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A Study to Assess the Prevalence and Knowledge of Reproductive Tract Infection among the Adolescent Girls in Selected School in Guwahati, Assam

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Abstract: ***RTI/STI are a loosely defined constellation of infections and syndromes that are epidemiologically heterogeneous, but all of which are almost always on at least often transmitted sexually. Some 340 million new cases of curable STI occur every year. The figure does not include HIV or other viral STIs like Hepatitis B, genital herpes etc. which are not curable. The most common of the curable STIs are Gonorrhoea, Syphilis, Chlamydia and Trichomoniasis. STI constitute a significant health burden and increase the risks of transmission of HIV. Aim: To assess the prevalence and knowledge of Reproductive tract infection among the adolescent girls in a selected school of Guwahati, Assam. Method And Material: Non-experimental descriptive research design was used in this study. Convenient sampling technique was used to select 110 adolescent girls from class VII, VIII, IX and X who fulfilled the inclusion criteria from selected school in Guwahati, Assam. Semi structured questionnaire to assess the prevalence and knowledge of Reproductive tract infection. Result: Out of the 110 respondents, majority i.e. 56 (50 %) of the respondents had adequate level of knowledge, 51 (47 %) of the respondent had moderately adequate level of knowledge and three (3 %) of the respondent had inadequate level of knowledge regarding Reproductive Tract Infection. Out of 110 respondents, 24 (83 %) respondents had pain in the abdomen, 16 (55 %) respondents had itching in the vagina. Conclusion: From the study it was concluded that out of the 110 respondents, majority i.e. 56 (50 %) of the respondents had adequate level of knowledge. As to the association of prevalence and knowledge; no association was found. In the association of prevalence and demographic variables, there is significant association of prevalence with educational level of mother, frequency of changing pad, material used during menstruation and no association between knowledge and demographic variables.***

Keywords: prevalence, knowledge, reproductive tract infection, adolescent girls

1. Introduction

Reproductive Tract Infection is a global health problem among women living in South East Asian Region Countries. Studies have found the prevalence of RTI in India, Bangladesh, Egypt and Kenya is in the range of 52-90%. More than a million women and infants die of the complications of RTI every year. [1]

RTI/STI are a loosely defined constellation of infections and syndromous that are epidemiologically heterogeneous, but all of which are almost always on at least often transmitted sexually. Some 340 million new cases of curable STI occur every year. The figure does not include HIV or other viral STIs like Hepatitis B, genital Herpes etc. which are not curable. The most common of the curable STIs are Gonorrhoea, Syphilis, Chlamydia and Trichomoniasis. STI constitute a significant health burden and increase the risks of transmission of HIV. [2]

RTI/STI are an important health threat, both directly and through their potential effect on HIV transmission. These infections often go undiagnosed and untreated, and when left untreated, they lead to complications such as infertility, ectopic pregnancy and cervical cancer. Pelvic inflammatory disease arising from STI poses a major public health problem and adversely affects the reproductive health of poor and untreated women.[3]

2. Objectives

1) To assess the prevalence of Reproductive Tract Infection among adolescent girls in a selected school of Guwahati, Assam.
2) To assess the level of knowledge on Reproductive Tract Infection among adolescent girls in a selected school of Guwahati, Assam.
3) To find out the association between prevalence and knowledge of Reproductive Tract Infection among Adolescent girls in a selected school of Guwahati, Assam.
4) To find out the association between prevalence of Reproductive Tract Infection among the Adolescent girls in selected school of Guwahati, Assam with their selected demographic variables.
5) To find out the association between knowledge on Reproductive Tract Infection among the Adolescent girls in selected school of Guwahati, Assam with their selected demographic variables.

3. Review of Literature

Emily Keruboetal (2016), conducted a cross sectional study in rural western Kenya with the objective to examine prevalence in rural school girls in Kenya against their reported symptoms. Out of 542 adolescent school girl 24% reported one or more symptom. Most commonly vaginal discharge (11%), pain (9%) or itching (4%). Laboratory test confirmed 28% of girls had one or more Reproductive Tract

Infection. Prevalence was high with age group of 16-17 years, out of that 33% had infections. Bacterial vaginitis was the most common (18%), followed by Candida albinos (9%), Chlamydia trachomatis (3%), Trichomonasvaginalis (3%) and Neisseria Gonorrhoea (1%).[4]

K Simarjeet, V, et al. (2017), conducted a descriptive study on Reproductive Tract Infection in Mullana, Haryana with the aim of to assess the prevalence, knowledge and practices among 200 women who are in the age group of 15-50 years. The most common symptoms found among them were pain in lower abdomen (35.5%), itching (29.5%), vaginal discharge (29%) and urinary burning (28.5%). Majority 61% women had adequately expressed their practices regarding reproductive tract infections. [5]

4. Research Methodology

The research approach used was quantitative research approach and the research design used in this study was Descriptive design. The variables included in the study were:

a) **Research variables**: In this study, Research variable is the prevalence and knowledge of the Adolescents regarding Reproductive Tract Infection.
b) **Demographic variable:** In this study the demographic variables are age, educational level, monthly income of parents, area of residence, educational status of mother, educational status of father, occupation of father, occupation of mother, type of family, menstrual hygiene related factors.

The samples were the adolescent girls from class VII to X studying in a selected school of Guwahati, Assam. And were selected by using Non probability Convenience sampling technique.

Tools and technique used in the study were semi-structured questionnaire to assess the knowledge and semi- structured items to assess the prevalence and the technique used in this study was Self-report.

These steps were adopted in development of the tool:

Review of literature, suggestion from the guide and subject experts in the field of nursing, followed by development of blueprint regarding knowledge questionnaire. After that, construction of structured knowledge questionnaire with the help of review of literature and discussion was undertaken. Finally, content validity and reliability of the tool was verified.

Description of the Tool

Section I: Demographic Variables which consisted of age, educational level, monthly income of parents, area of residence, educational status of mother, educational status of father, occupation of father, occupation of mother, type of family, menstrual hygiene related factor.

Section II:-Semi Structured knowledge questionnaire on Reproductive tract infection:

The knowledge questionnaire was prepared and it consisted of 12 semi structured questions regarding Reproductive tract infection. These questions covered about basic knowledge about Reproductive tract infection and its risk factors, etiology, sign and symptoms, diagnostic tests, management, prognosis and complications.

Scoring key:
Each question had only one correct answer. For every correct response a score of "1" (one) mark was given and for every incorrect response a score of "0" (zero) was given. Hence, the maximum score on knowledge was 12 and minimum score was 0. To interpret the level of knowledge, the scores were converted into percentage and were categorized as follows:

1. <33% (<4) = low
2. 33%-66% (4-8) = medium
3. >66% (>8%) = high

Section III: Semi-structured items for assessing the prevalence of Reproductive tract infection
The prevalence was assessed through the construction of few symptoms with the help of review of literature. The respondent were asked to marked present or absent against each symptoms, and if the symptoms were present they were further asked to state the duration of the symptoms.

Content Validity of the Tool:
The draft was validated by: Three experts of Community Health Nursing, one expert of Community Medicine, two experts of Obstetric and Gynaecological Nursing and one expert of Obstetrics and Gynaecology. The experts were asked to provide their valuable suggestion in the remarks column of the content validity format. The items of the tools were evaluated for relevancy, accuracy and appropriateness. Based on their suggestion on the following modifications were done on various sections of the tool.

Reliability of the tool
In the present study, the reliability of the tool has been done by using Split half method for knowledge questionnaire and Test-retest method was used for prevalence. The reliability of knowledge was 0.99 and the prevalence items were also found to be reliable to proceed with the main study.

Ethical considerations
Ethical permission to proceed with the study was taken from the "Independent ethical committee", Dispur.(INS Trust), the investigator obtained permission from the Principal of the concerned school of Guwahati, Assam. Then, nature of the study and the purpose was explained to the selected samples and written consent was obtained from the study samples before data collection. Confidentiality was ensured and the participants had the liberty to leave the study at any point of time as desired. Also, the study utilized non-invasive procedure and it was ensured that there would be no physical or psychological harm to the participants.

Data Collection Process

In my study, the period for data collection was from 2nd July to 27th July, 2018. A brief self -introduction was given and the purpose of the study was explained to the samples prior to data collection and keeping in mind the ethical aspects of research, the data was collected after obtaining the informed consent of the samples for their willingness to participate in the study. The samples were assured anonymity and confidentiality of information provided by them. One hundred ten samples were taken by using convenient sampling technique for the main study. A semi structured questionnaire was administered to assess the knowledge of the adolescents regarding Reproductive Tract Infection. The respondents took approximately 25-30 minutes to complete the questionnaire.

Table I: Frequency and percentage distribution of respondents according to demographic variable, n= 110

Variables		Frequency (f)	Percentage (%)
(a)Age (in years)	13-14 Years	64	58%
	15-16 Years	16	42%
(b)Educational Level	Class VII	13	12%
	Class VIII	27	25%
	Class IX	38	34%
	Class X	32	29%
© Monthly income of parents	<Rs 15,000	12	11%
	Rs 15,001-Rs 20,000	15	15%
	Rs 20,001-Rs 25,000	21	20%
	Rs 25,001 and above	64	64%
(d)Area of residence	Rural	0	0%
	Urban	110	100%
	Primary	1	1%
	Middle school	6	5%
	High school	8	7%
	Secondary	31	29%
	Graduate and above	67	58%
	Middle school	3	3%
	High school	18	16%
	Secondary	38	35%
	Graduate and above	51	46%
(g) Occupation of father	Daily wage labourer	1	1%
	Government sector	48	44%
	Private sector	11	10%
	Business	37	34%
	Unemployed	5	4%
	Retired	8	7%
(h) Occupation of mother	House wife	80	73%
	Government sector	5	5%
	Private sector	10	9%
	Business	11	10%
	Retired	3	2%
	Others	1	1%
(i) Family type	Nuclear	88	80%
	Joint	22	20%
(j) Menstrual cycle	Regular	81	74%
	Irregular	29	26%
(k) Menstrual cycle (in days)	<21	16	55%
	21-50	5	17%
	>51	8	28%
(l) Material used during menstruation	Sanitary pad	80	73%
	Cloth	0	0%
	Both	31	27%
(m) Frequency of changing pad	Once a day	12	11%
	Twice a day	47	43%
	More than two times a day	51	46%

Table II: Frequency and percentage distribution of respondents according to presence of symptoms, n=110

Symptoms	Frequency (f)	Percentage (%)
a) Heavy bleeding during recent monthly period	9	31%
b) Bleeding in between one period and the next period	6	21%
c) Pain or burning during urination	8	27%
d) Frequent urination	6	20%
e) Pain in the abdomen	24	83%
f) Pain in the perineal area	7	24%
g) Itching in the vagina	16	55%
h) Soreness in the vagina	2	7%
i) Any bad smell from the vagina	11	38%
j) Excessive discharge from vagina	10	34%

Table III: Frequency and percentage distribution of respondents according to presence of symptoms

Symptoms (in days)		Frequency (f)	Percentage (%)
(a) Heavy bleeding during recent monthly period	Present	9	8%
	Absent	101	92%
(b) Bleeding in between one period and the next period	Present	6	5%
	Absent	104	95%
(c) Pain or burning during urination	Present	8	7%
	Absent	102	93%
(d) Frequent urination	Present	6	5%
	Absent	104	95%
(e) Pain in abdomen	Present	24	22%
	Absent	86	78%
(f) Pain in perineal area	Present	7	6%
	Absent	103	94%
(g) Itching in vagina	Present	16	15%
	Absent	94	85%
(h) Soreness in the vagina	Present	2	2%
	Absent	108	98%
(i) Foul smell from the vagina	Present	11	10%
	Absent	99	90%
(j) Excessive discharge from the vagina	Present	10	9%
	Absent	100	91%

Ta**ble IV:** Frequency and percentage distribution of respondents according to duration of symptoms

Symptoms (in days)	n	Duration (in days)	Frequency	Percentage
(a) Heavy bleeding during recent monthly period	9	<3	4	45%
		3-6	3	33%
		>6	2	22%
(b) Bleeding in between one period and the next period	6	<2	3	50%
		2-4	1	17%
		>4	2	33%
(c) Pain or burning during urination	8	<2	3	37%
		2-6	0	0%
		>6	5	63%
(d) Frequent urination	6	<2	2	33%
		2-3	3	50%
		>3	1	17%
(e) Pain in abdomen	24	<4	4	17%
		4-10	15	62%
		>10	5	21%
(f) Pain in perineal area	7	<8	3	42%
		8-10	2	29%
		>10	2	29%
(g) Itching in the vagina	16	<5	4	25%
		5-9	3	19%
		>9	9	56%
(h) Soreness in the vagina	2	<6	0	0%
		6-8	1	50%
		>8	1	50%
(i) Foul smell from the vagina	11	<4	4	36%
		4-5	5	46%

		>5	2	18%
(j) Excessive discharge from the vagina	10	<6	5	50%
		6-9	3	30%
		>9	2	20%

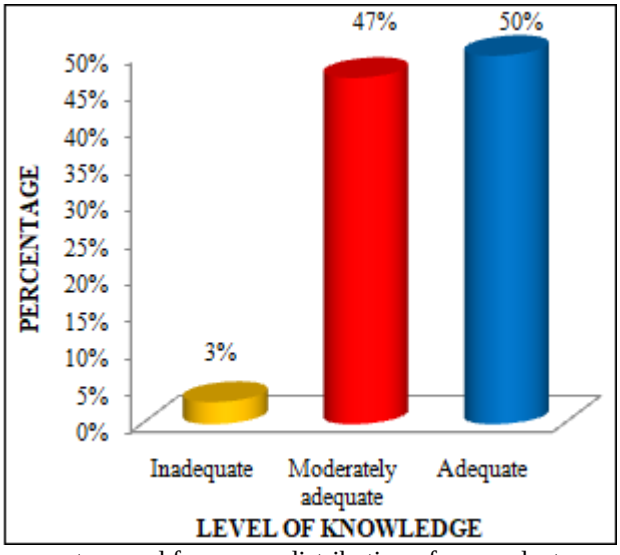

Figure 1: Cone diagram showing percentage and frequency distribution of respondents according to their level of knowledge regarding Reproductive tract Infection

The result of the study was supported by the crossectional study, conducted by Vidya Rani, Anand Mohan Dixit, Naresh Pal Singh, Peeyush Kariwal (2016), in rural area of Etawah, Uttar Pradesh where it was showed that 42.6% were aware about Reproductive Tract Infections. [6]

Table V: Association between prevalence and knowledge of the adolescent girls regarding reproductive tract infection, n=110

Symptoms	Calculated Value of $\chi 2$	Tabulated Value of $\chi 2$	p-value	df	Remarks
1. Heavy bleeding during recent monthly period	0.15	3.84	0.05	1	NS*
2. Bleeding in between one period and the next period	1.01	3.84	0.05	1	NS*
3. Pain or burning during urination	2.56	3.84	0.05	1	NS*
4. Frequent urination	0.97	3.84	0.05	1	NS*
5. Pain in perineal area	1.47	3.84	0.05	1	NS*
6. Itching in vagina	0.18	3.84	0.05	1	NS*
7. Any foul smell from vagina	2.71	3.84	0.05	1	NS*
8. Excessive discharge from vagina	0.51	3.84	0.05	1	NS*

p=0.05 *NS- Non-Significant

Table VI: Association between prevalence of reproductive tract infection among the adolescents girls with their selected demographic variables

1) Pain in Abdomen, n=110

Demographic performa	Calculated Value of $\chi 2$	Tabulated Value of $\chi 2$	p-value	df	Remark
1. age	0.12	3.84	0.05	1	NS*
2. Educational level	1.2	5.99	0.05	2	NS*
3. Monthly income of parents	1.95	5.99	0.05	2	NS*
4. Educational status of father	0.73	3.84	0.05	1	NS*
5. Educational status of mother	6.8	3.84	0.05	1	S**
6. Occupation of father	0.12	3.84	0.05	1	NS*
7. Occupation of mother	1.11	3.84	0.05	1	NS*
8. Type of family	0.45	5.99	0.05	2	NS*
9. Material used during menstruation	5.39	3.84	0.05	1	S**
10. Frequency of changing pad	8	3.84	0.05	1	S**

p=0.05 NS*- Non-Significant S**-Significant

2) Itching in the vagina, n=110

Demographic Performa	Calculated Value of $\chi 2$	Tabulated Value of $\chi 2$	p-value	df	Remark
1. Age	0.5	3.84	0.05	1	NS*
2. Educational level	1.02	3.84	0.05	1	NS*
3. Monthly income of parents	0.41	5.99	0.05	2	NS*
4. Educational status of father	0.01	3.84	0.05	1	NS*
5. Educational status of mother	0.56	3.84	0.05	1	NS*
6.Occupation of father	0.42	3.84	0.05	1	NS*
7. occupation of mother	3.72	3.84	0.05	1	NS*
8. type of family	1.47	5.99	0.05	2	NS*
9. material used during menstruation	2.53	3.84	0.05	1	NS*
10. frequency of changing pad	3.29	3.84	0.05	1	NS*

p=0.05 NS*- Non-Significant

Table VII: Association between Knowledge of the Adolescents Girls Regarding Reproductive Tract Infection with their selected Demographic Variables, n=110

Demographic Variables	Calculated Value of $\chi 2$	Tabulated Value of $\chi 2$	p-value	df	Remark
1. Age	0.05	3.84	0.05	1	NS*
2. Educational level	1.81	7.81	0.05	3	NS*
3. Monthly income of parents	1.56	5.99	0.05	2	NS*
4. Educational status of father	4.74	5.99	0.05	2	NS*
5. Educational status of mother	0.96	5.99	0.05	1	NS*
6. Occupation of father	1.25	3.84	0.05	1	NS*
7. Occupation of mother	0.29	3.84	0.05	1	NS*
8. Type of family	0	3.84	0.05	1	NS*
9. Material used during menstruation	0.09	3.84	0.05	1	NS*
10. Frequency of changing pad	0.47	5.99	0.05	1	NS*

p=0.05 NS*- Non-Significant

The result of the study was supported by the community based study, conducted by**Komal P, Thekdi, Nita K, Patel, Pukur I. Thekdi (2017),** in Surendranagar district, Gujarat. Out of 400 respondents the prevalence was 56.5%. On statistical analysis it was found that women who used clothes were two times more symptomatic as compared to women who used sanitary pads.[7]

5. Discussion

Through this study, the investigator concluded that prevalence of Reproductive Tract Infection is more according to their education level of mother, frequency of changing pad and material used during menstruation.

6. Conclusion

From this study, it was observed that 110 respondents, i.e. the adolescent girls of selected school of Guwahati, Assam participated in this study. Out of 110 respondents majority i.e. 56 (50%) of the respondents had adequate level of knowledge followed by 51(47%) of the respondent had moderately adequate level of knowledge and three (3%) of the respondent had inadequate level of knowledge regarding Reproductive Tract Infection. Our study showed that out of 110 respondents, 24(83%) respondents had pain in the abdomen whereas 16(55%) respondent had itching in the vagina. Chi square analysis showed that there is significant association of Prevalence with educational level of mother, frequency of changing pad, material used during menstruation.

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