

## Information is Empowerment: A Comparative Study of Reproductive Health Awareness and Presence of RTI Symptoms in Rural School and College Girls of Patiala

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### ABSTRACT

Reproductive health is of immense importance due to its implications on overall well-being of women. Inadequate information related to reproductive health (menstruation and RTI/STI's) leads to several adverse consequences. The present study aims to assess the levels of reproductive health awareness and presence of RTI symptoms amongst rural school and college girls. Close ended questionnaire consisting of 57 items was designed to assess the BMI, physical activity, awareness related to menstruation, STI's and RTI symptoms. The sample comprised of 320 girls, 160 each from school and college with mean age of 20 years. The present study revealed majority of young girls of rural area doesn't have a normal BMI and are not driven towards any physical activity. t test was applied to study the significant difference between both the groups related to physical activity, and reproductive health awareness. Results revealed that school girls are physically inactive and less aware as compare to college girls.

**Keywords:** BMI, Physical activity, Reproductive health awareness, RTI symptoms and Young rural girls

Indian culture is deeply rooted in patriarchal values, and it is inevitable for these values to seep into familial and social discourse. This has attributed to female reproductive health being ignored and treated as taboo for far too long. However, if India as a country intends to achieve absolute gender equality and empowerment of women, educating women for their reproductive health is a quintessential step in that direction (Moronkola et al., 2006). Reproductive health is a “state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes” WHO (2005). According to the 1994 Programme of Action of the International Conference on Population Development (ICPD) Reproductive health care includes having access to a range of good-quality information and services

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including knowledge, education and counselling, as and when appropriate, on human sexuality, reproductive health and responsible parenthood.

In females capability to reproduce begins with menarche (on set of menstruation) which is unique to girls (Haque et al., 2014). Menarche is a biological change that occurs between the age of 11 and 15 years and it is a vital process for reproduction (Aniebue et al., 2009). Therefore, to maintain good reproductive health it is necessary to have knowledge pertaining to menstruation and STI.

Menstrual hygiene practices are effected by socio-cultural status, educational background and economic status (Sommer et al., 2016; Aniebue et al., 2009). Myths associated with menstruation leads to unhygienic practices (Polis et al., 2018; Hawkey et al., 2017; Bachloo, 2017; Shah et al., 2013). Use of unhygienic absorbents such as old cloths, dirty rags and improper sanitation during menstruation can lead to microbial growth and that can affect the reproductive health adversely (Nair et al., 2011; Lawan et al., 2010). Poor menstrual hygiene is a major determinant of morbidity in young girls which leads to increased vulnerability to reproductive tract infections (Haque et al., 2014; Dasgupta & Sarkar, 2008).

Developing countries carry a huge burden of young women living with RTIs but it is widely ignored as a significant health issue though it disturbs the holistic wellbeing of girls during their most productive age (Chopra, 1995). Reproductive Tract Infections (RTI) including Sexually Transmitted Infections such as HIV and HPV are a major health concern. World Health Organization (2008) reported annually 499 million new cases of curable STI's (syphilis, gonorrhea, Chlamydia, and trichomoniasis) occur throughout the world in individuals aged 15 – 45 years. 80% of these cases are from developing countries while 79 million cases occur in India alone annually (Bhatia, 2019). Complications of RTI's are pre-term birth ectopic pregnancy, miscarriage, still birth, pelvic inflammatory disease, cervical cancer and high risk of acquiring HIV (fetal and incurable STI). HPV is another sexually transmitted infection and one of the leading causes of cervix cancer in women (Canon, Effoe, Shetty & Shetty, 2016).

RTI's produce symptoms such as abnormal vaginal discharge, genital itching, pain and burning while urination. RTI's can be classified as endogenous (occurs due to overgrowth of bacteria in vagina), iatrogenic (if the bacteria are introduced to reproductive tract while performing medical procedures) and STI's (viruses or microorganisms transmitted through sexual activity with infected partner).

Researchers Rowley & Barkley, (1998) identified RTI risk factors including biological, medical, behavioral and socio demographic. Biological and medical factors encompass infectivity duration, presence of some other STD and lack of access to healthcare facilities, behavioral factors are lack of awareness about RTI, early onset of sexual activity and false beliefs; socio-demographic factors are young age, education level achieved, and employment and socioeconomic status.

Young people are more vulnerable to contacting STI's or RTI's (Nath & Garg, 2008). In the adolescent period there is a high-risk taking behaviour which can lead to unwanted pregnancies, unsafe sexual practices and unsafe abortions (Aeri & Arora, 2019; Raj, Jackson & Dunham, 2018; Sarkar & Ray, 2017). Dehne & Riedner (2005) reported two third of all the cases of STD's occurred in persons from 15 – 24 years old. Lawan et al., 2010 reported

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lack of appropriate knowledge, poor hygiene and inappropriate self-care as causative factors of RTI's and UTI's. Several studies reported lack of knowledge among young girls related to menstruation and RTI's (Wadhwa & Chaudhary et al., 2018; Kabir et al., 2012; Lawan et al., 2010). It has been found that rural women have poor knowledge regarding HIV and HPV (Rizwan & Rama et al., 2020; Deshpande et al., 2018 and Li et al., 2010).

In India there are policies and programmes to ensure accessibility and care related to reproductive health such as The National Adolescent Reproductive and Sexual Health policy (2006), the Reproductive, Maternal, Newborn Child, and Adolescent Health strategy (2013), and the "Rashtriya Kishor Swasthya Karyakram" (2014). Despite the ongoing robust programmes studies reported poor access to reproductive health services among adolescents (Hegde et al., 2016; Verma et al., 2015). Most of the girls rely on home remedies taught by mothers and other elderly women in the family. Untreated infections have various adverse consequences leading to pelvic inflammatory diseases, ectopic pregnancy, infertility, cervical cancer, fetal loss or infant health complications, with increased risk of HIV acquisition and transmission (WHO, 1998).

Information and knowledge related to reproductive health is poorly addressed because of stigma and socio-cultural taboos (Kinkor et al., 2019). Each year, a number of preventable reproductive tract infections (RTIs) plague the rural female population of our country. While poor sanitary conditions can explain some of these cases, a common denominator in almost all the patients is lack of awareness about these issues. Equipping women with the knowledge to take care of themselves is the biggest step that can be taken towards women emancipation. Women's role in our economy and polity is growing by the day, and yet the issues specific to women health are still shrouded behind veils of secrecy. These taboos need to be lifted. Discourse about women's reproductive health has to come into the mainstream for them to truly take the helm of their own lives. Improvement can be brought about through need-based interventions (Wadhwa & Chaudhary et al., 2018). For this purpose, it is necessary to know the awareness level of rural girls. There is but a scant repository of comprehensive studies indicating the level of knowledge and presence of RTI symptoms among school and college girls of rural area especially in Punjab. This study will help in designing psycho-educational programs with respect to demographics and culture.

### ***Objectives***

1. To study the BMI of the respondents.
2. To assess the physical activity and level of reproductive health awareness of the respondents.
3. To study the significant difference between school and college girls related to
  - Physical activity
  - Knowledge of menstruation management
  - Knowledge of RTI/STI
4. To assess the presence of RTI symptoms.

### **METHODOLOGY**

The present study was conducted in rural area of Patiala District. The sample comprised of 320 rural girls (school, n =160 and college, n= 160) with average age of 20 years. Only those girls were included in the study who had attained menarche. The following measures were used:

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1. A self-administered close ended questionnaire with 57 items in vernacular language (Punjabi) was used to assess the BMI, physical activity, knowledge related to reproductive health (menstruation and STI's).
2. The checklist was also given to the respondents to assess the presence of RTI symptoms.

### *Procedure*

Prior to the commencement of the study permissions were sought from school and college administration. All the respondents were explained objectives of the study and confidentiality was assured. After seeking the written consent from the respondents questionnaires were administered.

### *Statistical Analysis*

Analysis of the results is done by applying descriptive statistics such as frequency and percentages to examine the level of BMI, Physical activity, awareness related to menstruation/ STI and presence of RTI symptoms in the respondents. t test was applied to study the difference between school and college girls related to physical activity, awareness related to reproductive health (menstruation and STI).

## RESULT AND DISCUSSION

*Table 1: Demographic information of the participants (N = 320).*

Characteristic	Category	N	%
<b>Average Age</b>	20 yrs	320	100
	<b>Sample</b>		
	School	160	50
	College	160	50
	<b>Total</b>	<b>320</b>	<b>100</b>
<b>Mother Education</b>	<i>Never went to school</i>	58	18
	<i>High school</i>	188	58.7
	<i>Senior secondary school</i>	73	23
	<i>Graduate</i>	1	0.3
	<b>Total</b>	<b>320</b>	<b>100</b>
<b>Father Education</b>	<i>Never went to school</i>	89	28
	<i>High school</i>	126	39
	<i>Senior secondary school</i>	96	30
	<i>Graduate</i>	9	3
	<b>Total</b>	<b>320</b>	<b>100</b>
<b>Family type</b>	Joint	166	52
	Nuclear	154	48
	<b>Total</b>	<b>320</b>	<b>100</b>
<b>Family affluence level</b>	Low	218	68
	Medium	102	32
	High	0	0
	<b>Total</b>	<b>320</b>	<b>100</b>

**Table1** shows the socio demographic profile of the respondents. Respondents are in the age range of 15- 25 years with mean age of 20 years. Education level of the respondents parents was found to be low as majority of them (mothers = 58% and fathers = 39%) had only attended high school and 46% parents had never attained any formal education. Most of the

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respondents belonged to either low (68%) or medium economic strata (32%). The socio-demographic profile of the participants reflects the need for awareness regarding reproductive health among the rural population (Shah et al., 2013; Dasgupta & Sarkar, 2008).

**Table 2: BMI of respondents (N=320, college=160 & school =160)**

	School (n)	%	College (n)	%	Total (N)	Total %
<b>Underweight</b>	16	10	23	14	39	12
<b>Normal</b>	68	43	80	50	148	46
<b>Over weight</b>	34	21	27	17	61	19
<b>Obese</b>	42	26	30	19	72	23

**Table 2** indicates the BMI of the school and college girls. BMI is calculated by using standard formula (height in m<sup>2</sup>/ weight in kgs.) and categorized according to Indian standards. Results reveal that 50% of the college girls and 43% of school girls have normal BMI, it is evident from the table that obesity is higher in school going girls (26%) while rate of underweight is higher (14%) in college girls.

Body weight plays an important role in modulating physical, mental and reproductive health. It impacts age of menarche (menstrual onset) and pregnancy. Obesity can result in still birth, pre term birth and other pregnancy complications while being underweight effects fetal growth adversely (Davies,2006). Obesity even impacts mental health as it can lead to depression and lower self - esteem (Montemayor et al.,2017).

**Table 3: Level of physical activity (N=320, college=160 & school =160)**

	School (n)	%	College (n)	%	Total (N)	Total %
<b>Physically inactive</b>	113	71	64	40	177	55
<b>Average</b>	47	29	62	39	109	34
<b>Physically active</b>	0	0	34	21	34	11
<b>Total</b>	<b>160</b>	<b>100</b>	<b>160</b>	<b>100</b>	<b>320</b>	<b>100</b>

**Table 3** indicates frequency of physical activity (walk, exercise and yoga)of the respondents. Results reveals that overall 55% respondents are low on physical activity i.e. they are not engaged in any structured exercise, walk, yoga, dance or sports regimen. The percentage of physical inactivity is high among school girls as 71% of school girls are not participating in any physical activity. Physical activity plays an important role in holistic development. Satija et al., (2018) reported lack of Indian girls involvement in outdoor sports and physical activity. Physical activity is not only important for maintaining good reproductive health but it plays an important role in overall well - being (Kumar,2017). Physical activity not only lowers the disease risk but also affects the mood positively (Troutman-Jordan et al., 2020).

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**Table 4: Level of Reproductive Health Knowledge (N=320, college=160 & school =160)**

	School (n)	%	College (n)	%	Total (N)	Total %
<b>Low</b>	149	93	91	57	240	75
<b>Average</b>	-	-	58	36	58	18
<b>High</b>	11	7	11	7	22	7
<b>Total</b>	<b>160</b>	<b>100</b>	<b>160</b>	<b>100</b>	<b>320</b>	<b>100</b>

**Table 4** indicates level of reproductive health awareness (menstruation and STI's) of respondents. Awareness related to menstrual process, hygiene, management and STI's prevention was assessed. Overall 75% of the girls reported lack of reproductive health awareness and this number is high for school girls. Several studies reported lack of adequate knowledge among young girls related to menstruation (Kabir et al.,2012) and STI's (Hassan et al., 2017; Montgomery et al., 2016; Haque et al., 2014).

Girls having knowledge are less vulnerable to acquire RTI (Dasgupta& Sarkar, 2008). Many studies reported lower level of reproductive health knowledge among females of rural area (Rizwan & Rama et al.,2020; Deshpande et al., 2018 and Li et al., 2010). Jain et al. (2017) assessed knowledge related to menstruation and STI's among young school going girls. They conducted study among government school girls n = 282 and reported need for improvement in awareness. Talking about menstruation is still considered as a taboo. Lack of scientific knowledge promotes inappropriate practices and hinders health seeking behavior.

**Table 5 : t score for physical activity, menstrual and STI awareness of two groups (N=320)**

Domain	College		School		t(318)	p
	M	SD	M	SD		
Physical Activity	1.3	1.31	0.44	.732	7.49	.001
Menstrual awareness	5.98	3.14	3.66	1.51	8.45	.001
STI awareness	8.56	1.75	7.83	1.41	4.21	.001

**Perusal of table 5** indicates that college girls are high in physical activity, menstrual and STI awareness as compared to school going girls. There is a significant difference among both the groups pertaining to physical activity  $t(318) = 7.49, p < .001$ , menstrual awareness  $t(318) = 8.45, p < .001$  and STI's awareness  $t(318) = 4.21, p < .001$ . Menstruation is an important process necessary for reproduction. Inappropriate knowledge has developed negative attitude towards menstruation (Kabir et al.,2012). There is significant difference in mean scores of both the groups. Mean score of college girls is high as compare to school girls. In India menstruation is still considered as a process to be practiced in secret (Hawkey et al., 2017) which leads to several adverse consequences. Many studies reported lack of awareness among females of reproductive age of rural area (Rizwan & Rama et al.,2020; Deshpande et al., 2018 and Li et al., 2010). Women having knowledge are less vulnerable to acquire RTI (Dasgupta& Sarkar, 2008). In another study Researchers (Verma, Meena & Banerjee, 2015) reported average level of knowledge in the age group 15 – 49 years.

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**Table 6: RTI symptoms (N=320)**

Symptom	(n)	%	Ranking
Vaginal discharge	170	53	1
Itching of genitals	55	17	3
Genital warts	-	-	-
Burning while urinating	85	27	2
Lower abdomen pain	45	14	4
Irregular periods	25	8	5

**Table 6** shows the prevalence of RTI symptoms in past six months among respondents. Majority of the girls 53% reported vaginal discharge while the least only 8% reported irregular periods. 27% girls reported burning sensation while urinating followed by itching of genitals (17%). Prevalence of symptoms are high among girls. Several studies reported fairly similar results (Kaur, 2017; Verma, Meena & Banarjee, 2015). *Bhilwar, Lal & Sharma et al., 2015* reported abdominal pain as the most common symptom of RTI.

## **CONCLUSION**

The present study revealed that 50% of the young girls of rural areas don't have a normal BMI and are not driven towards any physical activity. This may affect their overall quality of life and reproductive health in particular. It has been found that majority of the girls don't possess any comprehensive knowledge related to menstruation and reproductive health. Although both groups lack awareness related to menstruation and STI's but college girls have more awareness as compared to school girls. It is necessary to make policies and plans that can cater the need of both the groups differently. This research has revealed that although India has a plethora of policies that are designed to influence reproductive health but unfortunately, gaps exist, and the limited reach and quality of program delivery have thwarted the pace of improvement of women's reproductive health. There is a need to set the goals and identify the strategies to reach out to everyone. Education related to reproductive health improves general health behaviour and it is clearly necessary in case of young rural girls. Not only would this reduce the burden of RTI/STI, but also improve their long-term health and equip them with skills to care for children. Due to a paucity of resources this research was limited to one particular area and one gender only.

### **Implications**

Rural School based intervention programs need to be developed specifically for girls to make them more responsive in seeking health care facilities. Through regular orientation, girls should be motivated towards maintaining optimum health by inculcating exercise, nutritious diet and practicing hygiene in their everyday lives.

Education of youths, parents and teachers is vital to allow accurate information dissemination related to reproductive health. Health workers, ASHA and Anganwari workers can be used to improve the knowledge on STI/RTI by making door to door visits.

Information leaflets/ brochures in simple, easy to understand language should be made available for educating young rural girls about maintaining their reproductive health. Print and mass media should proactively take the responsibility in imparting right information by designing certain programmes and short documentaries.

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Schools and colleges must arrange a visit of a gynecologist at least once in a month so that rural girls have better access to understand and take effective treatment for any kind of RTI.

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***Conflict of Interest***

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