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Original Research Article

Prevalence and sociodemographic correlates of vaginal discharge among married women of reproductive age group at a teaching hospital

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ABSTRACT

Background: Vaginal discharge is the commonest reproductive tract infection among rural women in many community based studies in India. Recent evidence shows that the association between vaginal discharge and reproductive tract infection is weak. Psychosocial factors also contribute to vaginal discharge. So, the problem of vaginal discharge can be best understood not only in the biomedical perspective but also in the socio-cultural perspective. Proper understanding of this problem helps in initiating appropriate medical education programmes and framing health policies. This study is aimed to determine the prevalence of vaginal discharge, the socio demographic factors associated with it, women's perceptions of vaginal discharge and their treatment seeking behaviour.
Methods: This is a hospital based cross sectional study conducted in the outpatient department of Obstetrics and Gynaecology, MIMS, Nellimarla, Vizianagaram district of Andhra Pradesh. Women with the complaint of vaginal discharge were interviewed with a pretested questionnaire and sociodemographic details, details of obstetric history and contraceptive practices, personal and menstrual hygiene were noted. Statistical analysis of the significance of association of different variables was done.
Results: The prevalence of vaginal discharge was found to be 28.99%. Its prevalence was found to be more in the younger age group, illiterate, women belonging to lower socioeconomic status and those who were married at less than 18 years of age. History of induced abortion, home deliveries, permanent method of sterilization, availability of toilet facility at home were significantly associated with vaginal discharge. Lower abdominal pain, dysuria and backache were the most prevalent co-morbidities with vaginal discharge.
Conclusions: Improvement of the literacy rate, economic status and women's empowerment will help to mitigate the problem of vaginal discharge.

Keywords: Prevalence, Reproductive age, Sociodemographic correlates, Vaginal discharge

INTRODUCTION

Health is multidimensional. Reproductive health has gained importance recently as reproductive tract infections if not treated cause morbidity such as recurrent urinary tract infections, pain during coitus, menstrual irregularities, infertility, chronic pelvic pain, ectopic pregnancy, abortion, stillbirth, neonatal deaths, transmission of HIV infection and even maternal mortality.[1]Though reproductive tract infections affect both men and women, women tend to suffer disproportionately more than men. The commonest reproductive tract infection among women is vaginal discharge. It is found to be very common in South Asian women. Almost every fourth woman in gynecological out patient department has the complaint of vaginal discharge.[2] Several community based studies in India have shown that vaginal discharge was the commonest

symptom suggestive of gynaecological morbidity especially in the rural women.[3,4] Women are the silent sufferers of this problem. It not only affects her routine physical and social activities but also her mental health and all aspects of a women's life.[5] It restricts her domestic and occupational work thus resulting in social and economic problems.

Vaginal discharge is referred to as safed panni or swed pradhar in North India and as thella bhatta in the local language. The medical term used to describe this is "leucorrhoea". The term "leucorrhoea" is strictly defined as an excessive normal vaginal discharge.[6] Secretions from the endometrial glands, cervical glands and vagina contribute to this discharge. This may be physiological or pathological. An increase in the normal vaginal secretions develops physiologically at puberty, during pregnancy, at ovulation, sexual arousal and premenstrual phase of menstrual cycle. Pathological discharges may be infectious or noninfectious. Infectious discharge may be due to specific infections such as Gonorrhoea, Trichomoniasis, Chlamydiasis which are sexually transmitted and disturbances in the normal vaginal flora cause Moniliasis and Bacterial vaginosis. Some amount of vaginal discharge is perceived by many women as normal. Women resort to medical help when it is excessive or have fear of contracting a sexually transmitted infection or cancer. The perceived severity of the problem varies from person to person.

The excessive nature of these secretions is evident from either persistent vulvar moistness or staining of undergarments. The secretions due to noninfectious causes are nonpurulent and nonoffensive, nonirritant and never cause itching.[6] The problem of vaginal discharge contributes to a moderate degree of anxiety to both men and women in our society. This problem is found to have social implications as well.

Studies from Bangladesh and India have shown that only 30 and 60% of women with vaginal discharge had laboratory evidence of infection.[7,8] In the remaining no infectious cause was detected. Recent studies by Vikram Patel et al have shown that there is a strong association between psychosocial adversity and vaginal discharge in South Asian women.[9] Another study done in North India has shown that women who experienced domestic violence had greater odds of reporting symptoms of gynaecological morbidity.[10] According to the Ayurvedic concept of health, genital secretions are considered to be a highly purified form of dhatu or bodily substance and loss of this precious substance is thought to result in progressive weakness or even death.[11,12] Women also complain of multiple vague somatic symptoms such as leg cramps, weakness of body, burning of hands and feet, backache and giddiness. Many South Asian women attribute these symptoms to the loss of precious genital fluid from the body. Leucorrhoea was shown to represent a culturally shaped 'bodily idiom of distress' where the concern of loss of genital secretions reflect wider issues of stress.[13] So the problem of vaginal discharge can be best understood not only in the biomedical context but also with the sociocultural perspective.[14] The cultural perspective varies from country to country and from place to place. All communities have their concept of health, as part of their culture. Proper understanding of the local beliefs, perceptions and cultural practices is important for planning proper health education programmes, health services, in treating women seeking treatment for nonpathological vaginal discharge and in providing access to health services as a part of global health strategy. As there are no similar studies in this region, this study was undertaken to assess the magnitude of the problem of vaginal discharge in the women of reproductive age group and the sociodemographic factors associated with it, causes and effect of vaginal discharge as felt by the women, other associated gynaecological morbidities and their treatment seeking behaviour.

METHODS

This is a hospital based cross sectional study. The present study was conducted in the Gynaecological out patient department of Obstetrics and Gynaecology, MIMS, Nellimarla, Andhra Pradesh after obtaining approval of the institutional ethics committee. This is a teaching hospital catering services to mostly the rural women of Vizianagaram district. The study was conducted from April 2017 to July 2017.

Sample size- A sample size of 288 was calculated using the formula $Z^2 \times P^2 \div E^2$ where Z=1.96, P is the prevalence of vaginal discharge in the previous Indian study [15] taken as 25%, E is the margin of error taken as 20% of P. Double the number that is 576 women were taken for increasing the accuracy of the results.

Type of sample- the respondents were women of reproductive age group of 15 to 49 years attending the Gynaec OPD.

Inclusion criteria

All married women of reproductive age group.

Exclusion criteria

- pregnant and lactating women
- unmarried women
- those who have undergone hysterectomy
- those who did not give consent.

The purpose of the study was explained to the patient and those who gave consent were interviewed. A pretested questionnaire was used to interview women with vaginal discharge after ensuring privacy and confidentiality to the patient. Information regarding socio demographic details, menstrual history, details of menstrual hygiene, child birth and contraception, details of vaginal discharge, its causes and effects as felt by the patient, other associated

morbidities, questions related to treatment seeking behaviour were collected and all the details were documented. The socioeconomic status was noted based on modified B.G Prasad scale.[16]

Statistical analysis

The data so collected was tabulated on XL sheet and the data was analyzed by the software SPSS 16 version using chi-square test. P value was calculated to assess the association between the variables tested. A P value of less than 0.05 was taken as significant.

RESULTS

A total of 576 women were studied.167 women complained of vaginal discharge. So, the prevalence of vaginal discharge was found to be 28.99%. 95% of the respondents were Hindus.

Table 1: Association of vaginal discharge with sociodemographic factors.

Socio-demographic variables	No. with vaginal discharge n=167 (% prevalence)	Total no. screened n=576 (%)	Chi square, P value
Age group			
15-24	33 (54.09)	60 (10.41)	23.92, 0.000*
25-34	72 (26.56)	27 (47.04)	
35-44	52 (28.26)	184 (31.00)	
45-54	10 (16.66)	61 (10.5)	
Marital status			
Married	145 (27.3)	531 (92.18)	24.21, 0.000*
Widow	11 (39.28)	28 (4.86)	
Divorcee	11 (64.70)	17 (2.95)	
Educational status			
Nil	85 (34.83)	244 (42.36)	11.64 0.003*
Primary school, middle school	40 (31.49)	127 (22.04)	
High school and above	42 (20.48)	205 (35.59)	
Occupation			
Home maker	61 (20.53)	297 (51.56)	23.63 0.000*
Labourer	83 (40.48)	205 (35.59)	
Skilled work	23 (31.08)	74 (12.84)	
Socioeconomic status			
Upper class	02 (18.18)	11 (1.9)	21.31 0.000*
Upper middle class	15 (27.77)	54 (9.3)	
Middle class	23 (16.54)	139 (24.13)	
Lower middle class	82 (30.71)	267 (46.35)	
Lower class	45 (42.85)	105 (18.22)	

*significant

74% of the respondents were in the age group of 25-44 years, 92% were living with their husband, 42% were illiterate, 70% belonged to middle and lower middle classes and 50% were home makers (Table 1). The association of vaginal discharge with all these variables was significant. The educational status of husband of the respondent in 71% of women was nil or upto middle school.

Table 2: Distribution of respondents based on factors related to husband.

Variable	No. with discharge n=167 (% prevalence)	Total no. studied n=576 (%)	Chi square, P value
Educational status of husband			
Nil	76 (34.86)	218 (37.84)	24.6 0.000*
Primary school, middle school	43 (41.74)	103 (17.88)	
High school and above	48 (18.82)	255 (44.27)	
History of habits			
Nil	80 (24.61)	325 (56.42)	13.35 0.001*
Drinking and or smoking	83 (35.02)	237 (41.14)	
Promiscuity	4 (80)	5 (0.86)	
Type of family			
Joint	37 (32.45)	114 (19.79)	0.828 0.363
Nuclear	130 (28.13)	462 (80.20)	

*significant

Vaginal discharge was found to be very high among women whose husband had a history of sexual promiscuity or drinking (Table 2). There was significant association with both these variables.

Table 3: Distribution of respondents based on parity and family planning practices.

Variable	No. with discharge n=167 (% prevalence)	Total no. studied n=576 (%)	Chi square, P value
Age at marriage			
Less than 18 yrs	95 (38.77)	245 (52.25)	19.82, 0.000*
At or more than 18	72 (21.75)	331 (47.74)	
History of abortions			
Yes	21 (12.57)	89 (15.45)	1.49, 0.222
No	146 (29.97)	487 (84.54)	
Induced abortions	16 (9.58)	54 (9.3)	3.89 0.048*
Spontaneous	5 (2.99)	35 (6.07)	
Parity			
Nullipara	14 (35.00)	40 (6.94)	5.88 0.117
1	18 (25.71)	70 (12.15)	
2	112 (31.54)	355 (61.63)	
More than 2	23 (20.72)	111 (19.27)	
Place of delivery			
Home	40 (57.14)	70 (12.15)	33.07 0.000*
Institutional	107 (23.99)	446 (77.43)	
Both	6 (30)	20 (3.47)	
Nil	14 (35)	40 (6.94)	

*significant

52% of the respondents were married at less than 18 years of age.15% had a history of abortion with a high prevalence of vaginal discharge among women who had a history of induced abortion. 61% of women had a parity of two and the prevalence of vaginal discharge was found to be high in women who had home deliveries (Table 3). 90% of respondents never used any temporary method of contraception and almost 85% of respondents underwent tubectomy (Table 4).

Table 4: Distribution of respondents based on contraceptive practices.

Variable	No.with discharge n=167 (% prevalence)	Total no. studied n=576 (%)	Chi square, P value
Temporary method			
OC Pills	2 (14.28)	14 (2.43)	5.09, 0.165
Barrier	1 (20)	5 (0.86)	
IUCD	6 (16.21)	37 (6.42)	
Nil	158 (30.38)	520 (90.27)	
Permanent method			
Tubectomy	145 (29.35)	494 (85.76)	15.54, 0.016*
Vasectomy	3 (50)	6 (1.04)	
Nil	19 (25)	76 (13.19)	

*significant

Regarding menstrual hygiene, almost 100% of women took bath daily during periods and none of them have coitus during periods. 82% of women use washed clothes during periods. Only 10% reuse the washed clothes. Usage of sanitary pads or home made cloth pads had no significant association with vaginal discharge (Table 5). There was significant association of vaginal discharge with the availability of toilet facility (Table 5).

Table 5: Distribution of respondents based on personal and menstrual hygiene.

Variable	No.with discharge n=167 (% prevalence)	Total no. studied n=576 (%)	Chi square, P value
Type of toilet			
Open air defeacation	84 (40.77)	206 (35.76)	21.63, 0.000*
Indian/western commode	83 (22.43)	370 (61.63)	
Usage of pads			
Sanitary Pads	28 (25.45)	110 (19.09)	3.31, 0.507
Cloth pads	138 (29.87)	462 (80.2)	
Both	1 (25)	4 (0.69)	

*significant

The discharge was white in colour in 90%, scanty in 58%, off and on in 62%, odourless in 64%, not associated with pruritus in 72% of the respondents. Almost equal proportion of women had thick and curdy (49%) and thin and watery (50%) discharge. 40% had recurrent episodes in the past. 76% felt that there is no relation to periods. 86% of respondents with vaginal discharge had coexisting morbidities and there was a significant association with itching in external genitalia, lower abdominal pain, dysuria and backache. 88% would consult a qualified doctor, 7% ANM, 3% traditional healer and 2% used home remedies like Aloe vera juice with sugar for treatment.

Table 6: Distribution of respondents based on morbidity associated with vaginal discharge.

Morbidity	No.with discharge n=167 (% prevalence)	Total no. studied n=576 (%)	Chi square, P value
Itching in genital region	46 (27.54)	75 (13.02)	6.06, 0.014*
Lower abdominal pain	132 (79.04)	242 (42.01)	20.57, 0.000*
Dysuria	117 (70.05)	133 (23.09)	68.03, 0.000*
Backache	74 (44.31)	112 (19.44)	15.54, 0.000*
Menstrual disorders	22 (13.17)	67 (11.63)	0.93, 0.334

*significant

DISCUSSION

The prevalence rate of vaginal discharge in our study correlates very closely with the study done by Singh AJ et al (29%) and Kulkarni RN et al [17] (27.47%).[4,17] The prevalence rate is higher than the previous community based studies of Bang RA et al (13.5%) and Mani G et al (23.7%) as this is a hospital based study.[3,18]

Table 7: Causes of vaginal discharge as felt by the respondent.

Cause	No. of women (n=167)	Percentage
Heat in the body	85	50.89
Excessive physical work	44	26.34
Tubectomy	9	5.38
Don't know	8	4.79
Husband	6	3.59
Occupation	2	1.19
Food induced	3	1.79
Previous delivery	5	2.99
Dirty clothes	5	2.99
Copper T	NIL	NIL

The prevalence rate is higher in the younger age group of 15-24 years in present study similar to that of Patel V et al and Geetha Mani et al.[9] It may probably be due to younger age at marriage, the immature cervical epithelium is more susceptible to the ascending infections, lack of usage of contraceptive methods, early child bearing and obstetric morbidity related to it. However, study done by Chaudhary V et al reported a

higher prevalence among married women who were more than 40 years of age.[15] The prevalence of vaginal discharge was more in widows and divorced women than women living with spouse in our study. This is probably due to depression and psychosocial distress which is described as the medically unexplained component of white discharge.[14] There is a decrease in the prevalence of vaginal discharge with increasing educational status of the woman. A similar trend was observed by Patel V et al and Chaudhary V et al.[15,19]

Table 8: Effect of vaginal discharge as felt by the respondent.

Effect	No. of women (n=167)	Percentage
Weakness of the body	121	72.45
Leg cramps	10	5.98
Bodyaches	2	1.19
Backache	8	4.79
Urinary problems	4	2.39
Abdominal pain	6	3.59
Weight loss	4	2.39
pallor	2	1.19
Melting of bones	4	2.39
Don't know	6	3.59

Vaginal discharge was found to be more prevalent in women belonging to lower class and lower middle class. These findings are comparable with that of Kulkarni et al, Chaudhary V et al.[15,17] Poor personal and genital hygiene may be responsible for this. Women whose spouses were educated upto high school and above had lesser prevalence of vaginal discharge. There is a strong association between vaginal discharge and educational status of the husband. A significant association was also found between vaginal discharge and history of habits in the husband like drinking and sexual promiscuity. The prevalence is highest in the women whose husband had a history of sexual promiscuity. This is in consonance with the Goan study by Patel V et al.[19] It may be of infective etiology or these women may be subjected to verbal abuse, physical abuse or sexual abuse resulting in anxiety, depression and psychological distress. No significant association was found between vaginal discharge and the type of family.

The age at marriage of the women was strongly associated with vaginal discharge. Women married at less than 18 years of age had a greater prevalence of vaginal discharge. Early onset of sexual activity may predispose the immature cervical epithelium to ascending infections. Not only that, less than 10% of respondents were using temporary methods of contraception. So, these women suffer from obstetric morbidity at an early age. This is in consonance with the study of Deepa LM et al.[20] Present study did not show any association with parity which is comparable with that of Patel V et al.[19] However, Chaudhary V et al found an increase in the prevalence of vaginal discharge with increasing parity. The place of delivery was significantly associated with vaginal discharge which is in consonance with the studies of Sharma AK and Chaudhary V et al.[15,21] Women who had home deliveries had a higher prevalence of vaginal discharge probably due to unhygienic surroundings and increased risk of infections. There was no association of vaginal discharge with history of abortions. But, induced abortion was significantly associated with vaginal discharge. This is comparable with the studies of Chaudhary V et al and Sharma AK et al.[21]

The prevalence of vaginal discharge was least in the women who used Oral Contraceptive pills due to the oestrogen content and more in the women who have undergone tubectomy. This is comparable with the study by Pant B et al, Vidya R et al.[22,23] The association of vaginal discharge with permanent methods of sterilization was strong. No comment can be made on the women using barrier method as the number of women using this method is very less in present study.

A strong association was observed between vaginal discharge and the usage of toilet. Its prevalence is more in the respondents who had no toilet facility at home (open air defaecation). This is in consonance with the findings of Mani G et al.[18] This may be due to the improper cleaning of the perineum following urination and defaecation or due to the non-availability of adequate amount of clean water for cleaning. No association was noted between discharge and the usage of sanitary pads or home made cloth pads during periods in the present study but Geetha Mani et al found that the prevalence of reproductive tract infections was higher among women who used cloth or home made pads.

Nearly 40% of respondents had more than one morbidity associated with vaginal discharge. None of the women complained of ulcers or sores on external genitalia. There was a strong association of vaginal discharge with lower abdominal pain, dysuria and backache. These findings are comparable with that of Chaudhary V et al.

30% related multiple somatic symptoms to vaginal discharge. One woman related this to sewing clothes on sewing machine. Two women felt that sitting on the soil while cutting the grass causes vaginal discharge.50% of women said that they do not know what happens if their discharge is not treated. 34% felt that it would result in weakness and weight loss. 11% had fear of cancer and only 2% felt that it could be sexually transmitted. Husband was not willing to take treatment in 70% of cases. They felt that if the problem of vaginal discharge is that of a woman then why should man take the treatment.

The limitation of our study is that lab investigations were not done to rule out the infectious etiology of vaginal discharge. Deepa LM et al studied the utility of microbiological profile of rural women with symptomatic vaginal discharge.[21] They found that specific diagnosis was obtained in 89% of cases only. No specific etiology

was found in 11% of cases. In another hospital based study by Sivaranjani R et al 51.7% had infectious cause, 18% had physiological discharge and specific diagnosis could not be established in 24.2% of cases.[24] So, treating women complaining of recurrent episodes of nonpurulent, nonoffensive vaginal discharge with syndromic approach may be inappropriate. Apart from clinical examination, microbiolological tests, psychosocial evaluation should be a part of the workup of these women. It was observed by Oomman NM et al that poverty is the root cause.[25] It makes the woman feel physiologically weak. So, social and economic empowerment of women are the key areas of intervention to bring about positive change in the reproductive health of rural Indian women.[26] Improvement of education, socioeconomic status of women, increasing awareness about personal and menstrual hygiene and about the temporary methods of contraception goes a long way in ameliorating the problem of excessive vaginal discharge.

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