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Original Research Article

A prospective study on reproductive health problems and menstrual hygiene practices among women in rural population

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ABSTRACT

Background: Menstruation is defined as periodic discharge of blood from uterus occurring more (or) less at regular monthly intervals throughout the active reproductive life of a female. Hygiene-related practices of women during menstruation are considered important because it can increase vulnerability to reproductive tract infections (RTIs).
Methods: A prospective, observational study was done for a period of 6 months to assess the reproductive health problems and menstrual hygiene practices among women in rural population. It was conducted by first considering RTI cases among female in-patients of obstetrics and gynaecology department at MNR hospital, Sangareddy, Telangana, on the basis of which the study was extended to certain villages of Andole Mandal, where RTIs were found to be more prevalent. The data was collected using pre designed and semi-structured questionnaire.
Results: Out of 106 cases taken in the hospital, cervicitis was most prevalent 40 (37.7%). A maximum of 36 (34%) cases were from Andole Mandal, so the community-based study was done here. Among the 710 subjects considered, 206 (29%) were found to use sanitary napkins and 85 (12%) of them used disposable cloth. Majority 392 (55.2%) of the women disposed their menstrual absorbent by burning and many were presented with RTI symptoms such as lower abdominal pain, vaginal discharge.
Conclusions: In the health status of women among the reproductive age group, RTIs are known to pose a serious and continuing threat, which has become a silent epidemic that devastates women's life which is closely related with poor menstrual hygiene. Hence, there is an urgent need to provide accurate and adequate information about hygienic practices to be followed during menstruation, so as to enable them to lead a healthy reproductive life.

Keywords: Menstruation, Reproductive health problems, Unhygienic menstrual practices

INTRODUCTION

Menstruation is a natural and physiological process. It's not a disease. It's rather a sign that a woman is healthy.[1] A women is likely to spend more than 1800 days of her life menstruating, in other words it is approximately 5 years of her life span spent on bleeding.[2] There are an umpteen taboos and myths out there in the society, pertaining to menstruation. Some people are even accustomed to believing that the menstrual blood is dirty, unclean or unhygienic. A few traditional practices followed during menstruation could have caused embarrassment and a few others could have even led to loss of self-esteem. It is very important to follow proper menstrual hygienic practices.[1]

Around the world women had developed their own personal strategies to cope up with menstruation which vary from country to country and depend on economic status, the individual personal preferences, local traditions, cultural beliefs and education status.[3] Often methods of management can be unhygienic and inconvenient, particularly in poor settings. In India, between 43% and

88% of girls wash and reuse cotton clothes rather than use disposable pads. However reusable material may not be well sanitized because cleaning is often done without soap and with unclean water, social taboos and restrictions force drying indoors away from sunlight and open air. Unhygienic washing practices are particularly common in rural areas and amongst women and girls in lower socio-economic groups.[3]

Genital hygiene is the major component of women's health and is very important for the protection of reproductive health. The genital area should be kept clean but excessive cleaning procedures which could disturb the vaginal flora should be avoided. Women's care and treatment of their vagina and genital area might affect their vulnerability to sexually transmitted infections (STIs including HIV) and other sexual and reproductive morbidities.[4]

Menstrual hygiene management (MHM) is characterized by practices such as the type of absorbent material used, frequency changed, associated body washing, methods of washing, drying and storing reusable pads as well as other contextual factors such as location of menstruation-related changing and washing practices. These practices can be influenced by water sanitation and hygiene (WASH) facilities at the household level and the quality of and access to, these facilities vary significantly between and within countries.[5] Because of lack of knowledge women end up with repeated use of unclean menstrual absorbent results in harboring of microorganisms that increases susceptibility to urinary, perineal, vaginal and pelvic infections.[6] Hygiene-related practices of women during menstruation are considered important because it can increase vulnerability to RTIs. Most of the adolescent girls in villages use rags and old clothes during menstruation, increasing susceptibility to RTIs.

Poor menstrual hygiene is one of the major reasons for the high prevalence of RTIs in the country and contributes significantly to female morbidity.[1] Poor menstrual hygiene can cause RTIs and urinary tract infections which might lead to chronic cervicitis and cervical cancer.[1] Chronic cervicitis is a very common disease affecting adult women physical and mental health and is predisposing condition for HPV, HIV infection and cervical cancer which is the most common cancer of female.

The presence of RTIs (especially ulcer causing STIs) can promote the acquisition and transmission of the human immunodeficiency virus (HIV).[7] The biggest barrier to adoption of quality sanitary napkins in India turned out to be affordability and accessibility as nearly 70% of women said that their families cannot afford sanitary napkins. Over 88% of women resorted to shocking alternatives such as cloth, ashes and husk sand during menstruation, thereby causing severe reproductive health problems. Awareness on basic health and feminine hygiene is very low, with 75% rural women lacking adequate knowledge on menstrual hygiene and care. 97% gynecologists surveyed believe that sanitary napkins can act as a preventive measure against RTI, while 64% noted that it can act as a precautionary measure to reduce the risk of cervical cancer.[1]

RTIs have wide spread effects on the health and well-being of men, women, young people and newborns. As the women are clearly at greater risk of infection and carry the greater burden of the disease it can pose a threat to a man's fertility. Hence here was an attempt to study the health problems and menstrual hygiene practices with the objectives to assess the reproductive health problems and also the knowledge and attitude regarding the menstrual hygiene practices among women.

METHODS

A prospective, observational study was conducted among the women attending the obstetrics and gynaecology department of MNR hospital, Fasalwadi, Sangareddy District, Telangana and villages in Andole Mandal, Sangareddy district, Telangana for a period of six months from November 2018 to April 2019. A total of 106 cases were considered in the hospital-based study and total of 710 subjects were recruited in the community based study.

Our study was approved by the institutional ethical committee (IEC). According to the objectives, a predesigned, semi-structured questionnaire was prepared with the opinion of experts of department of gynaecology and community medicine. The subjects included were non-pregnant women of reproductive age (18-45 years) admitted in the obstetrics and gynaecology ward with reproductive health problems and those excluded were women meeting one or more of the following criteria had a hysterectomy, taken a course of antibiotics during the previous three weeks and women who refused to give the consent. A total of 106 subjects were taken and interviewed using a pre-designed, semi-structured questionnaire which was translated into vernacular language while collecting the data.

The women belonging to certain villages of Andole Mandal were more among the selected cases diagnosed with RTIs in the hospital-based study. Hence, the community-based study was extended to these regions. Out of 738 subjects aged between 18 to 45 years, 13 were those who did not respond and 15 were excluded from the study. So, the ultimate sample size at the end of the study was 710. They were interviewed by using the semi-structured questionnaire which elicits information relating to socio-demographic and economic factors, menstrual hygiene practices and symptoms suggestive of RTI such as excessive vaginal discharges, foul smelling, vaginal itching, lower abdominal pain.

Reproductive health assessment was done based on symptoms suggestive of reproductive tract infection, urinary tract infection and on reported symptoms related to problems of menstruation. Privacy of the participants was maintained. The collected information was kept

confidential throughout the study and was used only for the research purpose.

After completion of data collection, the data was tabulated to obtain graphs, pie charts and also to draw the percentages. Being an observational study, the results as well as the significance of the study was calculated by extracting percentage values from the collected data.

RESULTS

Hospital based study

Out of 106 patients, half of the women (50.9%) belonged to the age group 36-45 years and the least (13.2%) were found between 18-26 years. A majority (98.1%) of them were married. In the educational status, 74.5% of the women were illiterates and 25.5% were found to have educational qualifications. Working women contributed to the major part (67.8%) of the study, which included 27.3% of labourers, 33.9% of agriculture workers and 6.6% were involved in other works (Figure 1).

Among the symptoms suggestive of RTIs, lower abdominal pain was more prevalent (84.9%) among the patients. The other symptoms observed were vaginal discharge (72.6%), dysmenorrhea (54.7%), backache (51.8%), burning micturition (36.7%), malodorous smell (32%), heavy bleeding (29.2%), dyspareunia (26.4%), vulvovaginal itching (19.8%), genital ulcer (9.4%), amenorrhea (9.4%), fever (8.4%), inguinal swelling (5.6%) and between menses bleeding (2.8%). Certain other symptom such as postcoital bleeding was experienced by 12.3% of the patients (Figure 2).

Majority of the patients (38.7%) out of 106 were diagnosed with cervicitis. The next common diagnosis were vaginitis and vaginal candidiasis, whose occurrence was found to be 9.4% each, followed by PID, fibroid uterus (8.5%) each, infertility (7.6%), trichomoniasis (6.6%), ovarian cyst (4.7%), amenorrhea (3.8%) and carcinoma (2.8%) (Table 1).

The prevalence of reproductive health problems was found to be maximum in Andole Mandal (34%), followed by Mogudampally (15.4%), Hathnoora (13.2%), Vatpally (12.5%), Ameenpur (10.8%), Raikode (7.6%) and the least was found in Pulkal Mandal (6.5%). Based on these findings, our study was extended to the villages of Andole Mandal, where the reproductive health problems were found to be more prevalent.

Community-based study

In the community-based study, out of 738 study subjects, 13 did not respond and 15 were excluded from the study. So, the ultimate sample size at the end of the study was 710, as, out of 738, 28 subjects either did not give consent or were not considered for the study.

Out of 710 patients, about half of the women (49.4%) belonged to the age group 27-35 years and the least (19.8%) were found between 18-26 years. A majority (90.2%) of them were married. In the educational status, 65% of the women were illiterates and 34.9% were found to have educational qualifications. Working women contributed to the major part (78.9%) of the study, which included 30.5% of labourers, 37.1% of agriculture workers and 11.3% were involved in other works. Most of the women belonged to the middle class (57.8%), followed by upper middle class (25%), upper class (8%), lower middle class (7.5%) and least (1.7%) in the lower class.

Most of the women were unaware (72.3%) about menstruation prior to attaining menarche and only 27.6% were about it. Among the aware subjects, the main source of information were friends (39.2%), followed by sister in 31.6% and mother in 15.8% of the subjects. 72.5% of the subjects were aware about the sanitary napkins in contrast to 27.5% who were unaware of it (Table 2).

76.2% of the subjects had regular menstrual cycles, whereas 23.8% experienced irregularities. The menstrual flow was only spotting in 10%, mild in 12.1%, moderate in 62.1% and heavy in 15.8% of the subjects. Almost half of the subjects (49%) used homemade reusable cloth and 11.9% used homemade disposable cloth. Only 29% women preferred to use sanitary napkins and 10% used both sanitary napkins as well as homemade reusable cloth. High cost (47.2%) and inconvenience (37.5%) were the major reasons for not using sanitary napkins, followed by difficulty to dispose (14.5%) and shyness (0.8%) (Table 3).

Out of 710 subjects 99% of the women used soap and water to wash the homemade reusable cloth. Majority of the subjects (62.6%) followed an unhygienic method of drying the reusable cloth by drying it inside the house without the presence of sunlight. 19.5% of women dried the reusable cloth outside the house in the absence of sunlight and only 17.4% preferred drying it outside the house in sunlight. Most of the women (55.2%) burnt the sanitary napkin (or) cloth, followed by pit toilet (22.8%), flush in toilet (12%), refuse bin (8.6%) and thrown discriminately (1.4%) (Table 4).

Out of 710 subjects, 37% were present with soreness in between their thighs and 63% did not have any kind of sore appearance between the thighs.

Among the 710 subjects, 64.5% were found to change the used absorbent twice (or) more per day in contrast to 35.5% women who changed it only once a day. The frequency of changing the undergarments was once a day in 91% and alternate day in 9% of the subjects. Most of the patients (35.5%) cleaned their pubic hair once in 3-4 months and those who cleaned it weekly was found to be the least (6%). There was no much variation between the subjects who washed the external genitalia <2 (52.5%) and

>2 (47.5%) times a day during their menstruation period (Figure 3).

Maximum women (87.7%) were restricted from attending religious functions. Other restrictions followed were doing household works (10.4%), sleeping on routine bed (6.7%) and touching stored food (90.7%) (Table 5). Majority of the patients were found to experience the premenstrual syndrome symptoms. Maximum of them (53%) had lower abdominal pain, followed by backache (45.2%), mood swings (8.2%), headache (4.4%), fatigue and weakness (6.3%) and 1.5% women experienced certain other symptoms like white discharge prior to menstruation (Figure 4).

Table 1: Diagnosed reproductive health problems.

Diagnosis	No. of patients	Percentage (%)
Vaginitis	10	9.4
Cervicitis	41	38.7
PID	9	8.5
Carcinoma	3	2.8
Infertility	8	7.6
Trichomoniasis	7	6.6
Vaginal candidiasis	10	9.4
Ovarian cyst	5	4.7
Amenorrhea	4	3.8
Fibroid uterus	9	8.5

Table 2: Awareness about menstruation.

Awareness about menstruation		No. of subjects	Percentage (%)
Awareness about menstruation before attaining menarche	Aware	196	27.6
	Unaware	514	72.3
Source of information about menstruation before attaining menarche among those who were aware	Mother	31	15.8
	Sister	62	31.6
	Friend	77	39.2
	Others	26	13.2
Awareness about the sanitary napkins	Aware	515	72.5
	Unaware	195	27.5

Table 3: Menstrual hygiene practices.

Menstrual hygiene practices		No. of subjects	Percentage (%)
Menstrual cycle	Regular	541	76.2
	Irregular	169	23.8
Menstrual flow	Only spotting	71	10
	Mild	86	12.1
	Moderate	441	62.1
	Heavy	112	15.8
Type of material used during menstruation	Sanitary napkins	206	29
	Homemade disposable cloth	85	11.9
	Homemade reusable cloth	348	49
	Both Napkins and reusable cloth	71	10
Reason for not using sanitary napkins	High cost	238	47.2
	Inconvenient	189	37.5
	Difficulty to dispose	73	14.5
	Shyness	04	0.8

Table 4: Handling of homemade reusable cloth.

Menstrual hygiene practices		No. of subjects	Percentage (%)
Agent used for washing of homemade reusable cloth	Soap and water	415	99
	Water	04	1

Continued.

Menstrual hygiene practices		No. of subjects	Percentage (%)
Drying of homemade reusable cloth	Outside the house in sunlight	73	17.4
	Outside the house without sunlight	82	19.5
	Inside the house	260	62.6
Method of disposable of napkins/cloth (n=710)	Pit toilet	162	22.8
	Refuse bin	61	8.6
	Burning	392	55.2
	Flush in toilet	85	12
	Thrown indiscriminately	10	1.4

Table 5: Restrictions during menstruation.

Restrictions during menstruation	No. of subjects	Percentage (%)
Attending religious functions	623	87.7
Household works	74	10.4
Sleep on routine bed	48	6.7
Touching stored food	644	90.7
Others	00	0

Table 6: Symptoms suggestive RTIs.

Symptoms suggestive of RTIs	No. of subjects	Percentage (%)
Backache	351	49.4
Vaginal discharge	395	55.6
Lower abdominal pain	408	57.5
Vulvovaginal itching	98	13.8
Burning micturition	74	10.4
Dysmenorrhea	381	54
Amenorrhea	73	10.3
Genital ulceration	31	4.4
Inguinal swelling	14	2
Dyspareunia	53	7.5
Malodorous smell	81	11.4
Heavy bleeding	144	20.3
Fever	17	2.4
Between menses bleeding	34	4.8

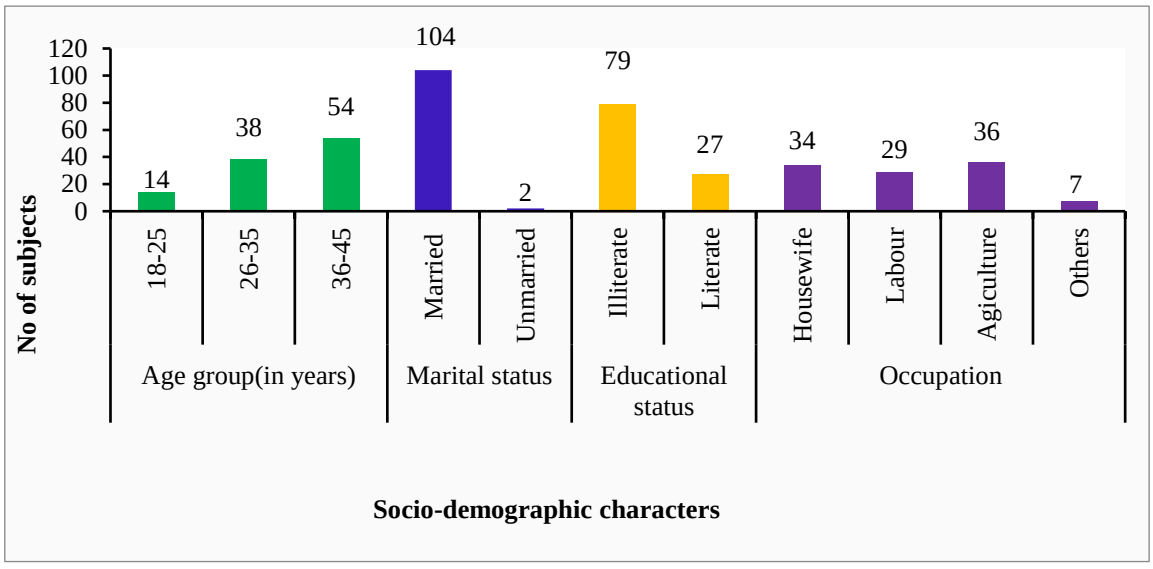

Figure 1: Socio-demographic characters of the patients.

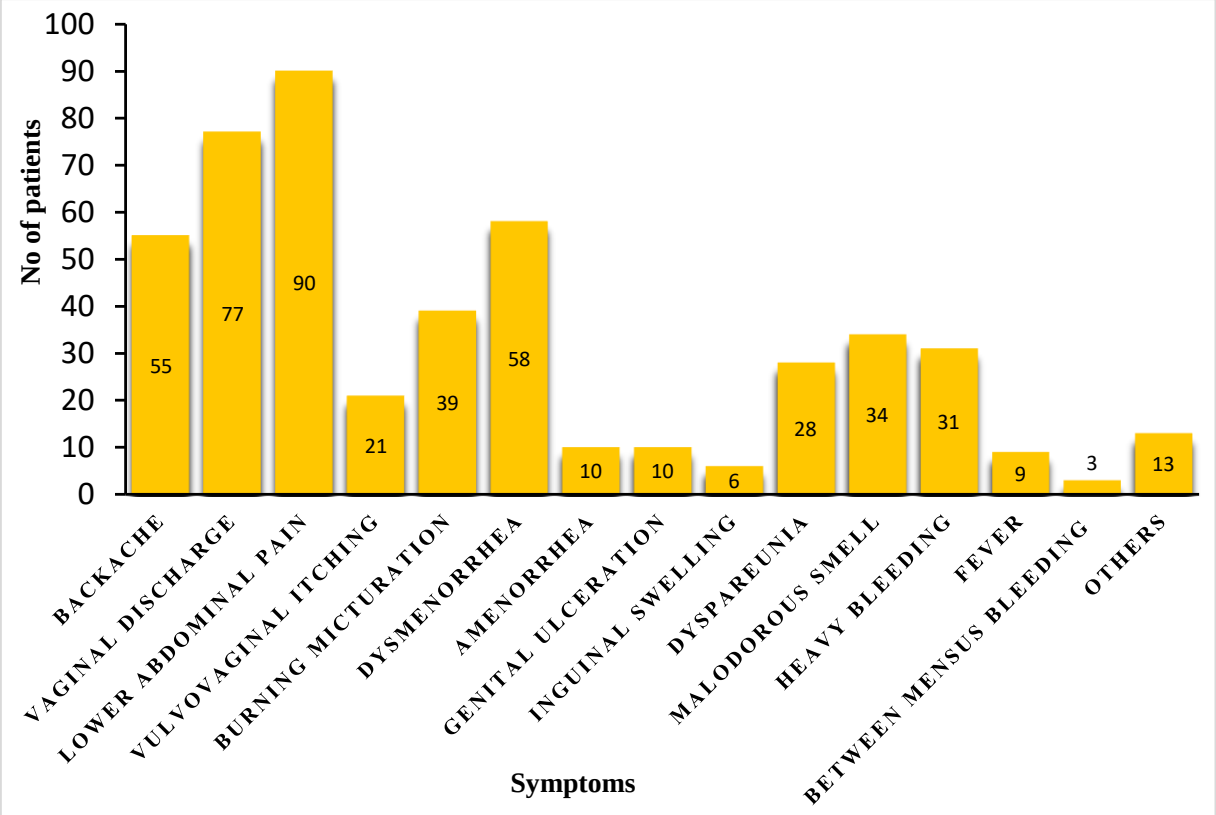

Figure 2: Symptoms suggestive of RTIs.

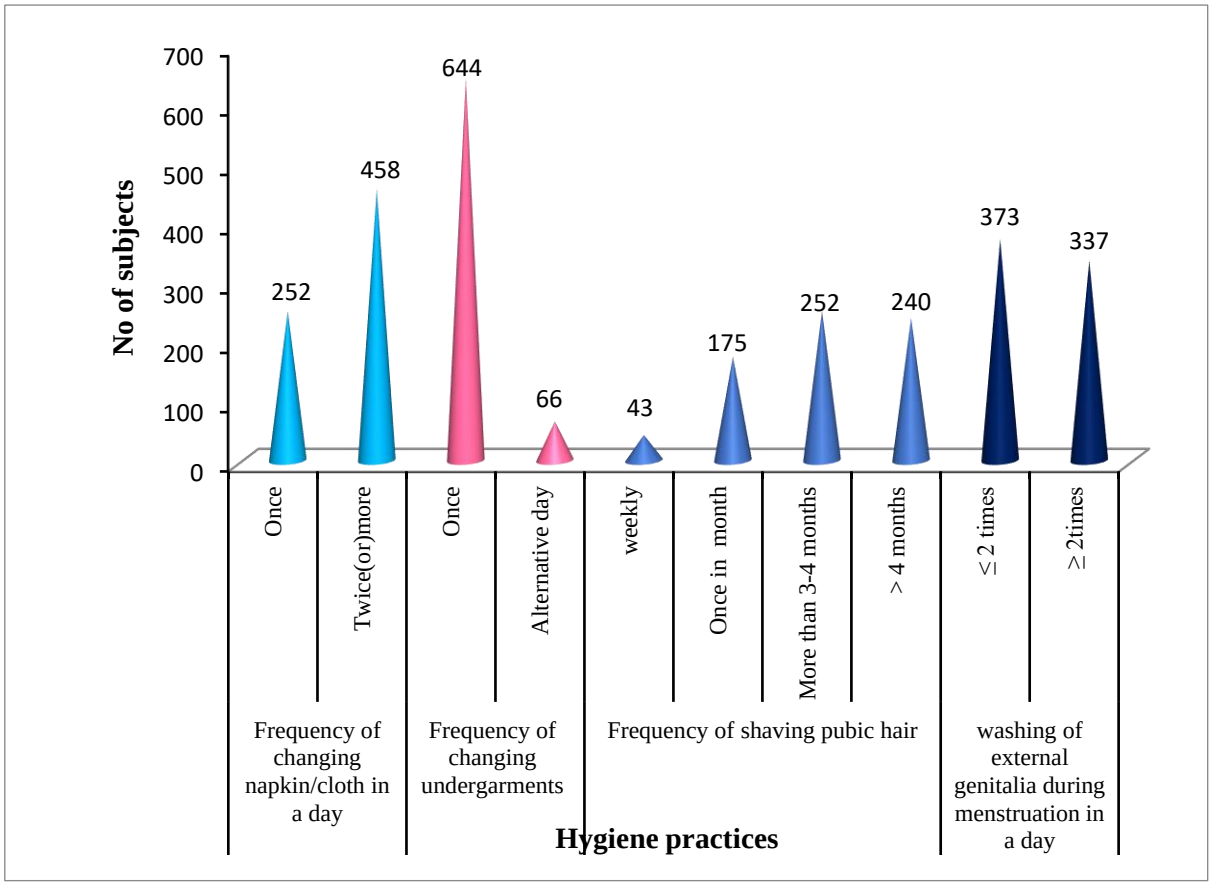

Figure 3: Personal hygiene practice.

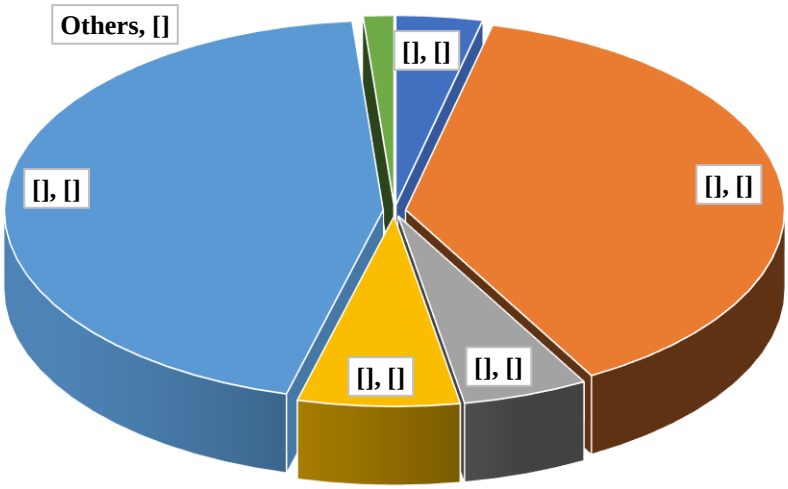

Figure 4: Premenstrual syndrome symptoms.

Among the symptoms suggestive of RTIs, lower abdominal pain was more prevalent (57.5%) among the patients. The other symptoms observed were vaginal discharge (55.6%), dysmenorrhea (54%), backache (49.4%), heavy bleeding (20.3%), vulvovaginal itching (13.8%), malodorous smell (11.4%), burning micturition (10.4%), amenorrhea (10.3%), dyspareunia (7.5%), between menses bleeding (4.8%). genital ulcer (4.4%), fever (2.4%) and inguinal swelling (2%). These symptoms suggest a higher risk of reproductive tract infections among the subjects (Table 6).

DISCUSSION

Vaginal infection is an important women's health problem associated with negative impacts on sexual and family lives and has a tendency of increasing prevalence worldwide. Genital hygiene has a key role in preventing genital infections. Early recognition of vaginal infections, initiating appropriate treatment and taking necessary precautions were essential in protecting and improving women's health.[5]

The present prospective, observational study was undertaken among women with the aim to study the menstrual hygiene practices and reproductive tract infections in rural population. Our study included all women in the age group 18-45 years, whereas majority studies done previously on menstrual problems have been confined to adolescents. Among the overall study population, half of the patients (50.9%) belonged to the age group 36-45 years. Almost two-thirds of the patients (74.5%) were illiterates, whereas 25.5% were literates.

Study done by Hamed found that 54% of women were facing the symptom of abnormal vaginal discharge, whereas our study showed that 72.6% of women experienced the same.[5] Our study showed that 38.7% and 9.4% of women were suffering with cervicitis and vaginitis, which was comparable to the study done by Kamini et al where the percentages were 9.54% and 12.14%.[8] PID was reported as 8.5% which was comparable to the study done by Vasireddy et al in Andhra Pradesh where it was found to be 2.5%.[9]

Based on the above findings, the study was extended among the study population in rural areas of Andole Mandal, Telangana. In current study, maximum women belonged to the age group of 26-35 years. Correct information and education regarding menstruation and reproductive health was still a big challenge in India and most of the developing countries. Overall 65% of the women were illiterate which was really an issue of concern. In the current study 29% of women were using sanitary napkins and 49% of them were using reusable cloth, while study conducted by Palak et al found that 53.7% of women were using sanitary napkin and study conducted by Barthakur et al.[10,11] 52.5% used sanitary napkins and only 35.7% of them were cloth users. In our study the main reasons of women not using sanitary napkins included affordability, difficult to dispose, shyness, unavailability and inconvenience.

In the study done by Tegegne et al reasons for not using sanitary napkins included lack of money, feeling ashamed to buy from shops, unavailability and some of them didn't know how to use them.[12] Majority 76.2% of women had regular menstrual cycle (28-35 days) which was comparable with the study by Priya et al.[6] More than half of the women 62.1% have normal menstrual flow and 15.8% women have excessive menstrual flow. Most of the women 72.3% were unaware of menstruation before attaining menarche. This finding was comparable with a study done by Dasgupta et al.[13] They found that 67.5% of girls were aware of menstruation before attaining menarche.

This study showed that the changing time of soaked absorbent was satisfactory (twice or more in a day) in majority of the women (64.5%) during menstruation and dangerously 35.5% of women changed only once a day. Similar study findings were obtained by Priya et al.[6] In the present study 55.2% of the subjects disposed their used absorbent by burning, 22.8% by pit toilet, 8.6% by refuse bin, 1.4% of them thrown indiscriminately and 12% by flush in toilet which may lead to clogging in the toilet sanitary system that can lead to operational and maintenance cost and that could lead to public health burden. In this present study the women who practiced cleaning of external genitalia ≤2 times per day was 52.5% and ≥2 times per day was 47.5% which was comparable with the study done by Fakhri et al in which 19.7% always or occasionally avoided washing their genitals after urinating.[14]

Our study noted that 87.7% of women were restricted to worship during menstruation which was similar to the study done by Mudey et al.[15] Food taboos were common during menstruation and 90.7% of the women were restricted to touch the stored food. Among cloth users 99% women used soap and water for cleaning their reusable cloths which was comparable with the study done by Sharanya, Barman et al reported that 81% and 69.8% respectively cleaned with soap and water.[16,17] According to the study done by Barthakur et al.[11] 30.3% women didn't dry the clothes under sunlight unlike our study, in which only 27% women dried the clothes under sunlight.

It was observed that lower abdominal pain was the most common response of women as complaint during menstruation (52.8%), followed by backache (45.2%) and mood swings (8.2%) which was compared to the study done by Shoor where 63.1% of girls suffered from premenstrual syndrome and pain abdomen was the most common response of school girls as complaint during menstruation (40%), followed by backache (26.1%) and irritability (17.3%).[18]

The findings of our study can be generalized and applied to all the rural women of India with similar socioeconomic and cultural background. Women need to be educated about MHM and significance of menstruation and use of satisfactory absorbent material so as to enable them to lead a healthy reproductive life.

CONCLUSION

In the health status of women in the reproductive age group, RTIs are known to pose a serious and continuing threat, which has become a silent epidemic that devastates women's life, is closely interrelated with poor menstrual hygiene. The lack of awareness keeps them from revealing the various symptoms related to RTIs, which will only add on the burden of complications. Our study highlights the need to provide accurate and adequate information about hygienic practices to be followed during menstruation, so as to enable them to lead a healthy reproductive life. The provision of pads (or) their increased accessibility will not give a complete solution for menstrual related problems (or) genito-urinary illness. In addition to that, more emphasize has to be given on adequate changing times of soaked absorbent, adequate number of times of cleaning the external genitalia, sanitary material used for cleaning purpose and method of disposal of used menstrual absorbent among women in this area. Poor knowledge and awareness regarding menstruation can be due to low level of education. Hence, appropriate education on reproductive health and hygiene should be given by the health care workers as well as through various government awareness programs. Proper menstrual hygiene and correct perceptions can protect the women from reproductive health issues. They should be aware about its effect on their forthcoming reproductive health. The information passed on to an adolescent girl by a mother is very crucial as a physically and mentally healthy girl can become a healthy adult female in her future life.

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