Part of the reproductive cycle	24.1%
Detailed knowledge about the topic	20.9%
Hormonal changes	3.2%
Removal of impure blood	10.8%
To clean women body	8.9%
No idea	9.5%

3.7.3 Knowledge of the menarche age range

The majority, i.e., 84.2%, said that the menarche age range is between 10-15 years, 14.6% gave mixed age ranges such as 8-15 years, 9-12 years, or 15-16 years, and 1.3% said that it is below ten years as indicated in table 3.6. Menarche age can vary from girl to girl and can start as early as eight years or start as late as 17 years.

Table 3.6: Knowledge on the menarche age range

Knowledge on Menarche Age Range	Percentage
Less than ten years	1.3%
10-15 years	84.2%
Mixed-age ranges	14.6%

3.7.4 Knowledge whether menstruation stops

A majority, i.e., 96.2%, knew that menstruation stops after a certain age. But still, there were 3.2% who said that it doesn't stop, and 0.6% had no idea about it, as indicated in table 3.7.

Table 3.7: Knowledge on whether menstruation stops

Knowledge on whether menstruation stops	Percentage
Yes	96.2%
No	3.2%
Do not know	0.6%

3.7. 5 Knowledge of menopausal age

As shown in table 3.8, 13.9% knew the correct age range for menopause, i.e., 45 to 55 years. 85.4% gave mixed responses which did not belong to the menopause age group category. Along with menstrual knowledge, girls must be made aware of menopause.

Table 3.8: Knowledge of menopausal age

Knowledge of menopausal age	Percentage
Correct	13.9%
Incorrect	85.4%
N/A Response	0.6%

3.8 Knowledge about pubertal changes

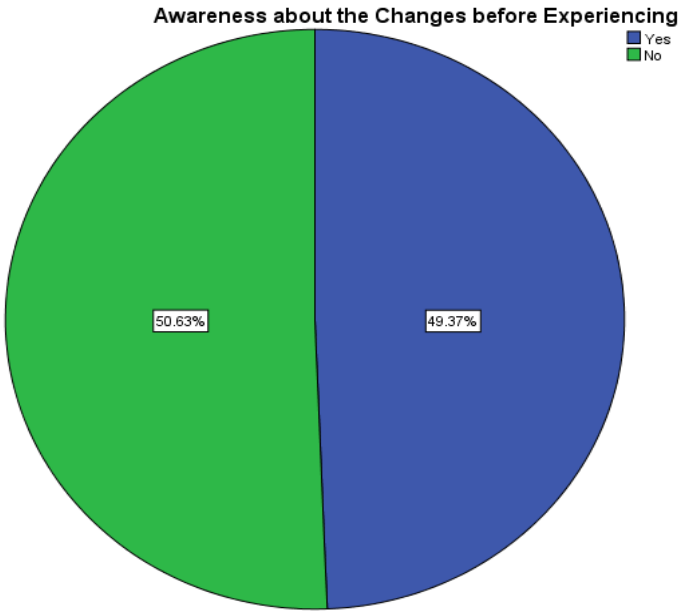
Apart from menstruation, many other physical and emotional changes occur in adolescent girls, such as armpit hair, pubic hair, acne, change in voice, breast development, etc.

3.8.1 Awareness before experiencing pubertal changes

Surprisingly, 50.6% of the adolescent girls' understudy did not know about bodily changes before experiencing them (see figure 3.4).

Therefore, it is the need of the hour that adolescent girls should be made aware of pubertal changes at an early age. Usually, adolescent education takes place in 7th and 8th grade. But since the menarche age is dropping, adolescent education programs should be introduced from the 4th or 5th standard.

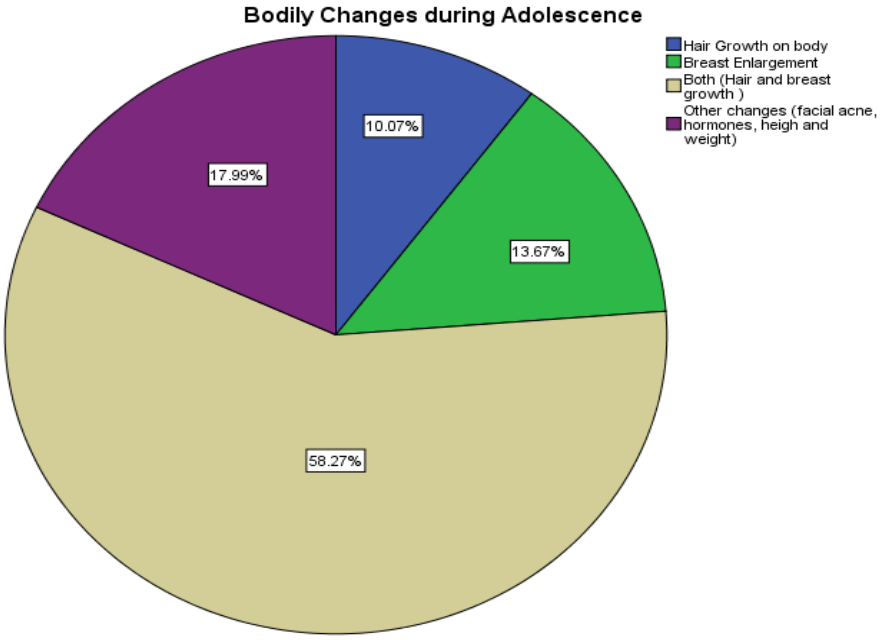
Figure 3.5: Awareness about pubertal changes before experiencing



3.8.2 Knowledge about pubertal changes

Almost half of the adolescent girls (51.3%) said that hair and breast growth are the bodily changes they experience during menstruation. 15.8% of females also say they experience some other changes such as hormonal changes, weight and height change, and facial acne, as indicated in the figure. 3.5.

Figure 3.6: Knowledge on bodily changes during adolescence



3.9 Knowledge about sex

Most adolescent girls were not comfortable talking about when and what they knew about sex during the interview. One reason could be that I was a stranger to them, and the interview was conducted in the girl's common room. Sometimes, other girls were in the common room when the interview was conducted.

3.9.1 Age at which adolescent girls came to know about sex

The age at which most adolescent girls (46.2%) know about sex is 13-15 years. Also, 35.4% of respondents have sex knowledge at 16-18 years. Six of the respondents don't provide their age in terms of years. Instead, they simply say they came to know about sex when they were in school. Almost

2.5% of respondents did not answer or provide answers that fit nicely under the crafted themes.

Table 3.9: Age at which adolescent girls came to know about sex

Age when came to know about sex	Percentage
10-12 years	8.2%
13-15 years	46.2%
16-18 years	35.4%
19-21 years	3.2%
More than 21 years	8.2%
School-age (age not mentioned in terms of years)	46.2%
No response	2.8%

SECTION THREE

PERCEPTIONS AND COMFORT LEVELS OF ADOLESCENT GIRLS ABOUT THEIR BODIES

With the knowledge and experience of pubertal changes, it is also equally crucial that adolescent girls accept their bodies. In this section, let us see perceptions and comfort levels of adolescent girls about their selves.

3.10 Comfort levels with bodily changes

Adolescent girl's comfort level with pubertal changes like breast development, pubic hair, armpit hair, facial acne, and overall body figure is discussed below:

Table 3.10: Comfort levels with bodily changes

	Very comfortable	Fairly comfortable	Uncomfortable	NA
Breast Development	50.0%	43.7%	6.3%	-
Pubic Hair	22.8%	40.5%	36.7%	-
Armpit Hair	24.7%	36.7%	38.6%	-
Facial Acne	6.3%	15.2%	52.5%	25.9%
Body Figure	60.8%	34.2%	5.1%	-

It can be seen in table 3.10 that almost half of the girls (50.0%) say that they were very comfortable with their breast development, whereas 43.7% of girls say that they were reasonably comfortable with the way their breasts develop. Only 6.3% of adolescent girls feel uncomfortable with their breast development. Almost 63.3% of the sample adolescent girls show some comfortability with the growth of their public hair, whereas 37.6% of girls feel uncomfortable with the growth of their public hair.

Almost 61.4% of girls are somewhat comfortable with the growth of their armpit hair, and only 38.6% of girls feel uncomfortable with armpit hair growth. However, 52.5% of the girls said they feel uncomfortable when getting facial acne. Only 6.3% of girls say they are very comfortable with it, 15.2% show an acceptable level of comfortability, while 25.9 % said they don't get facial acne.

25.9% of respondents say they never experience any facial pimples during menstruation. Therefore, it can be seen that the majority of the respondents (95%) say that they are comfortable with the changes in their body figure when they hit puberty. Furthermore, only 5% of respondents said they are uncomfortable with the way their bodily figure changes once they hit puberty.

3.11 Perception of authentic sources of information

Among all sources of information regarding menstruation, 24.1% and 16.5% of adolescent girls believe that the most authentic source of information is in their schools and media, respectively.

Table 3.11: Perception of the authentic source of information

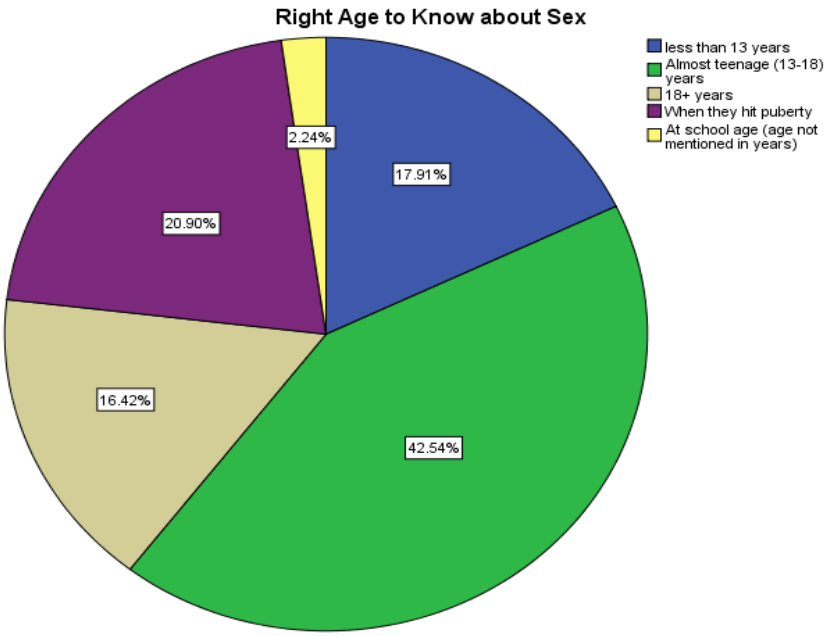
Authentic sources of Information	Percentage
Family	10.8%
Peers	7.6%
School	24.1%
Books	12.7%
TV/Media/Internet	16.5%
Not sure	8.2%
Others	8.2%

N/A Responses	12%

3.12 Perception on the right to know about sex

Almost 36.1% of the respondents said that somewhere between 13 to 18 years is the right age to learn about sex. However, different respondents gave different answers to this particular question, suggesting that when you hit puberty and are in school, you need to know about sex.

Figure 3.7: Right age to know about sex



3.13 Perception of adolescent girls on various myths around menstruation

There are many common myths around menstruation prevalent in our society. Following is the perception of adolescent girls about those myths.

Table 3.12: Perception of adolescent girls on myths

Myth	True	False	Can't Say
Menstruating women should not pluck flowers	58.9%	20.9%	20.2%
Menstruating women should not visit a religious place	55.1%	29.7%	15.2%
Menstruating women should not prepare or touch pickles	56.3%	25.3%	18. 2%
Menstruating women should not enter the kitchen	76.6%	18.4%	5.1%
Menstruating women should not use a common well	74.1%	11.4%	14.6%

Adolescent girls' take on whether they should not pluck flowers during menstruation shows that 58.9% of the adolescent girls agree with this myth, and only 20.9% of the adolescent girls do not agree with it. It is believed that flowers will wilt faster if touched by menstruating women. 55.1% of respondents said it's true not to visit any religious place during menstruation as they might contaminate it, whereas 29.7% of the respondents do not agree with the given myth.

Almost 53.8% of adolescent girls believe that they should not visit any religious place as God might punish them. More than half of the sample respondents (56.3%) believe that menstruating women should not prepare pickles. It is believed that pickles get contaminated if touched by menstruating women, whereas 23.5% didn't agree with this. 76.6% of adolescent girls believe that they should not enter the kitchen during menstruation. 74.1% of respondents agree that women should not use the common well during menstruation, whereas only 11.45% of adolescent girls disagree. A common well is considered a sacred water body used for drinking and sanitation. Thus,

if menstruating, women using well during menstruation may contaminate the well, and water may not be suitable for consumption and use for religious and sanitation purposes.

CHAPTER FOUR

MENARCHE EXPERIENCES, SOCIO-CULTURAL EXCLUSIONS AND MENSTRUAL HEALTH PRACTICES

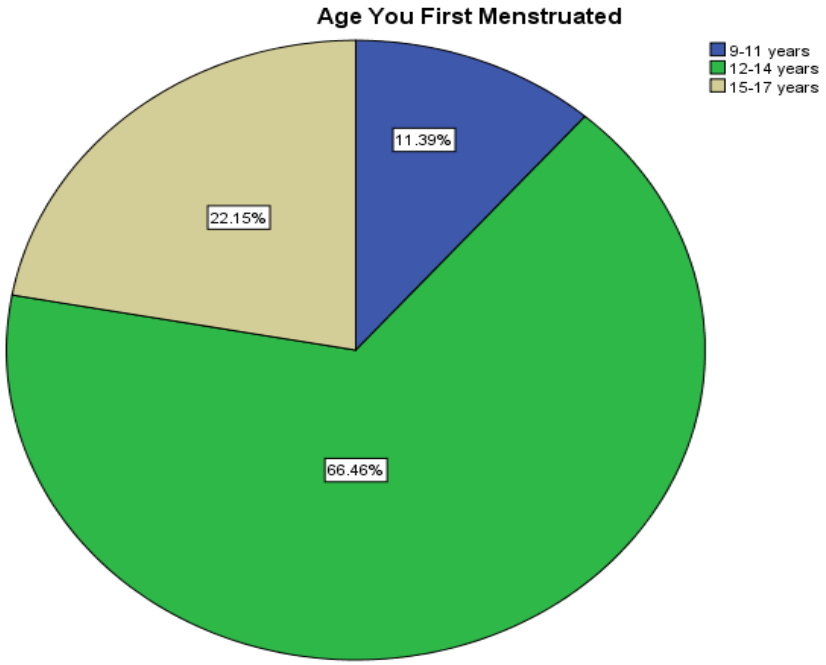
The earlier chapter deals with how, when, and what adolescent girls learn about menstruation and associated changes. Perceptions of adolescent girls' on menstrual myths, other aspects, and level of comfortability among girls about their bodies are also discussed. In this chapter, inferences are drawn from responses of 158 adolescent girls under study related to their menarche experiences, socio-cultural menstrual practices, menstrual health, and hygiene practices are discussed in detail.

Menarche experience for every girl is a memorable experience in itself. Each has a unique story to express, yet they have something in common. Some respondents were very expressive while narrating their menarche stories, while some took time to open up, and few were shy and gave a brief answer.

4.1 Age at Menarche

The majority, i.e., 66.5% of adolescent girls, reached menarche when they were 12-14 years. At the same time, 22.2% of the adolescent girls belonged to the age category of 15-17 years when they first menstruated, and only 11.4% of girls were between 9-11 years old when they got their first period, as shown in figure 4.1.

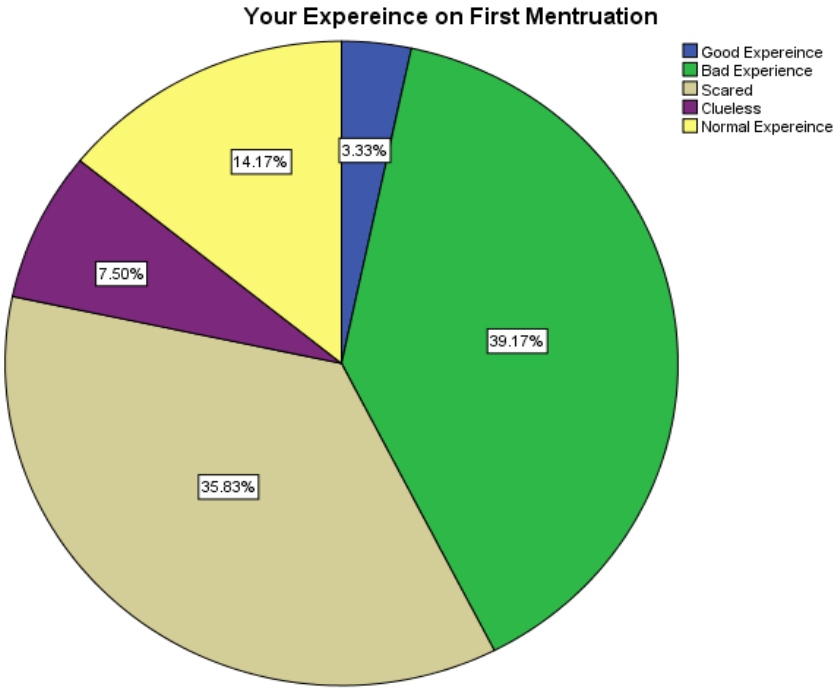
Figure 4.1: Age at Menarche



4.2 Initial feelings during menarche

The majority of the adolescent girls' understudy expressed a negative menarche experience, i.e., bad (39.7%) and sacred (35.8 %.). Only 3.3% of the adolescent girls expressed that their first menarche experience was good, and 14.1% said their first menarche experience was average. Almost 7.5% of adolescent girls said they were clueless when they got their first period.

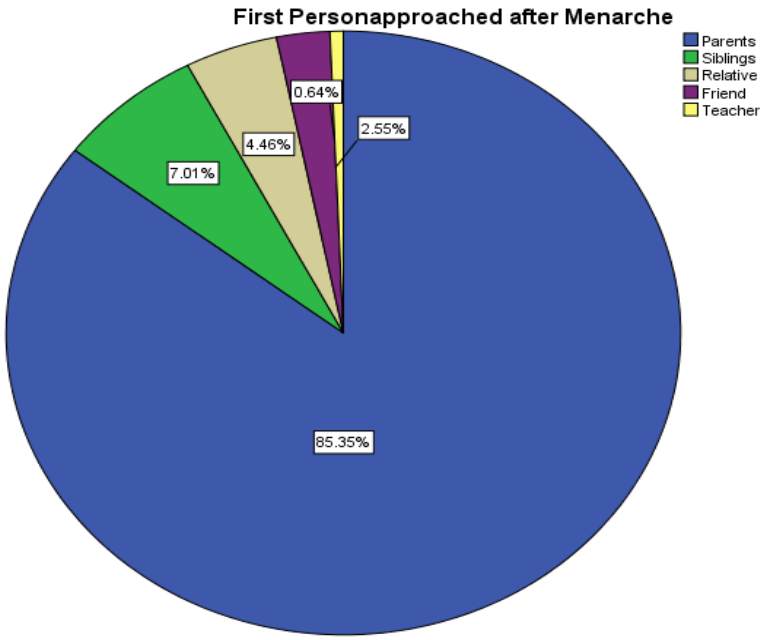
Figure 4.2: Initial feelings during menarche



4.3 First-person approached after menarche

85.35% of the adolescent girls said they first approached their parents, primarily mothers, when they got their first period. But other 14.5% of the adolescent girls also claimed they approached their friends, teacher, siblings, and relatives when they first menstruated, as indicated in figure 4.3. First informants majorly talk about blood discharge from the vagina, how to maintain hygiene, inform that it's a natural process, talk about religious restrictions, and tell them that they got their first period and there is nothing to worry.

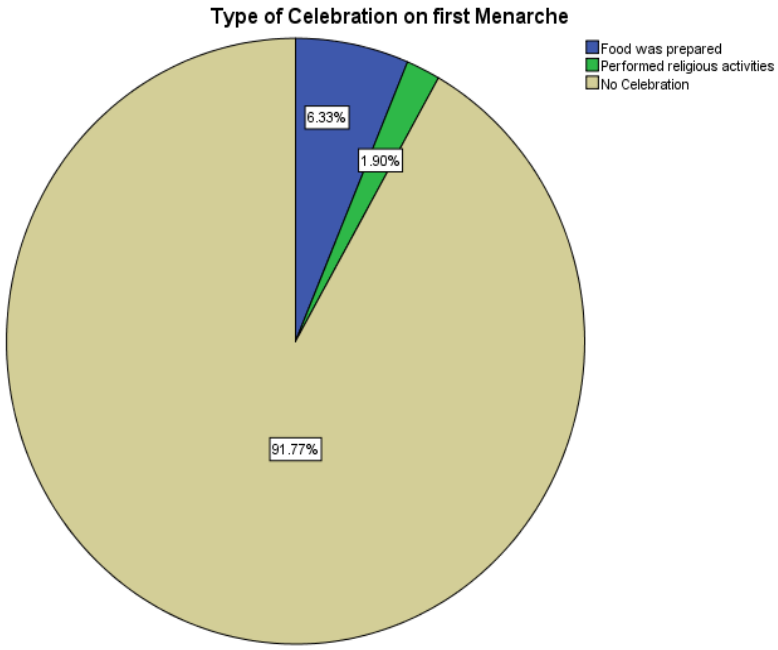
Figure 4.3: First-person approached after menarche



4.4 Customary celebrations around menarche

89.9% of adolescent girls said that there was no celebration at their home when they first menstruated. Only 10% of girls said they had few celebrations during their first menarche. In those celebrations, special food was prepared especially sweet dishes (6.3%), and a few religious activities such as Pooja (1.9%) were performed.

Figure 4.4: Type of menarche celebrations



Box 4.1 Priya's (name changed) menarche experience

Priya (name changed) is a native from Karnataka. She said 'Soon after my five days of first period, I was taken to my native village. I was made to have head bath and then taken to temple for performing some *pooja*. Next day, village women and relatives were invited to my place for a function. I was made to wear green colour saree and fruits were offered to me. My mama (maternal uncle) bore the expenses as per the custom.

4.4.1 Narratives of menarche experiences of select respondents

Since the respondents belong to the late adolescent age group, they all had experienced menarche. The memory of menarche was fresh in their mind being young. The respondents mostly associate and remember festivals or events during their first period. I asked them to age at menarche, but they remembered the standard they were studying.

When they menstruated for the first time, adolescent girls in school felt awkward compared to those at home when they got their first period. Few got periods while attending religious functions like Ganesh Chaturthi, weddings and feasts felt outcast as they were told to leave from that place and stay separately. They expressed that all the family members and relatives came to know, which feels very embarrassing.

Some menarche stories of adolescent girls are listed below:

- Siya (name changed) got her period when she was 11 years old. She narrated that Laxmi pooja (Hindu religious function) was at her place when she got her first period. Her family members advised her to stay away from Pooja. She cried as she couldn't attend pooja but was consoled by family members.
- Kiran (name changed) got her first period at 11 years and was aware of menstruation. She noticed a bloodstain on her panty while gone for urinals. She told her mother, and her mother told her that she might get irregular periods during the initial period.
- Swati (name changed) was 14 years when she got her first period. She experienced stomach ache at night, and her mother noticed blood on her dress. She threw pants for washing. Experience of menarche was shocking for her. Her younger sister started laughing at her as she had to sit separately. So Swati told her sister that she would have to sit like that one day. Swati said that not going to the temple during menstruation is acceptable, but other exclusion practices are not. She said that she feels hungry during periods but cannot touch food independently, which upsets her.
- Shreya (name changed) was 15 years old when she got her first period. She feared a lot, and her mother spotted bloodstains in her clothes. Initially, she experienced discomfort, but now she is comfortable with her periods.

- Rashmi (name changed) was 13 years during the first period. She was terrified and cried after noticing blood when she went for urination. Later told her mother about it.
- Mansi (name changed) menstruated first when she was 13 years old. She noticed a stain on her panty and got scared. She felt that she must have hurt herself somewhere and told her mother about it. Her mother later explained to her about menstruation.
- Aruna (name changed) said that she menstruated first during her sister's wedding. She said she was aware of menstruation, thus was not scared. But she felt uncomfortable. She was allowed to attend her sister's wedding as it was not held in the temple hall.
- Divya (name changed) felt that paint had fallen on her from somewhere during her first period. Out of fear, she told her mother, who explained to her about menstruation.
- Lily (name changed) menstruated first at the age of 12 years. She was scared about when this blood flow will stop. Later she did not bleed for two months, becoming more scared. She shared with her cousins first and later with her mother.
- Mamta (name changed) menstruated first when she was 15. She does not have a mother, so she hesitantly told her father. Father said that she got it late, but it was ok. Later her father told his sister-in-law to explain everything to her daughter (respondent).
- Shruti (name changed) expressed funny incidence stating that when she told at home about her first period, they told her '*Jali tu Maushi'* (you have become an aunt now).
- Rashmi (name changed) said she doesn't like menstruation and wishes she was born as a boy to avoid it.
- Pratima (name changed) shared that she got her first period during her village *Jatra* (Fest). She got a fever before menarche. Her mother told her '*Vhadle Jale' (grown-up).* Pratima wanted to go to *jatra,* but she was not allowed.

- Sandra (name changed) expressed that she attended NSS camp during her first period. She said that it was a very awkward situation as she was out. The teacher called up her mother and told her about her periods. She insisted on going home, and she was allowed.
- Avni (name changed) shared that she felt scared when she saw blood flow from her vagina. She expressed that 'I got scared and told my mother. It was very awkward situation. The sight of blood was very disturbing. It was hard for me to walk normal. Since it was first time, my mother gave me clean cotton cloth. I got my periods early in the morning. I got late for school that day as I was cleaning myself and undergarments. I was feeling uncomfortable to sit in class. My mother gave me very big cloth so that while in school it should not leak. After three months I switched to disposable sanitary napkins'.

4.5 Socio-cultural practices around menstruation

There are many types of socio-cultural practices around menstruation prevalent in our society. It was eye-opening to study what adolescent girls still practice restrictions in Goa. These practices speak volumes about teaching passed on from one generation to another.

Figure 4.5: Socio-cultural practices are followed

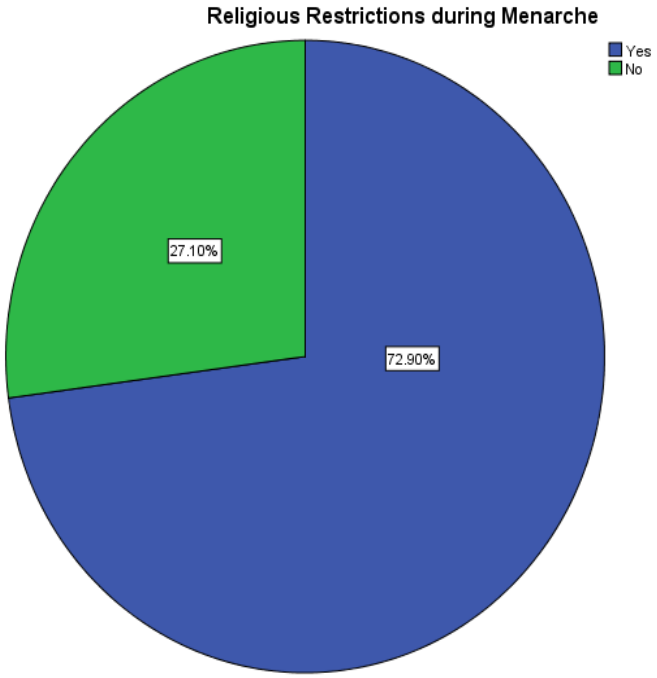
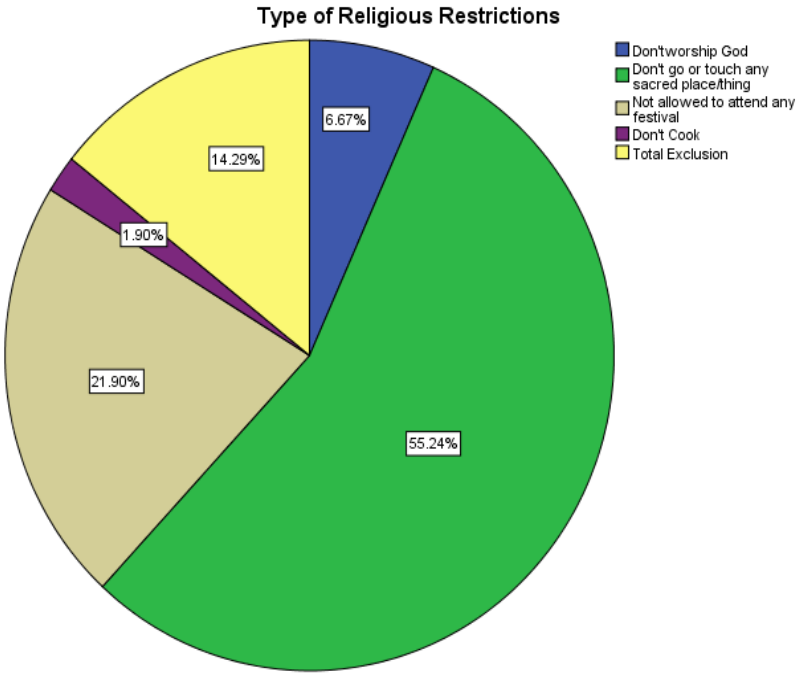


Figure 4.6: Type of socio-cultural practices followed



It is an eye-opener to see that in the 21st century; almost 71.5% of adolescent girls follow some of the other socio-cultural restrictions when they are on their periods, as indicated in figure 4.5. The type of religious restrictions includes not worshipping god (4.4%) and restrictions on touching any sacred thing and going to any religious place (36.7%), not attending any religious festival (14.6%), and no cooking (1.3%). In addition, 9.5% of adolescent girls shared that they were asked to follow total exclusion from religious and social activities when they were on their periods. The sample has 33.5% of girls who didn't answer this question and provided irrelevant answers. 80% of the girls said they didn't participate in most religious and social activities during their periods.

Box 4.2 'I do not follow any restrictions': Prajakta Naik

Prajakta Naik shared that 'I do not follow any religious practices or social exclusion practices. My mother advises me not to go to temple but my father encourages me to go whenever she wants to. My teacher in college, Prashanti Talpankar also helped me understand that religious exclusion practices do not have any scientific base (Prajakta's name is not changed as insisted by her).

Box 4.3 Priya (name changed) on facing religious restrictions and later changing perception

Priya (name changed) while sharing religious restrictions imposed on her said that, 'In the beginning I used to follow total exclusions. But when in college, I started reading bible and my perception towards menstruation changed. I feel menstruation is a God's gift. I told my mother and cousins as well not to follow any restrictions'.

Box 4.4 A group of DM's College students feel embarrassed when they menstruate during festival

A Group of friends from DM's College, North Goa expressed that they feel embarrassed when they menstruate during any festival time as whole family members and relatives come to know that she is menstruating. There are also beliefs like if Ganesh idol hears a voice or sees menstruating women, the colour of the idol will fade away.

Among Hindu adolescent respondents, during festivities like Ganesh Chaturthi, the girls who otherwise practice partial exclusion practice total exclusion. Adolescent girls expressed that they go to their native place for the Ganesh Chaturthi celebration as it is the main festival among Goan Hindu society.

4.5.1 Levels of socio-cultural restrictions

Based on the narratives shared by adolescent girls and I have categorized exclusion practices into three categories:

4.5.1.1 Total Exclusion: Women are not allowed to touch anything or anyone, have to use separate utensils, are made to sit in one corner of the house, sleep separately. She is not allowed to enter the kitchen. Her freedom of movement is restricted totally. She has to depend on another person to give her food and sometimes even water.

4.5.1.2 Partial Exclusion: Women are not allowed to worship God and are refrained from performing any religious duties. They are restricted from participating in socio-religious gatherings such as naming ceremonies, baby showers, *Haldi Kumkum*, *Pooja*, or marriages. However, they can participate in other household work like cleaning, washing, and cooking.

4.5.1.3 No Exclusion: Some girls do not follow any exclusion practices. Catholic girls do not follow any religious-based restrictions. Only nine Hindu adolescent girls said that they do not follow any restrictions imposed by the religion on them. They enter places of worship and perform religious duties along with other housework.

4.5.2 Participation socio-cultural activities during menstruation

The rate of participation of females in sports, trekking, and picnics is somehow higher than in religion. Thus, religious and social restrictions are highly followed among adolescent girls during their periods (see figure 4.7, figure 4.8, and figure 4.9).

Figure 4.7: Participation in any religious function during menarche

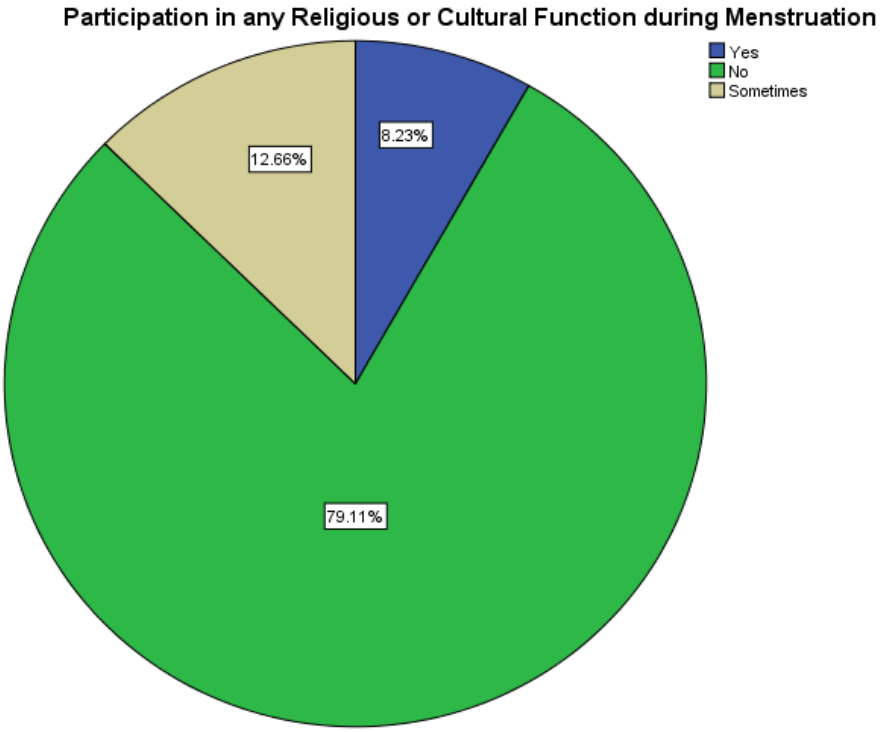


Figure 4.8: Participation in sports activities during menstruation

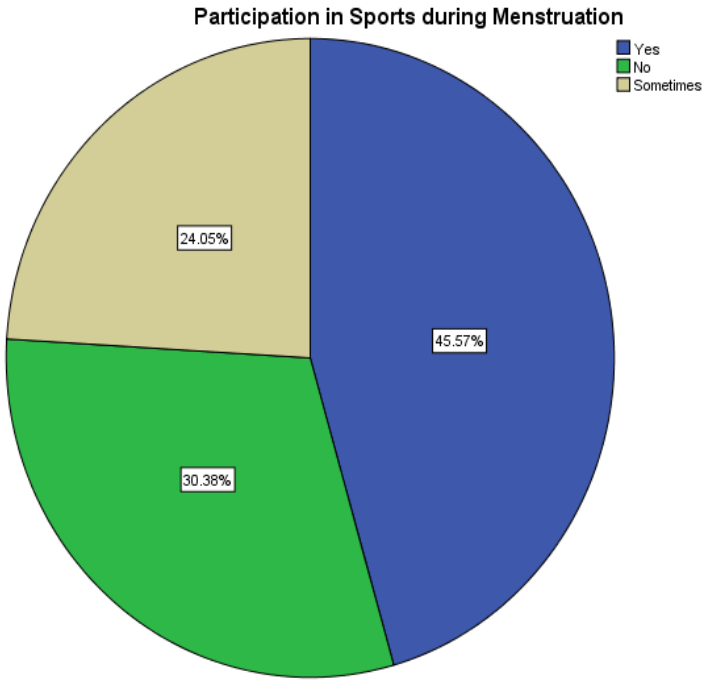
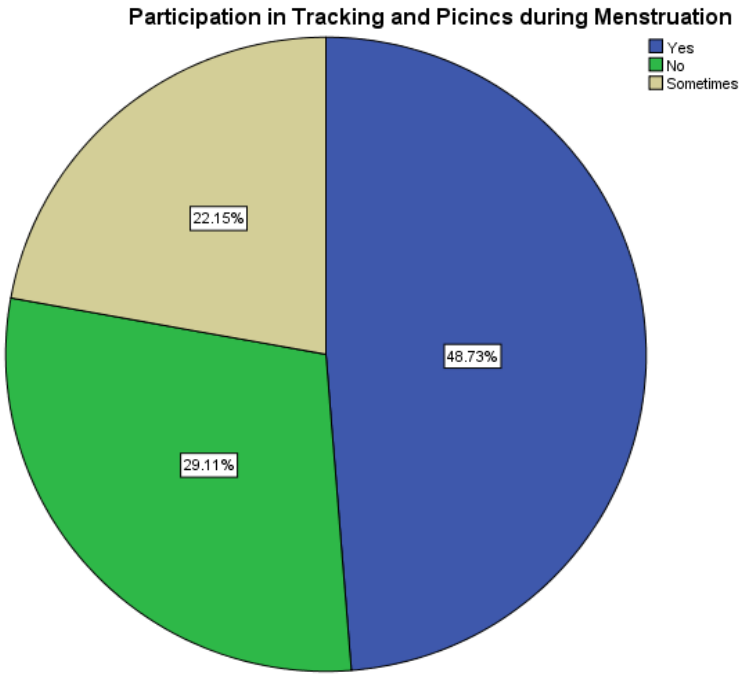


Fig 4.9: Participation in trekking and picnics during menstruation



4.6 Discomfort experienced during menstruation

For this study, data about the discomfort experienced during menstruation, the type of menstrual absorbent used, and their comfort level in buying them was collected. 63.9% of adolescent girls claimed that they feel discomfort during menstruation. On the other hand, only 35.4% of adolescent girls said they don't experience any discomfort during menstruation, as shown in figure 4.10.

Figure 4.10: Discomfort experienced during menstruation

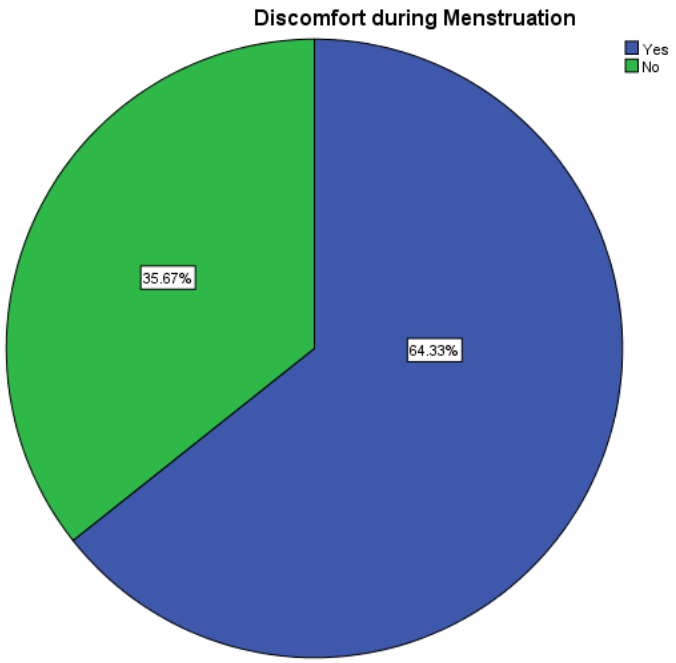
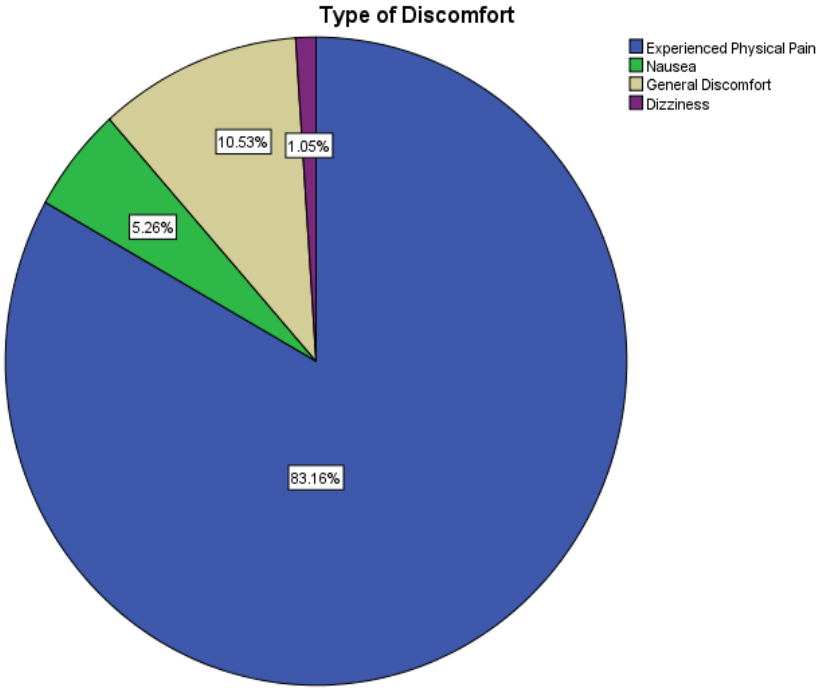


Figure 4.11: Type of discomfort experienced



Physical pain in the form of period cramps (50.0%) was the most common discomfort experienced by the respondents. Some adolescent girls also experience nausea (3.2%), general discomfort (6.3%), and dizziness (0.6%). Almost 40% of the respondents said they didn't experience any discomfort during the period. However, there are some missing responses in the dataset, as indicated in figure 4.11.

Box no. 4.5 Namita (name changed) shares her irregular menstruation problem

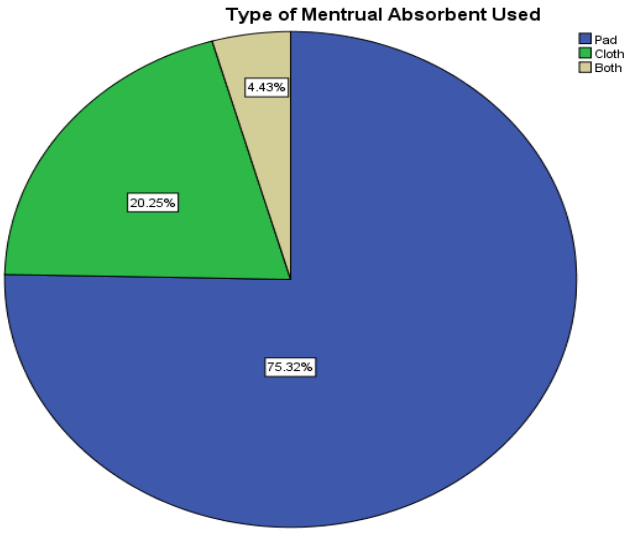
Namita (name changed) shared that her periods are irregular. She gets them after 3-4 months. She asked for my advice. I told her about all the gynaecologists' names and address in Mapusa and told her to visit any one of them. I explained to her that I am not a doctor so cannot advice on any medical condition.

4.7 Type of menstrual absorbents used by adolescent girls

Menstrual absorbents are of various types, including disposable sanitary pads, commercially made stitched cloth pads, cloth, menstrual cups, tampons, period panties, and inter-Labia Pads.

As indicated in figure 4.12, the majority of the adolescent girls under study use disposable sanitary pads (75.3%). Cloth is also used by 20.3% of the respondents. In addition, 4.4% of respondents said that they use both, i.e., disposable sanitary napkins and cloths during menstruation. When they go to college or anywhere outdoor, they prefer using sanitary napkins, and when at home, they use cloth. Not a single respondent in the study sample uses stitched cloth, tampons, menstrual cups, or any other type of menstrual absorbent.

Figure 4.12: Type of menstrual absorbent used



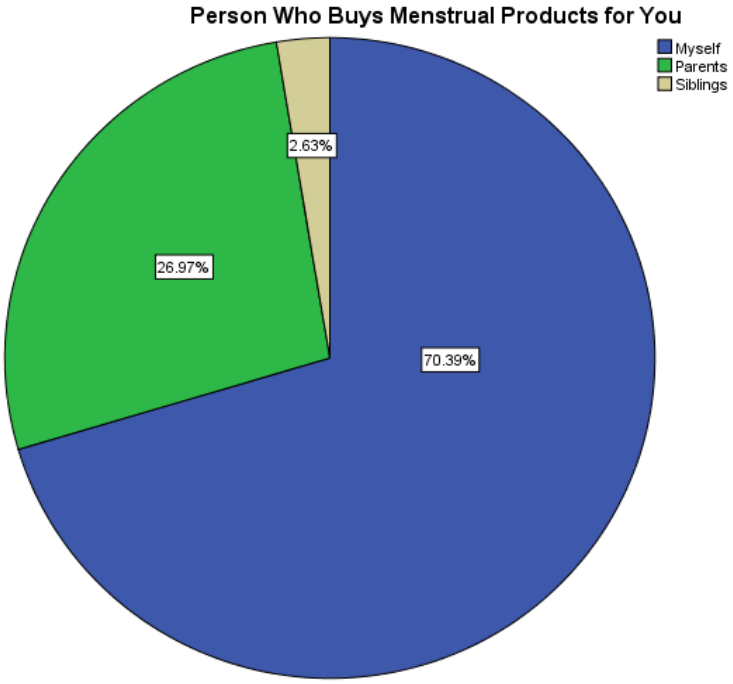
Box 4.6 Discussion on forward message about sanitary pad usage causing

During my data collection, some respondents asked me whether use of sanitary pad causes cancer as they have read in a WhatsApp forward. I explained to them that any menstrual hygiene product, when not used hygienically and proper care, then it can lead to urinary tract infections and if untreated may lead to serious health problems including cancer.

4.8 Person who purchases menstrual products and lingerie for adolescent girls

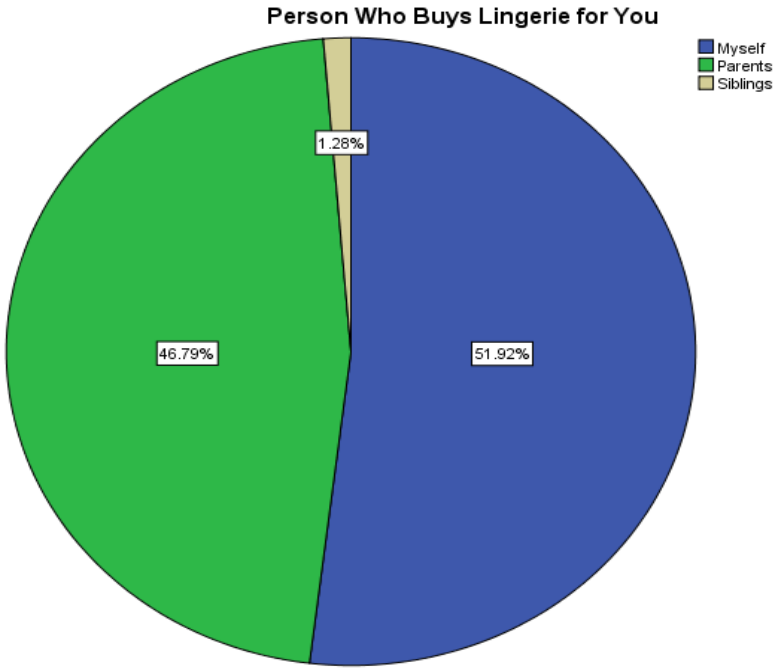
Menstruation is still a taboo topic, and thus there is a lot of silence around it. Thus, buying sanitary napkins can become uncomfortable for girls and women.

Figure 4.13: Person who purchases sanitary napkins



In this study, 67.7% of adolescent girls buy sanitary napkins independently whereas, for 25.9% of adolescents, their parents buy for them, as shown in figure 4.13. Some girls shared that sometimes they go with their mothers to the supermarket and buy pads together and other household items and 2.63% said that their sibling, i.e., sister, buys sanitary napkins. However, 3.8% of them did not provide answers to this question or provided irrelevant answers.

Figure 4.14: Person who purchases lingerie

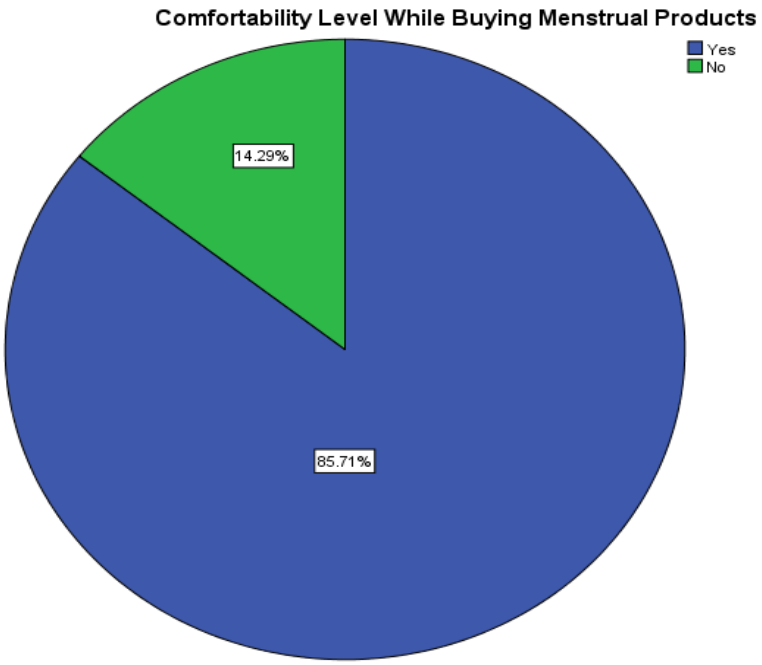


As shown in figure 4.14, more than half, i.e., 51.92% of the girls, buy brassier and panties by themselves and among 46.79% of girls, their parents (mother) buy them for them.

4.9 Comfort level in buying menstrual products

It is positive that 83.5% of girls understudy said that they are comfortable buying menstrual products, which is a positive thing. However, there are still 14.9% who are not comfortable with buying menstrual products, as shown in figure 4.15.

Figure 4.15: Comfortability level while buying menstrual products



CHAPTER FIVE

STATE AND CIVIL SOCIETY INTERVENTIONS FOR ADOLESCENT HEALTH AND EDUCATION IN GOA

In the earlier two chapters, we have seen knowledge, attitude, and practices around pubertal changes, focusing on menstruation and sex education among adolescent girls. The above chapters also narrate sources of information and menarche stories of adolescent girls. One of the critical stakeholders to disseminate adolescent health and education is government bodies and civil society interventions.

This chapter is divided into three sections. The first section discusses adolescent-centric government initiatives and non-government organizations' role in working for adolescent health and education in Goa. Section two highlights the thematic interventions for adolescents in menstruation and gives graphical presentations of the service. Finally, section three critiques existing services and further scope for interventions.

In Goa, many government departments and civil society organizations work with adolescents in various areas such as menstrual health and hygiene, adolescent health education, working against menstrual taboos and social exclusion practices, campaigns for encouraging eco-friendly menstrual products, etc.

SECTION ONE

GOVERNMENT INITIATIVES AND NGO's ROLE IN WORKING FOR ADOLESCENT HEALTH AND EDUCATION IN GOA

5.1 Government interventions for adolescent health and education

The policies and legislations direct the government to take steps for adolescents in health and rights. The government has taken various steps for the welfare of adolescents. Various government departments have adolescent-centered schemes and programs. Some work indirectly, while some are directly established for the adolescent age group. The following work is carried out by nine government agencies working for adolescents:

5.1.1 Directorate of Health Services

The Directorate of Health Services aims to provide preventive, promotive, curative, and rehabilitative health services through a primary health care approach. This has been accepted as one of the main instruments for developing human resources, improving socio-economic development, and achieving improved quality of life. Primary health care is essential for all citizens, easily accessible and affordable.

Rashtriya Kishor Swasthya Karyakram (RKSK) project of Central Government implemented by them in the State. RKSK was earlier known as Adolescent Reproductive and Social Health (ARSH). ARSH (now renamed RKSK) was introduced in Goa in 2006 under the Reproductive and Child Health (RCH) program. ARSH Clinics were started in 2 District Hospitals, 4 Community Health Centres, 4 Urban Health Centres, and 20 Primary Health

Centres (total 30 Clinics) in Goa. In 2012, the name "YUVA CLINIC" was coined for ARSH Clinic.

Rashtriya Kishor Swasthya Karyakram (RKSK) aims to 1. to provide friendly services to adolescent girls and boys, 2. to help key stakeholders in the community to understand and respond to adolescent needs, 3. to increase awareness about adolescent health issues, 4. to set up adolescent Health Clinics and provide information to adolescents through these clinics, 5. to sensitize service providers on relevant information, skills and services for adolescents and also to enhance their capacities to deliver services according to the needs of adolescents and 6. maintenance of menstrual hygiene in adolescent girls.

Yuva Clinics are functional regularly from Mondays to Fridays in the afternoon from 2.00 p.m. to 4.00 p.m. There is a separate space, sitting arrangements, drinking water, and clean, functional toilets that the adolescent beneficiaries can use in these yuva clinics. Counselors in Yuva Clinic are trained in conducting sessions on adolescent reproductive and sexual health, counseling and communication skills, RTIs, STIs and HIV/AIDS among adolescents, family planning, breastfeeding, and non-communicable diseases.

School health medical officers are as well trained in adolescent reproductive and sexual health training material in Modules (Handouts), implementation guides; reference books, etc. are available in the Yuva Clinic for the counselors to refer. In addition, IEC material in handouts and flex boards is displayed for the beneficiaries.

5.1.2 Directorate of Women and Child Development, Government of Goa

To give more focus to Women and Children in the State, the Government of Goa carved an independent Directorate in 1997 by bifurcating the Directorate of Social Welfare and 'Directorate of Women & Child Development. This Directorate deals with all issues about women and child, for its overall development and empowerment. Various Welfare Schemes of

Government of India and State Government meant for women and children are being implemented by this Directorate. Department of Women and Child Development have two schemes for adolescents, i.e., the Rajiv Gandhi Scheme for the Empowerment of Adolescent Girls (Sabla) and the Laadli Laxmi Scheme. Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (RGSEAG) –"SABLA" by the Department of Women and Child Development aims at empowering adolescent girls (AGs) of 11-18 years with a focus on out-of-school girls by improving their nutritional and health status and upgrading various skills like home skills, life skills, and vocational skills. They also aim to equip girls on family welfare, health hygiene, information, and guidance on existing public services to mainstream out-of-school girls into formal or non-formal education.

For the nutrition provision, 11-14 years out of school adolescent girls and all girls of 15-18 are covered since mid-day meals do not cover 15-18 years girls. Therefore, an integrated package of services is provided to adolescent girls such as nutrition provision (600 calories, 18-20 gms of protein and micronutrients at Rs. 5 per beneficiary per day for 300 days), IFA supplementation, De-worming tablets, rubella vaccine, health check-up, and referral services, Nutrition & Health Education (NHE), counseling and guidance on family welfare, ARSH, child care practices, and home management, Life Skill Education and accessing public services, vocational training under National Skill Development Programme.

5.1.3 Goa Education Development Corporation (GEDC)

GEDC was established in 2003 to promote the growth and development of Goa educational institutions, services, and facilities. In collaboration with the Directorate of Education, Goa Education Development Corporation provides counseling services to all government and government-aided schools and higher secondary schools. School counselors are trained and appointed by GEDC to provide these services. The activities under the counseling schemes to schools and higher secondary's include individual

counseling, group counseling, awareness through posters, competitions on social issues and events. Workshops, seminars, and lectures are conducted for students, parents, and teachers. Home visits and referrals to psychiatrists, doctors, the Institute of Psychiatry, and Human Behaviour are done according to the need. Various issues faced by students in the adolescent age group, such as behavioral problems, emotional difficulties, learning difficulties, substance abuse, career guidance, relationship issues, mental health issues, suicide and family issues, and menstrual health and hygiene, are dealt with by the school counselors under the GEDC counseling scheme.

5.1.4 Goa State Aids Control Society (GSACs)

Goa State AIDS Control Society (Goa SACS) got registered in 1997 to function under the National AIDS Control Organization (NACO) guidelines keeping in view the national pattern. The National AIDS Control Organization (NACO) is a part of the Ministry of Health and Family Welfare, Government of India, and the Goa State AIDS Control Society (Goa SACS) is the State level body.

Goa State Aids Control Society conducts Adolescence Education Programme (AEP) in schools in Goa. The programs have been conducted in collaboration with SCERT. Adolescence Education Program (AEP) is conducted in four schools and covers topics like growing up, adolescence (physical, mental and social growth), HIV & STI's, Substance abuse, and mental health.

The first section of the program is called a passage from childhood to adolescence. The second section deals with adolescent reproductive and sexual health issues. The third section deals with mental health and substance use. The fourth section of the program deals with life skills education and HIV prevention.

The AEP aims to support Young People in**,** 1. Knowing about themselves, their adolescence, and their sexuality, 2. Learning basic facts on

HIV and other sexually transmitted infections, 3. Understanding the risks involved in substance abuse, 4. Developing and reinforcing life skills that enable them to protect themselves, 5. Dispelling myths and clarifying misconceptions, 6. Finding ways to help fight the HIV epidemic and encourage positive attitudes towards people living with HIV.

5.1.5 Nehru Yuva Kendra Sangathan

Nehru Yuva Kendra Sangathan (NYKS) is an autonomous body under the Ministry of Youth Affairs and Sports, Government of India, and offices in North Goa and South Goa district. NYKS encourages youth to form youth and sports clubs in villages and towns. These clubs organize various sports competitions and community-focused programs. NYKS also conducts residential camps for adolescents on life skills education, menstrual hygiene and care, personality development, etc.

5.2 Role of NGO's towards adolescent health and rights in Goa

Non-government Organisations (NGOs) are registered under the Societies Registration Act, Companies Act, or Bombay Trust Act. In Goa, various NGOs are working tirelessly for various causes. Mushrooming of NGOs in Goa started around the mid-1990s. Many NGOs work directly, and some work indirectly for adolescents. Following is the work carried out by 14 Non-Government Organisations (NGOs) for adolescents:

5.2.1 Anyay Rahit Zindagi (ARZ)

ARZ is a non-governmental organization whose prime focus includes working against ending human trafficking, sexual violence, and sexual abuse in Goa. The services provided are prevention, protection, rescue, persecution, rehabilitation, and economic rehabilitation. In addition, ARZ works with various stakeholders like children, parents, school and state administration.

ARZ undertakes varied activities on topics like awareness sessions on child sexual abuse, handling emotions, sexuality, relationship building, gender equality and sensitization, and life skills on adolescent-related changes.

ARZ conducts activities for parents, children, and caregivers such as teachers, counselors, and institution staff of the Department of Women and Child Development and Goa Police. In addition, ARZ collaborates with schools, the Government of Goa Directorate of Women and Child Development, Goa Police for prevention, rescue, and rehabilitation. ARZ has also developed IEC helpful material for children and adults.

During corona pandemic as well they have been proactive and carried out several community based sessions on prevention of child sexual abuse, child marriage, sex trafficking, building body image and self image and other life skills education among adolescent boys and girls. ARZ has won State, National and international awards and recognitions for their work.

5.2.2 Chitrangi (Konkani Bhasha Mandal)

Chitrangi is a women-centric socio-literary wing of Konkani Bhasha Mandal that has created awareness regarding social issues concerning women and youth. Their two days annual meet of Chitrangi has been deliberating upon several issues since then and has played a significant role as an opinion builder. To reach out to people through the medium of the theatre, Chitrangi has embarked upon a mission to create and perform street plays on several issues concerning women. Chitrangi has been speaking against menstrual social exclusions through college sessions, social media platforms, and webinars. They are preparing a module on the same and training school and college teachers to educate their students on this issue.

The current President of Konkani Bhasha Mandal, Anwesha Singbal has created a YouTube channel dedicated to speak about menstruation. In her videos, she has touched upon issues related to silence

around menstruation, need to start dialogues with our children about menstruation, socio-cultural practices. She plans to create more videos related to the subject.

5.2.3 COOJ Mental Health Foundation

COOJ is a non-profit, non-governmental organization set up in 2000 to bridge the gap between the existing services in mental health and the immense increasing need. COOJ brings a lasting change in people's lives affected by mental illness through various evidence-based strategies. COOJ has a suicide prevention helpline whose services adolescent age group seeks. COOJ also conducts awareness sessions in schools and colleges on suicide prevention and mental health issues. In addition, they collaborate with local organizations to conduct awareness rallies, competitions, etc.

5.2.4 Children's Rights in Goa (CRG)

Children's Rights in Goa works to improve the status of children in Goa by strengthening the child protection system in Goa and building awareness of children's rights and responsibilities. CRG includes flip centers in Calangute, Baga, and Candolim. Group therapy is conducted on issues related to an adolescent like anger management, self-esteem, career guidance, etc. Awareness sessions are also conducted regarding the rights and responsibilities of children in traditional schools. CRG also takes up cases related to adolescent and children issues. Training is conducted for stakeholders related to children and adolescents. CRG is also involved in campaigns and advocacy for children and adolescents. Children Rights in Goa (CRG) also have been conducting sessions in schools in North Goa to train gender champions to work towards gender equality among peers and in school.

5.2.5 Eco Femme

Eco Femme is a women-led social enterprise founded in 2010. Based in Tamil Nadu, India, their goal is to create environmental and social change by revitalizing menstrual practices that are healthy and environmentally sustainable, culturally responsive, and empowering for women worldwide. Eco Femme produces and sells washable cloth pads, provides menstrual health education to adolescents, and opens dialogues on menstruation. These cloth pads are stitched by women from lower socio-economic backgrounds and thus give them economic development opportunities. They have a presence in Goa and conducts menstrual hygiene sessions, and distribute cloth pads free of charge in remote parts of Goa.

5.2.6 Green the Red

Green the Red is a Bangalore-based voluntary-based organization having a presence in Goa. They have around six volunteers in Goa who conduct sessions in schools, colleges, and communities to promote eco-friendly menstrual absorbents. They do not promote specific brand and only promote eco-friendly menstrual absorbents like menstrual cups and re-useable cloth pads. Their website is resourceful and contains blogs, links to academic writing and articles and answer query to all the questions one can have while switching to eco-friendly menstrual products.

5.2.7 Human Touch

Human Touch is a youth-led non-profit organization founded by professional social workers in February 2009. They initially started in Nagpur, but now they entirely work in Goa. Human Touch aims at 'We inform, inspire and engage youth in development so that they are inspired to get involved and take action to improve their local communities and change the world.'

Human Touch provides care and support to around 150+ children in Goa. They organize annual summer and winter camps every year in Mollem, Goa. In addition, there are sexual and reproductive health sessions for adolescents living with HIV. Human Touch also provides counseling services focusing on sexual and reproductive health. Training to health workers and caregivers is also given to address the Sexual and Reproductive Health needs of HIV-positive children.

Human Touch has started the 'EcoSwitch' campaign in 2020, which creates awareness and encourages girls and women to choose eco-friendly menstrual products to manage their periods in Goa. They have been carrying out sessions in the communities and students in offline and online mode.

5.2.8 Mineral Foundation of Goa

Mineral Foundation of Goa (MFG) is an NGO promoted by the mining companies of Goa. MFG conducted lectures for High school students on physical development and related problems of adolescence. The sessions were conducted separately for standard VIII, IX, and X boys and girls. A total of 53 schools were covered. Pre and post questionnaire was also given to students to get feedback on the issue. A TOT was also conducted for teachers of these schools. Topics covered were understanding adolescence, characteristics, physical, social and emotional changes in boys and girls, male and female reproductive organs, and HIV. Sessions on health and hygiene were also conducted for students from V to VII standard in all 60 schools in the mining region. Presently their activities are stalled because of the Covid pandemic.

MFG also provides scholarships to students opting for a professional degree, diploma, and master's degree courses. Nature camps are organized for school students from VII to IX standard in Bondla. More than 40 residential camps have been successfully conducted. Topics on clay modeling,

bird watching, solid waste, wildlife are covered. Around 125 Green students are selected from the camps and trained on social and environmental issues and on-ground exposures.

5.2.9 Nirmala Institute of Education's Atmashodha Counselling Cell

The Nirmala Institute of Education was established in 1963 and affiliated with Goa University since 1985. Atmashodha Counselling Cell functions to provide socio-emotional support in a stress-filled world. They Provide testing and counseling facilities, create an information base to enhance and address opportunities, create healthy inter and intra-personal relationships, teach social values and the ability to think independently and responsibly and provide a helpline for suicide cases.

5.2.10 Sahas

Sahas is a group that works towards gender equity and adolescent development through training in educational institutes. Sahas activities include awareness creation about menstrual exclusion through Speak Against Menstrual Exclusion (SAME). In addition, they have carried out awareness activities such as posters, publishing articles, meetings, and sessions in colleges, and signature appeals are conducted for creating awareness about menstruation and related myths.

Sahas conducts gender equity and adolescent education programs in schools to promote the holistic development of adolescents. The training programs include understanding adolescents, life skills values, sex education, study skills, stress management, de-addiction, and career guidance.

5.2.11 Sai Life Care

The Bhoomi project of Sai Life Care NGO aims to create awareness about menstrual hygiene among adolescent girls in Bicholim and Sankhalim talukas. They also distribute free sanitary napkins after the sessions. They

5.2.12 Sangath

Sangath is a national non-governmental organization that aims to improve health across the lifespan of a human being by empowering existing community resources to provide appropriate physical, psychological and social therapies and strategies. Sangath primarily works for child development, adolescent and youth health, and mental well-being.

Sangath's project like SHAPE and Manthan focuses on adolescent needs. They have worked in adolescents for the last two decades, like conducting training for teachers, students, parents, and management. They also have a multidisciplinary team and tertiary referral services from psychologists, social workers, pediatricians, and psychiatrists.

Sangath has also helped Goa Education Development Corporation (GEDC) establish school counseling schemes by training school counselors and developing curriculum and resource material for them during the formation stage.

5.2.13 Video Volunteers

Video Volunteers is an international community media organization that trains and empowers people in underdeveloped areas with video journalism skills, enabling entire communities to expose underreported stories from their communities and take action to right the wrongs of poverty, injustice, and inequality. They also have videos relevant to adolescent health and rights and menstrual health. Video Volunteers upload the documentaries

on their website, which can be downloaded by anyone to use as IEC material in creating awareness on various social issues.

5.2.14 Wasteless Project

Wasteless Project was started in 2019 in Goa. The organization conducts sessions and gives demonstrations on using and caring while using menstrual cups and stitched cloth pads. They have carried more than 100 sessions for different groups in online and offline modes.

SECTION TWO

MENSTRUATION AND ADOLESCENT GIRLS: THEMATIC INTERVENTIONS IN GOA

The interventions by adolescents in the field of menstruation can be understood under the following broad thematic areas:

5.3 Menstrual health education

Educating adolescent girls about menstruation, pubertal changes, sex education through talks, interactive sessions, focused group discussions, online webinars, and YouTube videos. Information, Education, and Communication (IECs) such as presentations, videos, games, Q & A, street plays, competitions, etc., are used to disseminate information about concerns related to adolescents. The sessions are conducted primarily at educational institutes like schools, higher secondary, and college levels. Health educators and doctors from the Directorate of Health Services, Government of Goa are invited by educational institutes to conduct the adolescent health education sessions. Mythri, an animated educational video on menstrual hygiene, is used

during the sessions. Goa AIDS control society (GSACs) with SCERT and Goa Educational Development Corporation (GEDC) conducts sessions for adolescents through its school counselors. Non-government organizations like Mineral Foundation of Goa, Anyay Rahit Zindagi (ARZ), Chitrangi, Sangath, Sai Life Care, EcoFemme, Human Touch, Nehru Yuva Kendra Sangathan, Rotary Clubs, Inner Wheel Club, Lions Club, Jaycee Clubs conducts menstrual hygiene management talks for adolescent girls in educational institutes and also in the community.

The IEC material varies from organization to organization, and the type of information received by the adolescents depends upon the resource person. Most of the resource persons do not speak about socio-cultural taboos around menstruation. The use of disposable sanitary pads is stressed. Other menstrual absorbents like cloth pads, tampons, and menstrual cups are not discussed except by organizations like Ecofemme, Human Touch, Green The Red, and Wasteless Project, whose cause is to promote eco-friendly menstrual products.

5.4 Menstrual health and hygiene management interventions

Menstrual Health and Hygiene (MHM) programs and interventions are carried out at various levels. For example, the Rotary Club of Panaji (R. I District 3170) has set up incinerators and sanitary pads dispensers in more than 75 schools and colleges. Nine units of incinerators & sanitary pads dispensers are also set up within the Goa University campus.

International Service organizations like Rotary Clubs, Inner Wheel Clubs, JCI, Lions Clubs, and Rotaract clubs conduct menstrual hygiene management sessions and distribute free sanitary pads to rural girls, women, women staying in slums and other underprivileged women.

Teen clinics are established in health centers and government hospitals under the Directorate of Health Services under the RKSKS project. Adolescents can seek information and counseling about any health concerns.

5.5 Movements against menstrual taboos and social exclusion practices

Open discussions against socio-cultural menstrual exclusion practices started in Goa with Speak against Menstrual Exclusion (SAME) movement in 2014 through social media platforms, sessions in colleges and other public spaces. Young girls and women started to question and doubt the socio-cultural practices they had been following since the beginning of their menarche. A dilemma between what we practice and what we perceive arose among some women. Men and boys also joined in the discussion. After two years, SAME did not carry out programs. Chitrangi women wing of Konkani Bhasha Mandal continued to talk on this issue in schools, colleges, camps, webinars, and social media platforms. In 2021, Anwesha Singbal started her YouTube channel, which addresses menstrual taboos, menstrual education, and other related topics.

5.6 Menstruation, environmental concerns and interventions

A disposable sanitary pad creates garbage menace and is an area of concern. According to the Central Pollution Control Board report (2018-19), India generates 12.3 billion of wastes from sanitary pads, 113,000 tonnes of waste that reach landfills every year.

Like-minded individuals championing eco-friendly menstruation have formed the National Green The Red (GTR) campaign. Few Goans have also joined this movement who promote cloth pads, bio-compostable pads, and menstrual cups as menstrual absorbents. They have been conducting community sessions, research studies, and pressurizing the government to promote eco-friendly menstrual products. In addition, they have developed resource materials available on their website to anyone who wants to disseminate information about the cause.

Eco Femme is a women-led social enterprise based in Tamil Nadu, India. Eco Femme produces and sells washable cloth pads, provides menstrual health education to adolescents, and opens dialogues on menstruation. These cloth pads are stitched by women from lower socio-economic backgrounds, thus giving them economic development opportunities. In addition, Eco Femme has conducted menstrual hygiene sessions in remote parts of Goa and has distributed cloth pads free of charge through their brand ambassadors.

Saritha started the wasteless Project in January 2019. She has conducted more than 80 offline and online workshops for different women sections in Goa. She encourages the *Boondh* menstrual cup and Eco Femme cloth pads in her sessions. She believes that women should make a conscious decision of choosing eco-friendly products while managing their menstruation.

Human touch, an NGO primarily working for HIV-positive children have also started a campaign named 'Eco Switch' towards sustainable menstruation at the hands of South Goa collectors. NGOs like Children's Rights in Goa (CRG), YWCA, and Divya Gyan Social Centre have also joined them for this campaign. EcoSwitch has been conducting programs like Canacona, Birla slum area for adolescent girls and women. They also give menstrual cups and cloth pads free of charge to the beneficiary women.

5.7 Women entrepreneurship in making menstrual products

Local women have also ventured into producing sanitary pads. A self-help group named 'Saheli' from Pilgao village, Bicholim Goa, is the first SHG in Goa to manufacture and sell eco-friendly sanitary pads. Jayshree Parwar, along with her SHG members are producing these sanitary pads since 2015. They use pinewood paper, silicon paper, butter paper, non-woven cloth, and cotton to make these pads which they claim get degraded within eight days. She got inspired by Arunachalam Muruganathan.

HyFemme is a locally manufactured sanitary napkin by Sinami Shetye. Her product is available at all major stores and pharmacies in Goa and Amazon. She also periodically conducts donation drives and donates HyFemme pads to underprivileged girls and women in flood-affected areas, girls in institutional care, orphans, etc. In addition, there is another Gia industry in Goa that has produced organic sanitary pads named 'Josha' since 2020 and are available online and in select stores.

5.8 Understanding interventions by Government and Civil society organizations

The table below indicates the types of services offered by various organizations in Goa.

Table 5.1: List of interventions for Adolescent Health and Education

Sr. No.	Type of Services	Organization
1.	Schemes providing financial Assistance	a) Laadli Laxmi scheme of Directorate of Women and Child Development b) Mamta Scheme of Directorate of Women and Child Development c) Mineral Foundation of Goa
2.	Nutrition	a) SABLA scheme of Directorate of Women and Child Development b) Mid-day meal scheme by Department of Education
3.	Legal interventions	a) Goa Police b) ARZ
4.	Physical health	a) Directorate of Health Services

5.	Mental health	a) Sangath b) COOJ Mental Health Foundation
6.	Counseling	a) Sangath b) Goa Education Development Corporation c) Yuva Clinics- RKSKS project - Directorate of Health Services d) COOJ Mental Health Foundation e) Nirmala's Atmashodhak Counselling Cell
7.	Personality Development	a) ARZ b) Human Touch c) Children Rights in Goa d) SETHU
8.	Research	a) Sangath b) ARZ c) Video Volunteers d) Green The Red
9.	Advocacy	a) Video Volunteers b) ARZ
10.	Environment Protection	a) EcoFemme b) Green the Red c) Wasteless Project
11.	HIV/AIDS	a) Goa AIDS Control Society b) Human Touch
12.	Sex education	a) Adolescent Education Programme by Goa AIDS Control Society

b) Goa Education Development Corporation
c) RKSK program by Directorate of Health Services

SECTION THREE

INTERVENTIONS IN THE AREA ADOLESCENT HEALTH AND EDUCATION: A CRITICAL PERSPECTIVE

5.9 Critique on State Government interventions

There is a distinct difference between government organizations and NGOs working for adolescents in Goa. Government schemes and programs are mostly welfare, where financial aid is given in cash or kind. State Government implements some central government schemes like Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (RGSEAG)- SABALA under nutritional component cereals given to adolescent girls to ensure their physical growth during the adolescent phase. Through Sarva Shisha Abhiyan, free books are given to children to ease their financial burden until 7th Grade to ensure that students do not drop off. Schemes like Ladli Laxmi and Mamta schemes give financial assistance for the girl child. The Education department's mid-day meal scheme aims to achieve physical health among children and adolescents by providing nutritional meals during school hours.

However, a few national programs also have developmental aspects, like the Rashtriya Kishor Swasthya Karyakram (RKSK) program,

explained in detail above. Also, Goa Educational Development Corporation works in the field of school counseling. The School counselors conduct sex education sessions if they are comfortable with the subject. They don't have a common module or IEC material while conducting menstrual hygiene or sex education sessions. The counselors develop their modules. Thus the values and perceptions of counselors on these topics may reflect in their talks.

Government departments work in physical health, mental health, education, personality development, counseling, care and protection, drug abuse and alcoholism prevention, nutrition, health education, adolescent education, financial assistance for marriage, etc. Government departments have good financial resources, which allow them to provide schemes and services to people. They also financially support a few non-government organizations that work for adolescents.

The government organizations are silent about the social exclusion practices around menstruation in their schemes and programs. Perhaps they do not wish to interfere in religious practices. Any government department does not make efforts to promote eco-friendly menstrual products. For example, Sanitary napkins are bio-medical waste mixed with domestic garbage and often in landfills. The government has not yet taken any steps in this regard.

5.10 Critique on Non-Government Organization interventions

The non-government organizations create awareness in adolescent health, mental health, environment protection, menstrual hygiene and health, research, video blogging, personality development, nutrition, HIV/AIDS. Except for SAME (Speak Against Menstrual Exclusion) and Chitrangi, other NGOs do not discuss social exclusion practices. It is appreciating that local women have started a business and trying to break the silence behind menstruation and venturing into manufacturing products that are considered taboo in society.

5.11 Further scope of interventions

Whether the government services and schemes reach every adolescent girl, especially in remote areas? Whether there is duplication of services and some girls do not receive any services is also questionable.

The common areas in which various organizations work can converge and work together. This can help avoid duplication, reach out to larger populations, and avoid wastage of resources.

There is a need to take steps by the government and NGOs in garbage management of sanitary pads wastage. Though incinerators are installed in some schools and colleges, presently, the students are at home due to the covid pandemic.

Well researched and updated module on menstrual hygiene and sex education has to be developed by stakeholders, which resource persons by any organization can use.

CHAPTER SIX

IN CONCLUSION

The subject of menstruation, while at one level a regular aspect of the functioning of a woman's body, playing, therefore, a critical role in their lives, has had various repercussions for women in how society has dealt with it. For example, the medicalization of menstruation has resulted in a focus on its role in fertility, reproduction, childbirth, and contraception. This has resulted, especially in India, where there is concern over population growth on the neglect of young women's health and a blinkered focus on reproductive health. Then, the exclusionary social practices prevalent in society about menstruation have resulted in gender discrimination and inequality. The prevalent silence around discussions on menstruation in India and the euphemistic language used to refer to menstruation has furthered discriminatory practices. This concluding chapter to this thesis begins with a summary of the findings. It includes a few suggestions, challenges faced policy recommendations, and ends with a self-reflexive note and limitations of the study. This concluding chapter begins with a summary of the findings. It includes a few suggestions, challenges faced policy recommendations, and ends with a self-reflexive note and limitations of the study.

6.1 Summary of Findings

6.1.1 Pubertal changes: Knowledge and comfort

A. Mother - the primary source of information

This study revealed that most girls learn about menstruation from their mothers (79.11%), yet very few (20.9%) had detailed knowledge. While menstruation is being discussed within the family may be considered a positive indicator of communication between parent and child, the fact that often unscientific information is imparted about menstruation is problematic.

B. Persistence of unscientific beliefs and partial knowledge about menstruation

The focus of the information imparted to the adolescent respondents was menstrual hygiene (45.6%), biological development (41.1%), and socio-cultural restrictions (13.3%). Of the 158 respondents, very few had detailed knowledge about menstruation (20.9%). Most had partial knowledge or had been incorrectly informed. Some said that women menstruate to get pregnant (18.4%); others said menstruation removed impure blood (10.8%). Some had a perception that menstruation helps to clean women's bodies when the egg was not fertilized (4.4%); some said it was because of hormonal changes (3.2%), and few (9.2%) did not have an idea why women menstruate.

Most respondents (96.2%) knew that menstruation stops after a certain age, but there were a few (3.2%)who believed that one would never stop menstruating, and a few (o.6%)were not sure about it. Most, however, (85.4%) did not know at what age one would reach menopause, and only a few (13.9%) said that menopause would be reached at 45 to 55 years. Therefore, when menstruation is discussed with young girls, it is also essential to give them information about menarche and menopausal concerns.

More than half (50.6%) of the adolescent girls under the study did not know about bodily changes before experiencing them. For example, they had no idea their breast would develop or get armpit or pubic hair. It is the need of the hour that adolescent girls should be made aware of pubertal changes at an early age. Usually, adolescent education takes place in 7^{th} and 8^{th} grade. But since the menarche age is dropping, an adolescent education program should be introduced in the state board from 4^{th} or 5^{th} standard.

Almost half (51.3%) of the adolescent girls knew that pubic hair, armpit hair, and breast growth are the bodily changes their experience in adolescence. 15.8% of adolescent girls also said that they experienced other

changes such as hormonal changes, weight and height changes, and facial acne.

C. Sessions in school on 'Menstruation' held after the age of menarche

Most respondents (93%) had had a session on menstruation in school; however, these sessions were a part of the formal 7th or 8th Standard science curriculum. Furthermore, as the age of menarche is getting lower, some adolescent girls menstruate before they reach the 7th standard. Therefore, an increasing number have not had a session on menstruation in school before they reach the age of menarche. However, most respondents (75.3%) discuss menstruation with their friends, while the remaining (22.8%) expressed shyness or discomfort in discussing it with friends.

D. Changing age at menarche

The age at menarche varied from the range 8-15 years, 9-12 years, 15-16, and for some, it was even below ten years. The menarche age can vary from girl to girl and start as early as 8 years or start as late as 17 years.

Adolescent health education is essential for girls as they do not have prior knowledge or experience. However, in most studies across India, parents have been highlighted as the primary source of information (Chatterjee 2020). The findings of this thesis were similar to (Chauhan, Shaik, and Sotala 2019), who concluded that most parents lacked the required information about the menstrual cycle and its related issues. In addition, it has been observed that awareness among adolescent girls varies across different parts of the country, and knowledge provided to these girls is not always correct or sufficient (Thakur et al. 2014; Chothe et al. 2014).

E. Sex Education is still a hushed subject

Sex is another taboo topic in our Indian society. Thus, most adolescent girls during the interview were not comfortable talking about what they knew about sex. One reason could be because I was a stranger to them, and the interview was conducted in their college itself in the common room. Sometimes, other girls were in the common room when the interview was going on.

The age at which most adolescent girls (46.2%) know about sex is 13-15 years. Also, 35.4% of respondents receive sex education at 16-18 years. Six of the respondents did not provide their age in terms of years. Instead, they said that they came to know about sex when they were in school. Almost 2.5% of respondents did not respond to this question. Discussing this tabooed topic needs different tools and methodology

F. Some discomfort with bodily changes is still prevalent amongst

i. **Breast development:** While half the number of respondents (50.0%) were comfortable with their breast development, some (43.7%) were fairly comfortable but not entirely comfortable with their breast development. Few (6.3%) of adolescent girls admitted to feeling uncomfortable with their breast development.

ii. **Pubic hair:**(63.3%) are fairly comfortable with public hair

iii. **Armpit hair**: The majority (61.4%) stated that they are somewhat comfortable with the growth of their armpit hair, and 38.6% of girls said they feel uncomfortable.

iv. **Acne:** 52.5% are uncomfortable when they get facial acne. Only 6.3% of girls say they are very comfortable with it, 15.2% show a reasonable level of comfortability, while 25.9 % said they don't get facial acne. In

addition, 25.9% of respondents say they never experience any facial pimples during menstruation.

v. **Overall body figure**: It can be seen that the majority of the respondents (95%) say that they are comfortable with the changes in their body figure after puberty. Only 5% of the respondents said they are uncomfortable with body figures.

Adolescent girls experience discomfort, especially breast development, pubic and armpit hair, and facial acne. Prior knowledge about bodily changes and ease of discussing these topics with family and school will help them accept their body and changes positively.

6.1.2 Socio-cultural practices around menarche and menstruation

A. Exclusionary socio-cultural practices around menstruation in Goa

In this study, most (71.5%) adolescent girls follow some of the other socio-cultural restrictions when menstruating, as indicated in Chapter 4, subsection 4.5. The type of restrictions is mainly around worshipping God and not going to places of worship. Some also follow total exclusion during menstruation. This indicates that girls are considered impure during menstruation.

Among the socio-cultural practices prevalent in Goa, 9.5% of respondents followed total exclusion from all socio-cultural activities when they were on their periods. 33.5% of the girls didn't answer this question and provided irrelevant answers. 4.4% do not worship god, 36.7% do not touch any sacred thing and go to any religious place, 14.6% do not attend any religious festival, and 1.3% do not cook when menstruating. 80% of the girls said that they didn't participate in most religious and social activities during their periods.

B. Social celebrations around menarche are not prevalent in Goa

There are no significant celebrations to mark menarche in Goa, unlike other Indian states. 89.9% said that they did not have any celebrations at home. 10% said celebrations like their mother making a sweet dish at home or chicken to celebrate her menarche.

C. Cultural practices perpetuate myths around menstruation

Several myths around menstruation are prevalent in our society. When asked about adolescent girls' opinions on them, more than 50% of adolescent girls believed in those myths. For example, 58.9% of adolescent girls agree that they will wilt if they pluck flowers during menstruation. 55.1% of respondents believed that menstruating women should not visit religious places as the religious place will become impure. More than half of the respondents (56.3%) believe that menstruating women should not prepare pickles to get contaminated. 76.6% of adolescent girls believe that they should not enter the kitchen during menstruation and 74.1% of respondents agree that women should not use the common well during menstruation. These myths reflect that most adolescent girls believe that menstrual blood is impure, giving rise to socio-cultural exclusion practices.

D. Stigma perpetuated through local terms used to refer to menstruation

A local term used to refer to someone having menses is important to understand as it reflects the social exclusion and menstruation being considered impure. Apart from commonly used periods and M.C. (menstrual cycle) to refer to menstruation, there are several local language terms to refer to menstruation in Goa.

*Bhairasa (*one who is excluded), *kawloafudlo* (touched by crow), *mhainoasa*(a monthly cycle is there), *basla* (sitting), *bhashte*(untouchable), *haatbhaire*(one who shouldn't be touched), and *adchan* (problem) are terms in

Konkani which they learned in the family. Happy birthday, *Batlifutli/tomaatfutle* (bottle broke/tomato broke) terms are mostly used to discuss menstruation among peers and colleagues.

The local terms used in Konkani reflect the silence, taboos, and impurity attached to menstruation (chapter three sub-section 3.4). In other parts of the country, different terms refer to menstruation. Locally, girls refer to menstruation with 'Period' and 'MC' (abbreviation for menstrual cycle) in English (Rajagopal and Mathur 2017). Other terminologies include 'Mahawari' in Punjabi, 'Mahina' in Hindi, and 'Matavitay' in Tamil (Atre, Kudale, and Howard 2017).

Menstruation is a natural event necessary to attain womanhood (Bhatt and Bhatt 2005). However, there are many taboos, restrictions, and misconceptions about menstruation among adolescent girls in India. These include menstruating girls being prevented from going to the temple, cooking food, attending weddings, etc., leading to undue fear and anxiety and undesirable practices (Mahon and Fernandes 2010). The most frequent were visiting worship places, touching religious items, or praying. Other common restrictions were food, or touching people, or special foods. In addition, in some studies, girls reported sleeping separately or sitting separately from household members during menstruation (van Eijk et al. 2016).

6.2 Some comparative insights from literature

Other studies have revealed that adolescent girls lacked adequate knowledge about menstruation and its processes. A study conducted in West Bengal revealed that only 23.4% of girls knew about menstruation even before menarche. 41.1% of the girls recognize it as a physiological process, but about one-third of the participants considered it a curse from God (Bhattacherjee et al. 2013). A study conducted in rural areas of South India revealed that overall knowledge about the menstrual cycle was inferior among adolescent girls of South India. The majority of the girls (55.8%) did not know about the

menstrual cycle, and only 35.8% of girls knew about it before they attained menarche. Only 18.6% of the girls regard the menstrual cycle as natural and physiological.

In contrast, there was a significant number of participants that thought it to be a process through which impure blood flows out (21.7%) or considered it as some disease (4%) (Chauhan, Shaik, and Sotala 2019). A study conducted among adolescent girls of Jaipur, Rajasthan, revealed that 73.3% of non-school-going girls reported no prior information regarding the onset of the menstrual cycle. Even in schools, teachers are hesitant, and the topic is considered taboo (Rajagopal and Mathur 2017). Another study conducted among high school girls in Karnataka reported 73.7% of the girls knew about menstruation as a normal phenomenon, whereas 13.4% of the girls thought it to be a curse from God. Even though most of the girls have heard about menstruation, only 28.7% of the girls had adequate knowledge about the menstrual cycle (Shanbhag et al. 2012).

Table 6.1: Regional studies highlight the primary source of information for adolescent girls.

Region	Mothers as a primary source of information (%)	Reference
Bhopal	75 %	(Srivastava and Chandra 2017)
Chandigarh	50.8%	(D. Kumar et al. 2016)
Karnataka	55.1%	(Shanbhag et al. 2012)
Mumbai	35.7%	(Thakur et al. 2014)
South India	43%	(Chauhan, Shaik, and Sotala 2019)

Region	Percentage of the teacher as a primary source of information	Reference
Mumbai	39.3%	(Thakur et al. 2014)

Region	Sister/other family members as a primary source of information (%)	Reference
Mumbai	17.9%	(Thakur et al. 2014)
South India	17.1%	(Chauhan, Shaik, and Sotala 2019)
Karnataka	14.2%	(Shanbhag et al. 2012)

Region	Physician as a primary source of information (%)	Reference
Mumbai	7.1%	(Thakur et al. 2014)

Region	Friend as a primary source of information (%)	Reference
South India	20.6%	(Chauhan, Shaik, and Sotala 2019)
Karnataka	17.4%	(Shanbhag et al. 2012)

The age at menarche has been influenced by genetic variability, overall health status, nutritional and environmental factors across the human population (Liestøl 1982). Studies have reported a decline in menarche ages over time (Pathak, Tripathi, and Subramanian 2014). Most of the studies that reported age at menarche above 13 years were conducted during 1970–1990. The remaining studies that provided age estimates at menarche below 13 years were recent mainly after 2000. The findings of these studies are categorized according to the region are given as below:

Table 6.2: Age of Menarche across India

Region	The average age of Menarche	Reference
Tirupati	13.50 ± 0.03 (non-poor family) 13.94 ± 0.09 (poor family)	(Bai and Vijayalakshmi 1978)
Hyderabad	14.60 ± 0.08	(Satyanarayana and Naidu 1979)
Uttar Pradesh	16.38 ± 1.53	(Singh and Thapar 1983)
North Bengal	14.00 ± 0.00	(Chakravarty 1994)
Delhi	13.50 ± 0.00	(Garg, Sharma, and Sahay 2001)
West Bengal	12.80 ± 0.00	(Sanyal and Ray 2008)
Assam	12.45 ± 0.02	(Deb 2009)
Lucknow	12.43 ± 1.49	(Khatoon et al. 2011)
Tamil Nadu	12.50 ± 1.42	(Ramraj, Subramanian, and G 2021)

The studies across India mentioned above have shown one month per decade decline in the age of menarche among Indian women. The reduction in the age of menarche is known to cause many problems among adolescent girls. These problems include psychological, social, obesity, cardiovascular diseases, risky sexual behavior, diabetes, and breast cancer (Ramraj, Subramanian, and G 2021; Kushwaha et al. 2019; Yoo 2016).

In my study, more than half of the adolescent girls (66.5%) got their menarche between 12 to 14 years.22.2% got the first period when they

were between 15 to 17 years and11.4%. When they got their first period, the girls were between 9 and 11 years old.

In Karnataka, almost 58% of adolescent girls consume less food during menstruation as advised by their mothers. Food taboos were common during menstruation, and 42.6% avoided certain food items, common ones being sweets (21.6%), spicy food (3.9%), curd and milk products (9.1%). Other cultural practices during menstruation included restrictions to go to the place of worship and special functions held on attaining menarche (Shanbhag et al. 2012).

In a study conducted in West Bengal, most adolescent girls (93.1%) avoided religious places. In addition, about 76.6% of adolescent girls restricted the use of sour food during their menstrual periods (Bhattacherjee et al. 2013).

A study conducted in rural areas of South India revealed restrictions faced by adolescent girls were related to worship (88.45%) followed by cooking (21.82%), whereas 11.51% had no restrictions in the house. The majority of the girls were satisfied with the restrictions as it provided an opportunity for rest. In contrast, some participants were unsatisfied as they felt their freedom was restricted (Chauhan, Shaik, and Sotala 2019).

The absorbent material being used is different in urban and rural areas. Commercial pads are being used more commonly in urban areas, whereas clothes are still being favored in rural regions of India (van Eijk et al. 2016). Factors such as literacy and financial status also come into play when choosing an absorbent material type. Studies have revealed girls choose commercial pads, cloths, a combination of pads and cloths, cotton, and home-based disposables based on guidance and socio-economic status (ibid 2016).

A study in Mumbai revealed that the majority (almost 75%) the adolescent girls use sanitary napkins alone or with a reusable cloth. However,

a significant number of girls (25%) still use cloths as an absorbent during their menstrual cycle. Although sanitary napkins are economically feasible, some girls have been advised by their mothers to use them only when they are in public or use cloth when it is heavy bleeding since it is thought to have a higher adsorbent capacity (Thakur et al. 2014).

Similarly, in Karnataka, a study revealed that 44.1% of adolescent girl participants use sanitary pads, 34.7% use only reusable cloths, whereas 21.2% use both pads and reusable cloths (Shanbhag et al. 2012). A study conducted in West Bengal also revealed sanitary napkins being the majority choice of absorbent material (71.3%), and 39.1% of girls used clothes and reused the absorbent materials (Bhattacherjee et al. 2013).

In Tamil Nadu, most adolescent girls also use sanitary pads, followed by new or used cloths as an absorbent material during their menstrual cycle (Varghese, Ravichandran, and Karunai Anandhan 2015). The results are encouraging and show modernization and better menstrual hygiene practices among adolescent girls of India.

In my study, the majority of the adolescent girls use disposable sanitary pads (75.3%), and cloth is also used by 20.3% of the respondents. At the same time, 4.4% of respondents said they use both, i.e., disposable sanitary napkins and cloths during menstruation.

With new research and development in menstrual products, there are many options available from which menstruators can choose. The girls must be aware of all the available options, such as menstrual cups, commercially manufactured cloth pads, period panties, labia pads, compostable sanitary pads, etc. Adolescent girls should have the agency to decide which menstrual product suits them.

6.3 State and civil society interventions for adolescent girls

There are several interventions for adolescents in the State. Interventions by Government are either central government schemes or state programs. In addition, state and civil society organizations work in varied areas like giving financial assistance, nutrition, education, legal interventions, physical and mental health programs. They almoreso provide counseling, menstrual health, awareness programs, rehabilitation, academic, personality development, research, advocacy, environment protection, HIV/AIDS, sex education, violence & abuse, as discussed in detail in chapter five.

There is a distinct difference between government programs and NGO interventions.

- Implementation of government schemes or programs requires a lot of paperwork and bureaucratic procedures. Whereas work carried out by NGOs or individuals requires a less bureaucratic procedure.

- There is more financial stability in government interventions. However, some NGOs face funding issues; thus, their work is hampered due to financial constraints.

- Government schemes are slowly moving from welfare to development, which is positive. For example, suppose the State government works collaboratively with NGOs and provides them with financial assistance. In that case, adolescent health and education interventions can reach a wider geographical area and more adolescents.

- Most NGOs are active on social media handles like Facebook, Twitter, and Instagram. They have their official accounts, and their work is regularly posted on social media.

6.4 Critical debates on adolescent health and education in Goa

6.4.1 The Challenge to Define 'Adolescence.'

Adolescence age is defined differently by World Health Organisation and UNICEF (10-19years), Sabla Scheme (under ICDS) of Ministry of Women and Child Development (11-18years), and National Youth Policy 2014 (13-18years) (see chapter one 3.1 and chapter Two 2.1). The onset of puberty can differ in each girl as hereditary, region and environment, dietary habits, and lifestyle can play a role. Studies have shown that the age of menarche is going down; thus, there is a need to re-define adolescence age.

6.4.2 Adolescent menstrual education: Role of stake-holders

As the age of menarche has dropped, the school curriculum should also introduce adolescent health education at an earlier age as the girls can be better prepared for this phase. In chapter three, subsection 3.8.1, we can see that 50.6% of the girls were not aware of pubertal changes before experiencing them. There is a need to standardize and develop teaching modules on adolescent health and education which suit local needs. This will help avoid prejudices and perceptions of menstrual or sex educators while disseminating knowledge to adolescents.

6.4.3 Working towards eliminating Socio-cultural practices

The teaching module must also speak about harmful socio-cultural practices that hamper adolescents' physical and mental health. The fact that 9.5% of the respondents follow total exclusion means that they may be experiencing restrictions in access to drinking water, food, sanitation, and freedom of movement. Other practices and myths that are believed and followed in the name of culture include impure menstruation. Having a positive attitude towards menstruation and acceptance of one's body is essential in adolescent health development.

6.4.4 Menstrual products, choices and adolescent girls

The government of India has accepted locally made napkins, commercially available sanitary napkins, tampons, and menstrual cups as a hygienic method of protection to manage menstruation (NHFS-5, 2021). However, most of Goa's current menstrual health and hygiene modules discuss in detail only disposable sanitary pads. 75.3% uses sanitary pads and cloth, by 20.3%, and 4.4% uses both sanitary pad and cloth among adolescent girls under study.

6.4.5 Menstrual dialogue: A way to de-bunk menstrual taboos

The two primary knowledge sources of menstruation, i.e., Parents and school, play a pivotal role in passing information about menstruation, pubertal changes, and sex. Therefore, along with developing a standardized adolescent health education module, there must be parental guidance workshops. These workshops should cover initiating, addressing, and discussing menstruation, pubertal changes, and sex education. These workshops should also cover discussions on menstrual taboos and socio-cultural practices. Healthy menstrual dialogues with family and school will also help adolescent girls accept their bodies and pubertal changes positively.

6.5 Policy recommendations and suggestions

Based on the findings from adolescent girls and state and civil society interventions following recommendations are made to enhance the work done for the adolescents in Goa.

- There is an urgent need for menstrual education from primary school onwards as menarche age is dropping, and more than half of the girls under study were not aware of pubertal changes before experiencing.

- The non-evaluative chapters on adolescent education must be made compulsory to be taught in the school. In addition, there have to be revisions made in these chapters and more pictorials to be used.

- Since parents are the primary source of menstrual information, parental guidance and education should be given on how and what to talk about menstruation and related topics with their children.

- The menstrual Hygiene Management Module developed by the Central Government should also talk about breaking menstrual taboos and socio-cultural practices.

- The state government should develop a separate adolescent health and education module for adolescent girls in Goa considering the local needs and which addresses local taboos which will help all stakeholders.

- There are national child policies and National and State Youth Policies; likewise, there is a need to formulate National or State Adolescent policies.

- There is a need for the convergence of various interventions and a need for state and civil society organizations to work together to avoid duplication of services and reach out to adolescents in every corner of the State.

6.6 Challenges faced and learnings during the research work

I conceived my daughter in the same month in which I made provisional admission for the Ph.D. program in Women's Studies. After my daughter was born, it was a roller coaster ride to balance a new mother's role and research. But with challenges comes learnings' and this Ph.D. journey has taught me many things. Ph.D. work was also got affected later due to the corona pandemic. The children are at home and need full attention. Playing a

role of a full-time teacher for the child and playing the role of mother is time and energy-consuming.

I collected some of the data online since colleges were closed down. Making adolescent girls answer the questionnaire was also challenging. They were already adjusting to the online mode of learning, and in addition, taking time to fill lengthy Google forms was challenging for them. Some adolescent girls, especially those staying in remote areas, did not have internet access. They used to travel 3-4 kilometers and sit under the tree daily to attend online classes, and at the same time, they also answered the questionnaire sent to them. As a mark of gratitude, I plan to conduct an adolescent education workshop for them.

My research data became richer with years as I included interventions and literature until spread over six to eight years. When I began my Ph.D. coursework in 2013, very few interventions and studies were conducted around menstruation and pubertal changes in India, specifically Goa. But after 2015, there was a flood of studies, and literature review was a massive task in itself. Choosing readings relevant to study and keeping updated with the latest publications was quite demanding. I also had to update the secondary data with the latest NFHS-5 findings released in December 2021.

Along with literature, many State and civil society interventions also increased each year. I was curious about studying and understanding why such interventions began and to what extent the work is carried out in Goa.

One of the leading personal transformations I have experienced through my research journey is switching to eco-friendly cloth sanitary pads and menstrual cups. I went to Kennesaw, Georgia, the US, to present my research paper titled, ‘Learning and Un-learning about Menstruation: Unheard Stories of Adolescent Girls in Goa, India’ for an international conference organized by the Society for Menstrual Cycle Research. I met many menstrual

activists worldwide who work on different aspects of menstruation. Their work towards sustainable menstruation inspired me to connect with people working in India. I came across a national campaign named ‘Green The red,’ promoting sustainable menstrual choices. They have a presence in Goa, and I joined their voluntary work in 2018.

Since then, I switched to eco-friendly menstrual products, i.e., using a combination of menstrual cups and commercially available cloth pads, and conducted sessions for colleges on sustainable menstrual choices.

I also got an opportunity to participate in the National Conference named ‘MHM India Summit in New Delhi in 2019. I met many organizations working in this field and learned best practices in India. Attending and giving my inputs during the National Stakeholders meeting on MHM Guidelines framed by the Government of India in 2015 was also an enriching experience. Through this Ph.D. journey, I have learned academic research and academic writing and found a purpose to work for adolescents in Goa.

Insert header:

INTERVIEW SCHEDULE FOR THE STUDY ON ADOLESCENT GIRLS IN GOA

Date:

Questionnaire No.

Place:

1. **Identification Data**

   1.1 Name (Optional)_____

   1.2 Age_____

   1.3 Religion_____

   1.4 Place of Residence: Rural/Urban

2. **Knowledge on Menstruation**

   2.1 How old were you when you learnt about menstruation for the first time?

   2.2 Who told you first about menses?

   a) Parents
   b) Teachers
   c) Friends/ Peers
   d) Elder sibling
   e) Younger sibling
   f) Media: Internet/Books/TV
   g) Others_____

   2.3 What did they (source) tell you?

   a) Reproductive System & Sex
   b) Hygiene
   c) Biological Change
   d) Religious Restrictions
   e) Others_____

2.4 Why do women menstruate?

2.5 Which age do women start to menstruate?

2.6 When does menstruation stop?

2.7 Did you have any session on menstruation in your school/college?

2.8 If yes, which topics were covered?

2.9 Do you discuss about menstruation among peers?

2.10 What are the local terms used to describe menstruation?

3. Practices around Menstruation

3.1 How old were you when you first menstruated?

3.2 Can you tell me more about your first experience of menstruation?

3.3 Whom did you tell when you menstruated first?

3.4 What was the reaction?

3.5 What were you told?

3.6 How did family members react?

3.7 Was there any celebration at home when you first menstruated? If yes, can you tell me about the celebration?

3.8 Was the news communicated to others? Whom?

3.9 Are your family members generally aware when you are menstruating? Yes/No/Sometimes

3.10 If yes, how do they come to know?

3.11 Are there any religious practices regarding menstruation? Explain

3.12 Do you follow them?

3.13 What is the punishment if you don't follow?

3.14 What type of discomfort/symptoms do you experience during menstruation?

3.15 What do you do if you menstruate during festival, marriage time?

3.16 Do you participate in sports during menstruation?

3.17 Do you participate in trekking, picnics during menstruation?

3.18 Which Menstrual Hygiene Absorbent do you use to manage Menstruation? Why?

3.19 Did your mother tell you anytime, what precautions she took to maintain hygiene and religious beliefs during her time?

4. Perceptions towards Menstruation

4.1 What were your feelings when you menstruated first?

4.2 How do you feel when you generally menstruate?

4.3 Do you think menstruation is bound towards religion? Why?

4.4 Are you comfortable to talk to opposite sex during menstruation? Why?

4.5 Have you ever tried not to follow the religious binding? Why?

4.6 True or false. During menstruation, I should not:

- 4.6.1 Pluck flowers or else they will wilt.
- 4.6.2 Go to religious places or the place will get polluted.
- 4.6.3 Go to religious places as God will punish me
- 4.6.4 Prepare pickle as it get spoiled
- 4.6.5 Cook food
- 4.6.6 Use well or common tap to draw water as it will get contaminated
- 4.6.7 Touch others things
- 4.6.8 Touch other people
- 4.6.9 Touch your own body
- 4.6.10 Go to work/college
- 4.6.11 Talk to people
- 4.6.12

5. Bodily Changes and Adolescents

5.1 What are the other bodily changes that take place during adolescence?

5.2 When did you come to know about them?

5.3 Were you aware about bodily changes before experiencing them?

5.4 From where did you come to know about them?

a) Peers
b) Family
c) Neighbours
d) Books
e) Internet/Media
f) Others_____

5.5 **Are you comfortable with the changes that have taken place in your body?**

Changes	Very Comfortable	Fairly Comfortable	Uncomfortable
Breast Development			
Growth of Pubic Hair			
Growth in armpit hair			
Pimples			
Body figure			

5.5. Who buys sanitary napkins for you?

5.6 Who buys bra and panties for you?

5.7 Are you comfortable buying them?

5.8 Do you make purchases if the shop is crowded with people?

5.9 Do you make purchases if male sales person is there?

6. Knowledge and perception about sex and adolescents

6.1 When did you come to know about sex?

6.2 What are the different sources you came to know about sex?

a) Family
b) School
c) TV/Media
d) Internet
e) Peers
f) Neighbours
g) Books
h) NGO/government organizations
i) Others_____

6.3 Which sources do you think are authentic? Why?

6.4 When do you think is right age to know about sex? Why?

6.5 Do you think school/colleges should give sex education? Why?

6.6 Do you think you should discuss about sex and related topics with your parents? If no, why?

6.7 Should government have any role to play in imparting sex education? Why?

6.8 Are you aware of any government initiatives for adolescent girls?

6.9 If yes, name them.

INTERVIEW SCHEDULE FOR ORGANIZATION WORKING FOR ADOLESCENTS IN GOA

1. Name of the Organization
2. Year of Establishment
3. Government/ Semi-Government/NGO
4. Registration number (if any)
5. Postal Address
6. Contact Number
7. Website (if any)
8. E-mail i.d
9. Number of years working for adolescents
10. Vision for working with adolescents
11. Aims/Objectives for working with adolescents
12. Geographical Area of work of the organization
13. Schemes/ Programmes/projects for adolescents (brochures, handouts, citizen charter can be given)
14. Publications (if any) (request for a copy)
15. Staff availability to work with adolescents
16. Initial steps taken during working with adolescents
17. Challenges faced while working with adolescents (if any)
18. Future Plans to work in the area
19. Are you willing to be part of working committee of stakeholders?
20. Reasons for willingness or unwillingness to be part of the working committee

Details of the Interviewee

1. Name
2. Designation in the organization
3. Qualifications & Experience

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