

## A Brief Overview of the Sexual and Reproductive Health Awareness of Adolescents in Kerala



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### ABSTRACT:

**Background:** Adolescence is a critical and challenging period of life. Many adolescents today have patchy knowledge on SRH issues, which may lead to risky decision making concerning their health. Kerala, though one of the most literate states in India, is yet to implement comprehensive sex education.

**Objectives:** To list the sources of information and to study the awareness of adolescents on Sexual and Reproductive Health (SRH) issues among high school students in Kerala.

**Materials & Method:** A cross sectional study was conducted among 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup> class students. Multistage random sampling was conducted and a sample size of 338 was achieved. Data was collected via a self-administered questionnaire and analyzed using SPSS Version-23. Results were explained in terms of frequency, percentage, mean and standard deviation. *Results:* Mean age of the study population was 14.2 ±0.88 years; most of them were females (58%) and followed Christian religion (49%); belonged to urban areas. The major sources of information for adolescents regarding SRH matters like private parts, type of touch, response to sexual assault and menstruation was their mother. When it comes to puberty changes, both mother and teachers were the major sources. Media was the most common source of information regarding Masturbation, sexual contact, pregnancy, contraception, STDs, and sexual abuse. There is wide disparity in the awareness of adolescents on major SRH issues.

**Conclusions:** India has the largest adolescent population, and it is a country known to have strict traditional values and age-old cultures and customs. Adequate information through parents may improve the knowledge on these issues. Age-appropriate comprehensive sexuality education must be incorporated into their curriculum effectively to improve their SRH.

**KEYWORDS:** Adolescents, Sex education, Sexual and Reproductive health (SRH), Source of Information

### INTRODUCTION

Adolescence is a critical and challenging time when children become independent individuals, form new relationships, develop social skills, and learn behaviors that endure throughout life.<sup>1</sup> 42% of the world population are young (10-24 years), of which 1.2 billion are adolescents (10-19 years).<sup>2</sup> Nearly one-third of India's population are young.<sup>3</sup> In this transition from childhood to adulthood, adolescents are exposed to injurious entities like tobacco, alcohol, violence, accidents, mental health issues as well as sexual health issues such as Sexually Transmitted Infections (STIs), sexual exploitation, teenage pregnancy etc.<sup>2</sup> 3000 adolescents die every day mainly due to preventable causes like accidents, complications of pregnancy, HIV/AIDS etc.<sup>2</sup> Significant proportions of young people experience risky sexual activity, do not receive appropriate care, and experience adverse reproductive health outcomes. Over 35 % of all reported HIV infections in India occur among young people.<sup>4</sup> Every year, approximately one out of every ten adolescents, even in developed countries, acquire STIs each year. More than one million teenagers become pregnant each year, out of which 60% are unwanted pregnancies.<sup>5</sup> Globally, about 1 in 10 girls under 20 years of age have been subjected to forced sexual acts at some point in their lives. 90 % of adolescent girls who reported exploitation say that their first abuser was someone known to them. Globally one in three adolescent girls aged 15–19 years had been the victims of emotional, physical, or sexual violence at some point.<sup>6</sup> In most instances, children do not report these to their parents due to inadequate communication skills or lack of healthy relationships. Today, there are more than one billion 10–19-year-olds, 70% of whom live in developing countries. They grow up in completely different circumstances than their parents, with better access to formal education, a growing need for technological skills such as internet skills, exposure to new ideas through media, telecommunications, etc. The

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Covid19 pandemic led to schools closing and use of online education further paved way for adolescents to become more freely familiar with mobile phones, internet, laptops, social media etc. Rates of sexual initiation during young adulthood are rising in many developing countries. As per the National Family Health Survey (NFHS) 5 report of India, women aged 20-24 years married before age 18 years was 23.3 % and those aged 15-19 years who were already mothers or pregnant at the time of the survey was 6.8 %. The adolescent fertility rate for women aged 15-19 years was 43.<sup>7</sup> According to the National Family Health Survey (NFHS) 5 report of Kerala, 2019-20, the total women aged 20-24 years married before age 18 years is 4.1 % in urban and 8.2% in rural areas. Women aged 15-19 years who were already mothers or pregnant at the time of the survey was 1.8 % in urban and 3.0% in rural areas.<sup>8</sup> The World Health Organizations' (WHO) mission on adolescent SRH is to contribute to a world in which its importance is understood, accepted, and supported.<sup>9</sup> It is a common practice in many schools to arrange sessions on menstrual hygiene, reproductive health etc., but such sessions remain open only to girl students. Kerala, though one of the most literate states in India, was not open towards the idea of sex education to students, apprehensive that it will promote immorality among the youth. The state is yet to implement sex education in syllabus. Parents who believe in the age-old fact that 'their children will gradually learn when the time comes', worsen this. The discomfort many parents feel about talking to their children about sexuality further impedes their ability to provide guidance.<sup>9,10</sup> Many adolescents today have patchy knowledge on SRH issues which most often comes from information shared by their same sex peers who may or may not be well informed. This can lead to misinformation, myths, making them vulnerable to unprotected sex, unwanted pregnancy, STDs, unsafe abortions etc. In the state of Kerala, dominating in both healthcare and literacy, it would be interesting to identify the awareness on SRH issues. This study aimed to assess the awareness of adolescents on SRH issues that may help policy makers, program planners, and implementers to design appropriate interventions to address the same.

**Aim:** To study Sexual and Reproductive Health awareness among high school students in Kerala.

### Objective:

1. To list the sources of information on Sexual and Reproductive Health issues among adolescent high school students in Thrissur district, Kerala.
2. To study the awareness on Sexual and Reproductive Health issues among adolescent high school students in Thrissur district, Kerala.

## MATERIALS & METHOD

**Study design:** Cross-sectional study

**Study setting:** High school students of 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup> classes in Thrissur district.

**Study period:** December 2019 to May 2021

**Study population:** Students belonging to 8, 9,10 standards of schools in Thrissur district. *Inclusion criteria:* All children of specified standards who are willing to participate, give assent and are present during the study period. *Exclusion criteria:* Nil.

**Sample size:** The sample size was calculated using the formulae  $Z_{(1-\alpha/2)}^2 pq / d^2$  for cross sectional study with 80% of power. A study conducted by Mersha et al in 2016, concluded that an important source of information among adolescents on SRH issues was school 32.4 %.<sup>11</sup> Taking that parameter into consideration, sample Size (N) was calculated as follows:  $N=Z_{(1-\alpha/2)}^2 pq / d^2$ ;  $p=32.4\%$ ;  $q=100-p=67.6\%$ ;  $d$ = relative Precision, taken as 20% of the prevalence;  $d= 6.48$ . Sample size (N) =  $3.84 \times 32.4 \times 67.6 / (6.48 \times 6.48) = 200$ . Taking a design effect of 2,  $N= 200 \times 2 = 400$ . Taking a non-response error of 10 %,  $N= 440$

**Sampling method:** Multistage random sampling was used for this study. Due to the COVID 19 pandemic and successive lockdowns, it was possible only to collect data from 2 schools. A sample of 338 was achieved. The sample of adolescents thus obtained was stratified based on gender into male and females; and based on grade of studying into 8<sup>th</sup>, 9<sup>th</sup>, and 10<sup>th</sup>.

**Data collection:** A Self-administered questionnaire in English language was used. Due to the COVID 19 lockdown and subsequent closure of schools, few responses were recorded through Online- Google forms sent via email to the students.

**Study tool:** A pre-tested and validated structured questionnaire prepared based on the WHO Questionnaire for the young was used to collect data.<sup>12</sup> Few questions were modified to account for the cultural and regional differences expected in this study. The questionnaire consisted of 2 parts- A, B. **A.** Socio-demographic details of the student **B.** Sexual and reproductive health issues: The sexual and reproductive health issues were divided into 10 domains- (1) private parts (2) types of touch (3) pubertal changes (4) menstruation (5) masturbation (6) sexual contact (7) pregnancy (8) contraception (9) Sexually transmitted diseases (10) sexual abuse. Each of the domain had open- ended question on whether they have heard about the domain, what they understood by

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the domain, and their source of information regarding the same. The reliability of the questionnaire was assessed with a Cronbach's alpha value of 0.8- Good reliability. A pilot study was conducted to validate the questionnaire, prior to the study period.

**Data analysis:** The data obtained was coded and entered to MS Excel worksheet and analyzed using SPSS Version-23. Results of baseline characteristics of the study subjects were explained in terms of frequency, percentage, mean and standard deviation.

**Ethical consideration:** Institutional Research Committee and Ethical Committee clearance were obtained prior to starting the study.

## RESULTS

### Sociodemographic Characteristics (N= 338):

Mean age of the study population was 14.2 ±0.88 years. Out of the total 338 adolescents, majority 326 (96.4 %) belonged to 13-15 years of age. Majority 196 (58 %) of the study participants were females. Majority of the adolescents, 122 (36.1 %) were in 10<sup>th</sup> grade, followed by 111 (32.8 %) in 9<sup>th</sup> grade and 105 (31.1 %) in 8<sup>th</sup> grade. Most of the adolescents were residents of urban areas. Only a few 35 (10.4 %) belonged to rural areas. Majority of the adolescents, 288 (85.2 %) stayed with both parents, while 16 (4.7 %) and 25 (7.4 %) stayed with father only and mother only respectively. A few, 9 (2.7 %) did not stay with parents; they stayed with grandparents, relatives or in hostels. Most adolescents, 142 (42 %) had 2 male members at their home, followed by 127 (37.6 %) having 3 males and 69 (20.4 %) having 1 male at home. Similarly, most of the adolescents, 160 (47.3 %) had 2 female members at home. Out of the 338 adolescents, more than half, 188 (56 %) had no elder siblings, 71 (21 %) had brothers, 65 (19 %) had sisters and 14 (4 %) had both brother and sister. Fig 1 shows the distribution of study population according to their religion. Majority of females have attended SRH class at some point in their life, [195(57.7%)], while most of the males had not attended [79(55.2%)]. Majority of the adolescents have heard about SRH matters like private parts [335(99.1 %)], Types of touch [327 (96.7 %)], pubertal changes [329 (97.3 %)], Menstruation [318 (94.1 %)], sexual contact [310 (91.7 %)], pregnancy [284 (84 %)], contraception [250 (74 %)], STDs [278 (82 %)] and sexual abuse [307 (91 %)]. But 186 (55 %) of adolescents hadn't heard about masturbation.

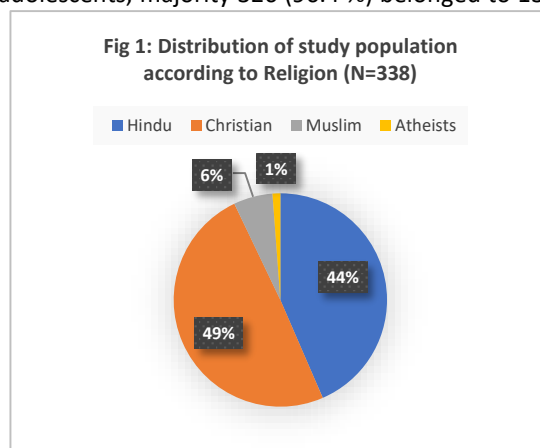


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### The adolescents' source of information on SRH issues are shown in Table 1

Sl. No.	SRH Domain	Media	School	Friends	Parents		Siblings	
					Father	Mother	Brother	Sister
1	Private parts (n= 335)	117 (34.9)	123 (36.7)	63 (18.8)	127 (37.9)	232 (69.3)	17(5.1)	25(7.5)
2	Types of touch (n=327)	121(37)	136 (41.5)	48 (14.6)	132 (40.3)	231 (70.6)	12 (3.6)	24 (7.3)
3	Puberty changes (n=329)	37 (11.2)	190 (57.7)	52 (15.8)	119 (36.2)	190 (57.7)	15 (4.5)	22 (6.6)
4	Menstruation (n=318)	43 (13.5)	155 (48.7)	42 (13.2)	84 (26.4)	193 (60.6)	8 (2.5)	27 (8.4)
5	Masturbation (n=152)	120 (78.9)	20 (13.1)	90 (59.2)	6 (3.9)	8 (5.2)	1(0.6)	2 (1.3)
6	Sexual contact (n=310)	213 (68.7)	85 (27.4)	58 (18.7)	76 (24.5)	105 (33.8)	12 (3.8)	17 (5.4)
7	Pregnancy (n=284)	180 (63.3)	91 (32)	33 (11.6)	76 (26.7)	86 (30.2)	7 (2.4)	5 (1.7)
8	Contraception (n=250)	174 (69.6)	83 (33.2)	59 (23.6)	55 (22)	40 (16)	2 (0.8)	1 (0.4)
9	STDs (n=278)	208 (74.8)	176 (63.3)	34 (12.2)	64 (23)	96 (34.5)	0 (0)	4 (1.4)
10	Sexual abuse (n=307)	242 (78.8)	70 (22.8)	46 (14.9)	105 (34.2)	134 (43.6)	36 (11.7)	25 (8.1)

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\*Multiple answers were possible. All cells contain values as Number (%).

The following tables 2 to 14 shows the awareness of adolescents regarding questions asked on sexual and reproductive health issues. Only the responses of those adolescents who answered the open ended question were considered.

**Table 2:** Menstruation (N=318)

Adolescent's answer	Total (%)	Males (%)	Females (%)
Maturity changes that happen in a girl when she can have a baby	51 (16)	9 (17.6)	42 (82.4)
Breakdown of the uterine lining if fertilization does not occur	154 (48.4)	48 (31.2)	106 (68.8)
Do not know what exactly it is	57(17.9)	39 (68.4)	18 (31.6)
Something that happens to girls only	18 (5.6)	9 (50)	9 (50)
Bad blood from body going out	38 (11.9)	19 (50)	19 (50)
<b>TOTAL</b>	<b>318 (100)</b>	<b>124 (39)</b>	<b>194 (61)</b>

**Table 3:** Age at Menstruation (N=318)

Age	Total (%)	Males (%)	Females (%)
< 10 years	24 (7.5)	7 (29.2)	17 (70.8)
10-15 years	270 (84.9)	96 (35.6)	174 (64.4)
>15 years	24 (7.5)	21 (87.5)	3 (12.5)
<b>TOTAL</b>	<b>318 (100)</b>	<b>124 (39)</b>	<b>194 (61)</b>

**Table 4:** Frequency of Menstruation (N=318)

Frequency	Total (%)	Males (%)	Females (%)
Once a week	8(2.5)	4 (50)	4 (50)
Once in 6 months	2 (0.6)	1(50)	1 (50)
Once in a month	302 (95)	113 (37.4)	189 (62.6)
Once in a year	6 (1.88)	6 (100)	0 (0)
<b>TOTAL</b>	<b>318 (100)</b>	<b>124 (39)</b>	<b>194 (61)</b>

**Table 5:** Masturbation (N=152)

Adolescent's answer	Total (%)	Males (%)	Females (%)
Do not know to explain	26 (17.1)	14 (53.8)	12 (46.2)
Sexual touch of one's own body parts	107 (70.3)	47 (43.9)	60 (56.1)
Something only boys do for testing sperms	14 (9.2)	9 (64.3)	5 (35.7)
A sexual sin	5 (93.2)	4 (80)	1 (20)
<b>TOTAL</b>	<b>152 (100)</b>	<b>74 (48.7)</b>	<b>78 (51.3)</b>

**Table 6:** Sexual Intercourse (N=310)

Adolescent's answer	Total (%)	Males (%)	Female (%)
Having 'sex'	115 (37.1)	48 (41.7)	67 (58.3)
Don't know exactly what it is	76 (24.5)	41 (53.9)	35 (46.1)
Contact with private parts	67 (21.6)	20 (29.9)	47 (70.1)
'Something' between man and woman that lead to pregnancy	38 (12.2)	13 (34.2)	25 (65.8)
Sperms of man entering oviduct of woman	3 (0.9)	0 (0)	3 (100)

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'Something which grownups who love each other do'	8 (2.5)	5 (62.5)	3 (37.5)
A course on 'Sex'	3 (0.9)	0 (0)	3 (100)
<b>TOTAL</b>	<b>310 (100)</b>	<b>127 (41)</b>	<b>183 (59)</b>

**Table 7:** Ideal Time for Sexual Contact (N=310)

Adolescent's answer	Total (%)	Males (%)	Females (%)
More than 18 years of age	52 (16.7)	18 (34.6)	34 (65.4)
When you have a girlfriend/ boyfriend	31 (10)	20 (64.5)	11 (35.5)
After marriage	205 (66.1)	77 (37.6)	128 (62.4)
Never	22 (7.1)	12 (54.5)	10 (45.5)
<b>TOTAL</b>	<b>310 (100)</b>	<b>127 (41)</b>	<b>183 (59)</b>

**Table 8:** Reasons for Adolescent Pregnancy (N=284)

Adolescent's answer	Total (%)	Males (%)	Females (%)
Lack of education	190 (66.9)	77 (40.5)	113 (59.5)
Curiosity	157 (55.2)	55 (35)	102 (65)
Child marriage	127 (44.7)	48 (37.8)	79 (62.2)
Sexual abuse	238 (83.8)	83 (34.9)	155 (65.1)
Uncultured & Tradition less	103 (36.2)	38 (36.9)	65 (63.1)

\*Multiple answers were possible

**Table 9:** Acts which lead to Pregnancy (N=284) \*

Adolescent's answer	Total (%)	Males (%)	Females (%)
Kissing/ Hugging each other	71 (25)	23 (32.4)	48 (67.6)
Having sexual contact	259 (91.2)	105 (40.5)	154 (59.5)
Just sleeping with the opposite sex in the same room	59 (20.7)	23 (39)	36 (61)

\*Multiple answers were possible

**Table 10:** Outcomes of Adolescent Pregnancy (N=284) \*

Adolescent's answer	Total (%)	Males (%)	Females (%)
Unsafe Abortions	215 (75.7)	80 (37.2)	135 (62.8)
Drop out from school	165 (58.1)	69 (41.8)	96 (58.2)
Low birth weight babies	65 (22.8)	22 (33.8)	43 (66.2)
Lack of family support	215 (75.7)	82 (38.1)	133 (61.9)
Mental health problems	213 (75)	78 (36.6)	135 (63.4)
Death	103 (36.2)	33 (32)	70 (68)

\*Multiple answers were possible

**Table 11:** Contraceptive Methods known to Adolescents (N=250) \*

Contraceptive method	Total (%)	Males (%)	Females (%)
Birth control Pills	200 (80)	79 (39.5)	121 (60.5)
Birth control Injections	141 (56.4)	55 (39)	86 (61)

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Condoms	212 (84.8)	92 (43.4)	120 (56.6)
Exclusive breastfeeding	80 (32)	27 (33.8)	53 (66.2)
Implants	113 (45.2)	43 (38.1)	70 (61.9)
Intrauterine devices (CuT)	105 (42)	35 (33.3)	70 (66.7)
Operations (Tubectomy/ Vasectomy)	91 (36.4)	35 (38.5)	56 (61.5)
Withdrawal by male partner	62 (24.8)	22 (35.5)	40 (64.5)

\*\*Multiple answers were possible

**Table 12:** STDs known to adolescents (N=278) \*

STD	Total (%)	Males (%)	Females (%)
HIV/AIDS	270 (97.1)	113 (41.9)	57 (21.1)
Genital Herpes	125 (45)	58 (46.4)	67 (53.6)
Genital warts/ HPV	51 (18.3)	29 (56.9)	22 (43.1)
Gonorrhoea	69 (24.8)	28 (40.6)	41 (59.4)
Syphilis	109 (39.2)	51 (46.8)	58 (53.2)

\*\*Multiple answers were possible

**Table 13:** Cause of STDs (N=278) \*

Cause of STDs	Total (%)	Males (%)	Females (%)
Kissing/ hugging each other	50 (18)	23 (46)	27 (54)
Sharing injection needles	213 (76.6)	79 (37.1)	134 (62.9)
Unsafe blood transfusions	209 (75.5)	82 (39.2)	127 (60.8)
Sexual contact with a prostitute	217 (78.1)	90 (41.5)	127 (58.5)
Not using condoms during sexual contact	126 (45.3)	56 (44.4)	70 (55.6)
Using public toilets	17 (6.1)	9 (52.9)	8 (47.1)
Talking to an HIV/AIDS patient	29 (10.4)	12 (41.4)	17 (58.6)
Sharing food with a person having an STD	28 (10.1)	13 (46.4)	15 (53.6)

\*\*Multiple answers were possible

**Table 14:** Sexual Abuse (N=307)

Adolescent's answer	Total (%)	Males (%)	Females (%)
Touching the opposite sex without permission	52 (16.9)	17 (32.7)	35 (67.3)
Don't know exactly	54 (17.5)	30 (55.6)	24 (44.4)
Act of forceful sex/ 'Rape'	174 (56.6)	66 (37.9)	108 (62.1)
Crimes against 'women'	27 (8.7)	12 (44.4)	15 (55.6)
<b>TOTAL</b>	<b>307</b>	<b>125 (40.7)</b>	<b>182 (59.3)</b>

## DISCUSSION

In the present study, the major sources of information for adolescents regarding SRH matters like private parts, type of touch, response to sexual assault and menstruation was their mother. When it comes to puberty changes, both mother and school were the major sources. Media was the most common source of information regarding Masturbation, sexual contact, pregnancy, contraception, STDs, and sexual abuse. Aunts, uncles, and grandparents were the least family members mentioned as a source of

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information on SRH. In a study in West Ethiopia, large proportion quoted people other than family as a source of information about SRH, particularly their friends (59.5% for females and 55.1% for males).<sup>13</sup> Among mentioned source of information for SRH issues, television, and school accounted 48.3% and 42.6% respectively in Kasiye et al's study; the preferred source of information on SRH was school for 76%.<sup>14</sup> But in a study by Yesus et al, the most constantly mentioned source of information for SRH were school (83.3%) followed by friends (27.6).<sup>15</sup> In Visani et al study, the main sources of SRH information for adolescents were health facilities, followed by internet as it was easy access.<sup>16</sup> A cross sectional survey done in Hamadan showed that adolescents of both genders seek information about SRH as well as relationship advise from their friends further than from any other sources.<sup>17</sup> A quarter of the study sample of Rada et al reported mass media as a source of information.<sup>18</sup> It's intriguing to note that sources such as schools, doctors, and health staff, were very inadequately represented. In the study of Mohammadi et al, adolescent boys considered their friends to be the primary means of information. They preferred to talk to their friends about sexual issues and relationships.<sup>19</sup> The results of a study by Mazloomi et al on- university scholars also showed that their main resources for sexual health were friends followed by special books.<sup>20</sup> Survey results of Soltani et al reported that after friends, mothers were the source for girls, while movies and internet for the boys.<sup>17</sup> Similar results were found in Iran.<sup>21</sup> In 2014, Mousavi et al did qualitative exploration which revealed that mothers were the primary source for knowledge regarding puberty, but friends were preferred for sexual subjects. Also, girls admitted the fact that their friends' information wasn't always accurate and that they would have liked to acquire this knowledge from their mothers rather than friends.<sup>22</sup> In Ethiopia, teenagers preferred to gain their knowledge from school, radio, TV, and other media, while parents were only the alternate preference.<sup>14</sup> It's interesting to note that, due to disappearance of the taboos and once constraints, adolescents in Chile considered the knowledge acquired from parents, teachers, and health professionals as the most dependable.<sup>23</sup> It seems that, cultural and religious influences and sense of shyness and not being comfortable with the parents is what encourages teenagers to further use of the internet, media, magazines, and friends as sources of information.<sup>24</sup> In a study in India by Shankar et al among adolescent girls in the slum areas of Pune, majority felt comfortable in confiding regarding reproductive health issues with friends rather than parents, teachers, or doctors.<sup>25</sup> Analogous results were observed in a study by Sandhya et al in Kerala.<sup>26</sup> The major source of information regarding HIV was from mass media (75%), followed by friends (15%), teachers (7%), and least was from parents and siblings (2%) in a study conducted in 2016 in Mysore.<sup>27</sup> In discrepancy are two studies conducted in America by the National Campaign to help Teen Pregnancy which surveyed nationally representative samples of youth 12 to 19 years of age. Unlike the former studies which asked about most important sources of information, these concentrated on who or what most influenced their actual sexual decision- making.<sup>28</sup> In the current study, less than half of adolescents knew rightly what menstruation (females more than males) was. When it comes to knowledge on masturbation, 70.3% adolescents answered rightly (females more than males). 99.03% didn't know exactly what sexual contact was (females more than males). HIV/ AIDS was the most common STD known to adolescents, followed by Genital Herpes. Many adolescents thought that STDs could be acquired via using public toilets; 10.4% of adolescents answered that STDs can be transmitted by talking to an HIV/ AIDS case or sharing food with an STD case. While, in a study in Gumuz region of Ethiopia, most of the respondents (76%) knew rightly regarding period; 84.2% respondents knew about STIs. HIV/ AIDS was the most known STI (88%), followed by Gonorrhoea (78.3%).<sup>16</sup> While in another study according to Kasiye et al, 59.9% only knew about menarche (24.6% males; 35.3% females). 57.3% of the repliers were knowledgeable about SRH matters; 97.8% had heard about STIs; majority of the repliers heard about HIV/ AIDS (96.5%) followed by syphilis (51.7%). But only 34.9% of the repliers had heard of LGV. 95.3% of the repliers had heard about HIV/ AIDS prevention methods [being faithful to partner, abstinence, avoiding of sharing sharp materials which accounted (78.9%, 78.6% and 70.1% respectively)]. Majority (91.7%) had heard about contraception and Norplant was the generally heard system of contraception followed by injectables which accounted 73.7% and 72.2% respectively.<sup>14</sup> While in the present study, Condoms (84.8%) and Birth control pills (80%) were the most common contraceptives known to adolescents. further than half of the adolescents knew rightly about sexual abuse; females knew more than males. Condoms were the most extensively known contraception among adolescents (42%) while emergency contraceptives were least known (28%). Also, 78% of subjects knew about physical signs of adolescence and 88% were aware of the need for adolescent health according to a study by Agarwal et al in India.<sup>29</sup> Less than 30% of the girls were apprehensive of condoms and oral contraceptive pills. Regarding harmful effects of indulging in adulterous physical relationships, further than half (57%) of the participants were concerned about bringing a bad name to themselves and their family, while RTIs, HIV/ AIDS (29%), failure to pursue further education and unwanted pregnancy were cited as other ill effects according to Shankar et al in Pune.<sup>25</sup> The difference in the findings suggest the difference in cultural backgrounds, taboo associated with SRH communication among parents as well as teachers and lack of adolescent friendly health facilities in India.

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### CONCLUSIONS

The major sources of information for adolescents regarding basic SRH issues like private parts, type of touch and menstruation was their parents. When it comes to puberty changes, parents and schools were the major sources. Media was the most common source of information regarding more sensitive issues like Masturbation, sexual contact, pregnancy, contraception, STDs, and sexual abuse. There is poor awareness of adolescents regarding most of the SRH issues. India has the largest adolescent population, and it is a country known to have strict traditional values and age-old cultures and customs. Adequate information through parents may improve the knowledge on these issues.

### LIMITATIONS

Due to the COVID 19 pandemic, the calculated sample size could not be achieved to get more accurate results. Few of the responses were obtained through online google forms. It was difficult for students to fully express their views on the open-ended questions.

### RECOMMENDATIONS

Age-appropriate comprehensive sexuality education must be incorporated into their curriculum effectively to improve their SRH. Further research to understand the adolescents and parents' perspectives on SRH communication is recommended.

### REFERENCES

- 1) World Health Organisation (WHO). Coming of age: adolescent health. [Online]. Available from: <https://www.who.int/news-room/spotlight/coming-of-age-adolescent-health> [Accessed 1 October 2021].
- 2) World Health Organisation (WHO). Strengthening the health sector response to adolescent health and development. [Online]. Available from: [https://www.who.int/maternal\\_child\\_adolescent/documents/cah\\_adh\\_flyer\\_2010\\_12\\_en.pdf](https://www.who.int/maternal_child_adolescent/documents/cah_adh_flyer_2010_12_en.pdf) [Accessed 3 October 2021].
- 3) Hindin MJ, Fatusi AO. Adolescent sexual and reproductive health in developing countries: an overview of trends and interventions. *Int Perspect Sex Reprod Health*. 2009 Jun;35(2):58-62. doi: 10.1363/ipsrh.35.058.09.
- 4) Ahlberg BM, Jylkäs E, Krantz I. Gendered construction of sexual risks: implications for safer sex among young people in Kenya and Sweden. *Reprod Health Matters*. 2001 May;9(17):26-36. doi: 10.1016/s0968-8080(01)90005-9
- 5) Mturi AJ. Parents' attitudes to adolescent sexual behaviour in Lesotho. *Afr J Reprod Health*. 2003 Aug;7(2):25-33.
- 6) United Nations Children's Fund (UNICEF). Sexual violence against children. [Online]. Available from: <https://www.unicef.org/protection/sexual-violence-against-children> [Accessed 3 October 2021].
- 7) Ministry of Health and Family Welfare of India (MOHFWI). National Family Health Survey (NFHS-5). [Online]. Available from: <http://rchiips.org/nfhs/nfhs-5Reports/India.pdf> [Accessed 25 November 2021].
- 8) Ministry of Health and Family Welfare of India (MOHFWI). National Family 2019-20 Health Survey (NFHS-5). [Online]. Available from: [http://rchiips.org/NFHS/NFHS-5\\_FCTS/NFHS5%20State%20Factsheet%20Compendium\\_Phase-I.pdf](http://rchiips.org/NFHS/NFHS-5_FCTS/NFHS5%20State%20Factsheet%20Compendium_Phase-I.pdf) [Accessed 3 October 2021].
- 9) Chandra-Mouli V, Bloem P, Ferguson J. The World Health Organization's work on adolescent sexual and reproductive health. *Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz*. 2013 Feb;56(2):256-61. doi: 10.1007/s00103-012-1606-0
- 10) United Nations Programme on HIV and AIDS (UNAIDS). Global HIV & AIDS statistics — Fact sheet. [Online]. Available from: <https://www.unaids.org/en/resources/fact-sheet> [Accessed 3 October 2021].
- 11) Kinfu M, Getachew G. Assessment of Communication on Sexual and Reproductive Health Issues among Gorro Preparatory School Students with their Parents Gurage Zone, Southern Ethiopia, Ethiopia. *EC Gynaecology*. 2018;7(3): 95-103.
- 12) World Health Organization (WHO). Illustrative Questionnaire for Interview- Surveys with Young People. [Online]. Available from: <https://www.who.int/reproductivehealth/topics/adolescence/questionnaire.pdf?ua=1> [Accessed 9 September 2019].
- 13) Tesso DW, Fantahun MA, Enquselassie F. Parent-young people communication about sexual and reproductive health in E/Wollega zone, West Ethiopia: Implications for interventions. *Reproductive health*. 2012; 9(1): 9-13.
- 14) Shiferaw K, Getahun F, Asres G. Assessment of adolescents' communication on sexual and reproductive health matters with parents and associated factors among secondary and preparatory schools' students in Debreworkos town, Northwest Ethiopia. *Reprod Health*. 2014 Jan 8;11(1):2.
- 15) Yesus D G, Fantahun M Assessing communication on sexual and reproductive health issues among high school students with their parents, Bullen Woreda, Benishangul Gumez Region, Northwest Ethiopia. *Ethiop J Health*.2010;24(2):89-95.



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- 16) Vongsavanh V, Lan VTH, Sychareun V. Sexual and reproductive health communication between parents and high school adolescents in Vientiane Prefecture, Lao PDR. *Glob Health Action*. 2020 Jul;13(sup2):1785145. doi: 10.1080/16549716.2020.1785145.
- 17) Soltani F, Sattari M, Parsa P et al. Sources of Adolescents' Information about Sexual and Reproductive Health: Gender Similarities and Differences. *J. Pharm. Sci. & Res*. 2017.Vol. 9(9): 1624-28.
- 18) Rada C. Sexual behaviour and sexual and reproductive health education: a cross-sectional study in Romania. *Reproductive health*. 2014; 11(1): 48-53.
- 19) Mohammadi MR, Mohammad K, Farahani FK, Alikhani S, Zare M, Tehrani FR, Ramezankhani A, Alaeddini F. Reproductive knowledge, attitudes and behavior among adolescent males in Tehran, Iran. *International family planning perspectives*. 2006; 32(1): 35-44.
- 20) Mazloomi MS, Rahaei Z, M MA, Soltanei T, Bakhshi Z, Shadkam. The Survey of Knowledge and Attitude of University Students on Reproductive Health in the City of Yazd in. 2011; 3(4): 141-145.
- 21) Boutelle K, Eisenberg ME, Gregory ML, Neumark-Sztainer D. The reciprocal relationship between parent-child connectedness and adolescent emotional functioning over 5 years. *Journal of Psychosomatic Research*. 2009; 66(4): 309-16.
- 22) Mosavi SA, Babazadeh R, Najmabadi KM, Shariati M. Assessing Iranian adolescent girls' needs for sexual and reproductive health information. *Journal of Adolescent Health*. 2014; 55(1): 107-13.
- 23) Macintyre AK, Vega ARM, Sagbakken M. From disease to desire, pleasure to the pill: A qualitative study of adolescent learning about sexual health and sexuality in Chile. *BMC public health*. 2015;15(1): 945-53.
- 24) Motsomi K, Makanjee C, Basera T, Nyasulu P. Factors affecting effective communication about sexual and reproductive health issues between parents and adolescents in zandspruit informal settlement, Johannesburg, South Africa. *The Pan African Medical Journal*. 2016; 25(3): 1-7.
- 25) Shankar P, Dudeja P, Gadekar T, Mukherji S. Reproductive health awareness among adolescent girls of a government school in an urban slum of Pune City. *Med J DY Patil Univ* 2017; 10:133-7.
- 26) Sandhya G, Viswan L. Study of Knowledge Attitude and Perceptions of Adolescent Girls of 16-18 Years Towards Reproductive Health in Urban and Rural Schools of South Kerala. *Int J Contemp Med*. 2014;2(1):95.
- 27) Ahmed M, Kusuma ML. Knowledge and attitude of pre-university adolescent girls regarding STDs/ HIV and sexual health in Mysore city. *Int J Med Sci Public Health* 2016; 5:2452-56.
- 28) The Education Resources Information Centre (ERIC). With One Voice: America's Adults and Teens Sound Off about Teen Pregnancy -A National Survey. [Online]. Available from: <https://eric.ed.gov/?id=ED456170> [Accessed 18 June 2020].
- 29) Agrawal S, Fatma A, Singh CM. A study of knowledge and attitude of adolescent girls towards reproductive health and related problems. *Indian J Prey Soc Med*.2007; 38(1, 2): 36-41.



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