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Original Research Article

Socio demographic factors to assess leucorrhoea in married women of reproductive age group in an urban slum community

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ABSTRACT

Background: Reproductive health is a critical part of general health and reproductive tract infections create a major health problem in developing nations. Leucorrhoea is a common but difficult condition to treat due to its uncertain aetiology. A variety of factors put women at risk of these infections and socio demographic factors play a substantial role. The purpose of the study was to find the prevalence of leucorrhoea and socio demographic risk factors associated with it.
Methods: A community based cross-sectional study of 350 women aged between 18-49 years residing in an urban slum of Mumbai, having white discharge for more than 2 weeks. Systematic random sampling used. Statistical analysis of the significance of association of different socio demographic variables was done.
Results: The prevalence of leucorrhoea was found to be 66.9%. It was found to be 48% in women aged 23-32 years with predominance amongst the Muslim population (i.e.,74%) and those belonging to Socio-economic class 2 had a higher proportion (i.e.,74.4%). Education had miser influence on leucorrhoea.
Conclusions: Routine screening and periodic surveys to detect the pattern of discharge are needed to understand the common problem of leucorrhoea and help initiate appropriate medical treatment and personal hygiene.

Keywords: Leucorrhoea, Socio demographic factors, Abnormal vaginal discharge

INTRODUCTION

Women's reproductive health is one of the most neglected things in our society despite of it being an integral part of general health. Some have little or no control over their sexual lives and childbearing, while others engage in a behaviour that puts both them and their partners at risk, and some do not have access to the right kind of information and services. Reproductive tract infections (RTI) create major health, social, and economic problems in developing countries. They are associated with adverse health outcomes such as infertility, intrauterine growth retardation, premature labour, and increased vulnerability to HIV/AIDS. Prevalence of sexually transmitted infections (STI) is significantly higher among women than among men in developing countries. The restricted ability of women in developing countries to negotiate sexual relationships is considered a major factor, thus, increasing the rates of STIs. Even though there are no studies describing the association of gender disadvantage with RTIs from India, gender influences the control men and women have over the determinants of their health, access to resources and treatment in society and their economic position and social status.

In India, reproductive health for a woman is of utmost importance. Various studies conducted in different parts of the country revealed a prevalence of reproductive tract infections varying from 19 to 71%. A variety of factors that put women at risk of reproductive tract infection

were socio-economic, demographic, sexual, medical, behavioural practices, personal hygiene behaviour. These have not been adequately explored in India. Vaginal discharge or leucorrhoea (Safed Paani in local language) is a physiological discharge which changes with the menstrual cycle. It is usually sticky and thick for most of the cycle, but becomes clear, wet, and stretchy for a short period around the time of ovulation.[1] Abnormal vaginal discharge is characterized by a change of colour, consistency, volume, or odour, and may be associated with symptoms such as itch, soreness, dysuria, pelvic pain or intermenstrual or post-coital bleeding. It is the most common complaint encountered everyday by both gynaecologists as well as the general practitioners, among women in the reproductive age group.

Objectives

The present study was undertaken with the objective of assessing the magnitude of abnormal (pathological) white discharge in married women between the reproductive age group of 18-49 years in an urban slum community and to study the related socio demographic risk factors such as the age, religion, education, occupation, type of family, socioeconomic status, marital status, and personal hygiene to reduce morbidity in them.

METHODS

This was a community based cross-sectional epidemiological study conducted in married women of age group 18- 49 years, who were having complaints of white discharge for more than 2 weeks. The study period was from January 2019 to December 2019. It was conducted in an urban slum area, which is a field practice area of a medical college in the metropolitan city of Mumbai. The total population of study area was 92,596 (as per Census 2011) out of which the slum dwelling area had a population of 86,466. Systematic sampling with random start was used for the present study. Based upon the total number of households of 13,975 and the sample size decided as 350, every 48th house was inquired of women fitting in the study criteria

Inclusion criteria

Inclusion criteria for current study were; married women between age group 18-49 years, women who were having complaints of white discharge for >2 weeks and women who were willing to participate in the study and gave consent.

Exclusion criteria

Exclusion criteria for current study were; women who were not willing to participate in the study, women who were suffering from discharge other than white discharge, that is bloody or brown discharge, cloudy or yellow discharge, frothy yellowish green discharge with a foul smell, and pink discharge and women who were suffering from severe medical or surgical conditions of the genitourinary system like endometriosis, prolapsed uterus, pelvic inflammatory disease, cervical cancer, ovarian cancer, and uterine cancer.

Sampling size and sampling technique

With z of 1.96 and precision of 0.05, using prevalence of pathological white discharge of 28.7% among women of reproductive age-group, using below mentioned formula, the sample size calculated was 314.44.[2]

$$n = p(1-p) \times (Z \div E)2$$

Where; Z: z-statistics for desired level of confidence (i.e., 0.05) (1.96 for 95% CI), p: The estimate of Expected proportion with the variable of interest in the population (0.287) and E: The precision level (0.05). Thus, rounding off the calculated sample size, it was planned to enrol minimum of 350 Subjects for the present study.

RESULTS

In this study the prevalence of leucorrhoea was found to be 66.9% (Figure 1).

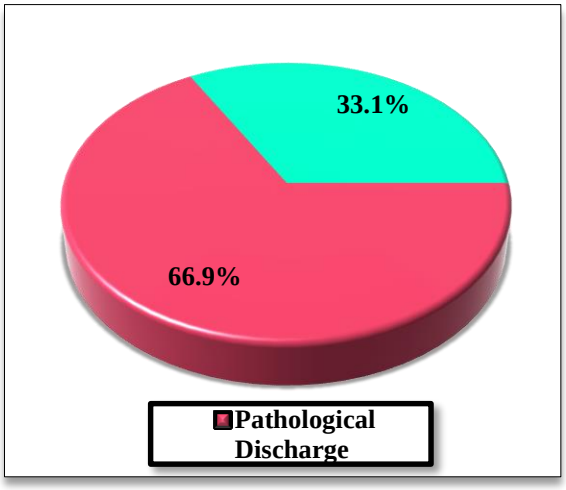

Figure 1: Type of discharge among the subjects.

The relevant socio demographic variables were studied among the enrolled Subjects based on their complaints of white discharge. It was observed that 84 Subjects each belonged to age group of 23 to 27 years and 28 to 32 years respectively, accounting for 48% together, accounted to the inclusion criteria of enrolling subjects with the longest marriage in the selected household as well as higher proportion of enrolled women belonging to nuclear family-indicative of young married couples being migrated to this slum (Table 1, Figure 2).

Religion wise, 259 (74.0%) were Muslims and 89 (25.4%) were Hindus. This was due to the demographic characteristics of the study area, which has been for the

last 5 decades, populated by Muslims from southern states of Tamil Nadu and Andhra Pradesh.

Table 1: Distribution among subjects of various socioeconomic factors.

Variables		N	%
Age (years)	18 to 22	57	16.3
	23 to 27	84	24.0
	28 to 32	84	24.0
	33 to 37	58	16.6
	38 to 42	46	13.1
	43 to 47	21	6.0
	Total	350	100
Religion	Muslim	259	74.0
	Hindu	89	25.4
	Others	2	0.6
	Total	350	100
Education	Uneducated	43	12.3
	Primary	42	12.0
	Secondary	183	52.3
	Higher secondary	67	19.1
	Graduate	15	4.3
	Total	350	100
Occupational status	Subject in occupation	85	24.3
	Husband in occupation	324	92.6
Type of family	Nuclear	205	58.6
	Joint	145	41.4
	Total	350	100
Socio-economic class	Class I	16	4.6
	Class II	43	12.3
	Class III	95	27.1
	Class IV	123	35.1
	Class V	73	20.9
	Total	350	100

Education showed that most subjects had studied up to secondary level (183 (52.3%) while the proportion of graduates were a handful (4.3% (15 subjects)). The level of uneducated subjects was 12.3% in the community. This was better than the literacy of 64.6% for India stated in the State of World Population 2009 report. Despite of better education, 256 (75.7%) subjects were not working in any occupation. This could be attributed to the poor economic opportunities available in the vicinity of this resettled slum; because of women belonging to conservative nature linked to their religion. This also could be attributed to higher proportion, 205 (58.6%) subjects residing in a nuclear family with lower opportunity to leave family and go for a job.

Socio-economic class based on B.G. Prasad classification showed almost 83.0% enrolled subjects belonged to Class III or lower, with 73 subjects (20.9%) in class V (lower lower). This despite the fact 324 partner husbands of 350 enrolled subjects were in some occupation or the other-possibly as most husbands were employed in pity unskilled work.[3]

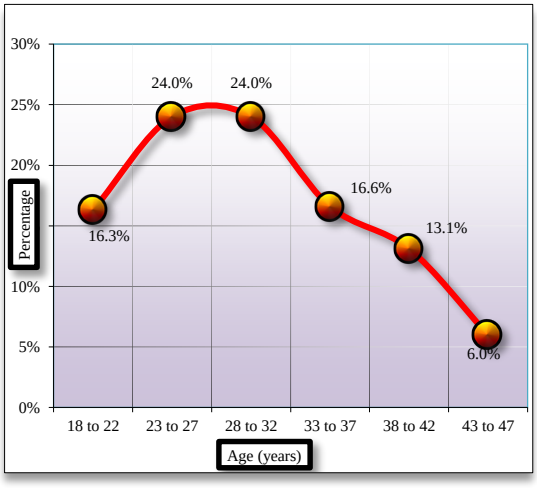

Figure 2: Age distribution among subjects.

Table 2: Distribution of among Subjects of various marital status variables.

Variables		N	%
Age at marriage (years)	<18	80	22.9
	18 to 21	194	55.4
	>21	76	21.7
	Total	350	100
Marital status	Living with husband	326	93.1
	Separated	4	1.1
	Divorced	8	2.3
	Died	12	3.4
	Total	350	100

The inclusion criteria emphasized married status among enrolled subjects, but only 326 (93.1%) of them were staying with husband (Table 2). Subjects married between age of 18 to 21 years were 194 (55.4%) and a heartening 80 subjects (22.9%) had married before the legal age of 18 years, together accounting for about 78% of total 350 subjects. This early marriage, in turn could have led to have effect on their physical and genital health. Subjects separated from their husband were 4 (1.1%), divorced 8 (2.3%) and widowed 12 (3.4%).

In terms of personal hygiene, as has been tradition in the community, which had been repeatedly objected to in view of sufficient water supply and reasonable purchasing power and its repercussion in terms of helminth infestation, skin pathologies, transmission of faeco-oral disease and deterioration of general health, the practice of taking bath on alternate days was seen in 106 (30.3%) subjects (Table 3). This could have an impact on genital hygiene and health. Favourably, 221 (63.1%) were having bath once a day and few others were having more than once a day. Majority, 327 (93.4%) were washing external genitalia after urination and 231 (66.0%) subjects were

changing undergarments once a day, these two findings were favourable for good genital hygiene and would prevent external and internal genital infection.

Table 3: Distribution among the subjects of personal hygiene practices.

Variables		N	%
Frequency of taking bath	Alternate day	106	30.3
	Once a day	221	63.1
	Twice a day	21	6.0
	2 to 3 times/day	1	0.3
	4 to 5 times/day	1	0.3
	Total	350	100
Maximum frequency of washing external genitalia	1	7	2.0
	2	6	1.7
	3	4	1.1
	4	3	0.9
	6	3	0.9
	After every urination	327	93.4
	Total	350	100
Frequency of changing undergarments	1	231	66.0
	2	26	7.4
	2 to 3	2	0.6
	Doesn't use	91	26
	Total	350	100

DISCUSSION

The study was conducted in 350 women who were residing in an urban slum, in the reproductive age group of 18 to 49 years and married. The total enrolled subjects were assessed for various socio- economic factors. On age wise distribution 84 cases each belonged to the age groups 23 to 27 years and 28 to 32 years respectively accounting for 48% together. These age groups lying within the reproductive range needed attention for white discharge associated complaints. This was like the study by Basanta Kumar Pati, et al in Bhubaneshwar where the peak age group for vaginal infections was 26-35 years (44%).[4] While in the study conducted by Varsha Chaudhary et al in Northern India the discharge was found to increase with increase in age and was more among women aged 43-49 years (59.1%).[5]

Based on religion and considering the demographic characteristics of study area, which for last 5 decades was populated by Muslims from southern states of Tamil Nadu and Andhra Pradesh, 259 (74.0%) were Muslims and 89 (25.4%) were Hindus. The study at Mansoura University regarding awareness of women regarding vaginal discharge, majority of Muslim women (97.6%) had complaints of discharge.[6] While the study conducted by Guntoory et al 95% of the respondents were Hindus.[7] Most subjects in our study had completed education up to secondary level (52.3%) while the proportion of graduates were merely 4.3%. The community had 12.3% of uneducated subjects. In the study by Varsha Chaudhary, it was found, the discharge was more among illiterate (60.1%) women.[5] In a study of the causes of vaginal discharge among sexually active females of 20-45 years, conducted in Haryana it appeared that the less educated patients had less practice of hygiene etc hence developed the illness.[8] The higher the female literacy the lower was the prevalence of RTI as quoted in the study conducted in Kottayam, Kerala, by Ramesh et al. [9]

Despite better education, 75.7% subjects were not working in any occupation which could be attributed to poor economic opportunities in the vicinity of this resettled slum. In a study in tertiary care hospital of Northern India it showed that 91.8% housewives were having more white discharge complaints compared to the rest, showing a similarity with the present study.[5] A study conducted in primary care clinic in a university in Riyadh, Saudi Arabia, on vaginal discharge too showed lesser population of women employed.[10] While in the study by Kaur et al in a slum dwelling South Asian community in Delhi showed about 70% of the respondents who were working were suffering from leucorrhoea.[11] Our study had a higher proportion, 58.6% of Subjects residing in a nuclear family. While a study in UHTC area of a tertiary hospital in Kerala showed the proportion of females living in a nuclear family had lesser complaints than those living in a joint family. [9] The RTI/STI study conducted in Mumbai urban slum by Bote et al also showed that 74.6% of their subjects belonged to a nuclear family and 23% in joint family.[12]

Based on B.G. Prasad classification of socio-economic class, almost 83% subjects belonged to class III or lower with 20.9% in class V (lower).[3] Since profitable job opportunities were less in the vicinity this finding was not astounding. While 75.4% were housewives, 3.7% were Zari workers among the subjects enrolled. In the study by Indira Guntoory on prevalence and sociodemographic correlates of vaginal discharge among married women of reproductive age group 70% women belonged to middle and lower middle classes.[7] A study on prevalence of leucorrhoea by Devi et al also showed maximum incidence of vaginal discharge in 61% of women who belonged to low socio-economic and 39% of women belonged to high socio-economic class.[13] In our study all enrolled Subjects were married (as per the inclusion criteria), out of which 55.4% had married between age of 18 to 21 years and unfortunately 22.9% before the legal age of 18 years, together accounting for about 78% of total 350 Subjects. This early marriage was exposing the younger females to early sexual activity, conceptions, and abortions consequences of which affected their physical and genital health. Out of the 350 subjects, 93.1% were living with their husbands while 1.1% were separated, 2.3% divorced and 3.4% widowed. In the study by Indira Guntoory et al 52% of the respondents who were married at less than 18 years of age showed more prevalence of

discharge and it was also found that 92% of the women with complaints of white discharge were living with their husband which was similar to the present study conducted.[7] Early age of marriage could lead to early sexual activities and trauma to the cervix, making it fertile for infections. This was proven in, Reproductive tract infections: a self-reported community-based study in Kottayam where mean age of marriage was found to be 22.78 years and prevalence was 16.9% higher in those who got married early.[9] In the Riyadh study Al Quaiz et al it was found that 93% of the married women had leucorrhoea complaints.[10] In the study, spectrum of vaginal discharge by Sivaranjini 89.5% of the women were married and living with husband, 5.5% were widows, 3% were separated from their husbands and 2% of them were unmarried.[14] Bacterial vaginosis was more prevalent in 68.4% of the married women who participated in the study conducted in the southwest region of Cameroon.[15]

The water supply in the community was sufficient and the purchasing ability was reasonable (observational data). Despite this, the practice of taking bath on alternate days was seen in 30.3% subjects which impacted their genital hygiene and sexual health. Fortunately, 63.1% were having bath once a day or few others were having more than once a day. Washing of external genitalia after urination was a practice followed by 93.4% subjects and a majority of 66% were in the habit of changing undergarments once a day. These two findings were favourable for good genital hygiene and prevention of external and internal genital infections. In the study conducted in Northern India, 93.8% women changed their undergarments once daily and three fourth women (74.5%) took bath daily during menstruation, while majority of the women (91.51 %) reported that they had to change their underwear because of the discharge.[5] Bathing daily, compared with less than daily, was also associated with increased prevalence of Bacterial Vaginosis and the frequency of bathing was positively associated with it, underwear material was not associated with it as per the study on personal hygienic behaviours and bacterial vaginosis by Sivaranjini et al.[14,15] More than one-third of the women (38.2%) reported that they had to change their underwear at least once a day because of the volume of discharge as reported in the study by Patel et al in a South Asian community.[16]

Limitations

Limitation of current study was asymptomatic women could not be involved in the study for diagnosis of white discharge due to limitation of time frame of study and required resources.

CONCLUSION

The study was conducted among women of reproductive age group 18 to 49 years living in an urban slum community of Mumbai, suffering from the complaints of white discharge. The purpose of the study was to find the prevalence of pathological white discharge and the socio demographic factors associated with it. The study included 350 married women who were assessed based on socioeconomic status, marital status, and personal hygiene. The prevalence of white discharge was found to be 66.9%. The enrolled women were called to the Urban Health centre and were provided treatment as well as counselled at the STI clinic attached with the centre. An informed consent (in the language best understood by them) was taken for conducting the study as well as examination. A syndromic approach of management (provided by NACO) was given to those suffering from pathological discharge and symptomatic treatment to those suffering from non- pathological discharge.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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