International Journal of Community Medicine and Public Health
Thomas EE et al. Int J Community Med Public Health. 2024 Oct;11(10):3892-3899
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: https://dx.doi.org/10.18203/2394-6040.ijcmph20242869

Original Research Article

A study on the gynecological morbidity among women in reproductive age group in a rural area in Kannur district

Enid Elizabeth Thomas[1]*, Jayasree Anandabhavan Kumaran[2]

[1]Department of Community Medicine, Kannur Medical College, Kannur, Kerala, India
[2]Department of Community Medicine, Government Medical College, Kannur, Kerala, India

Received: 07 July 2024
Accepted: 03 September 2024

***Correspondence:**
Dr. Enid Elizabeth Thomas,
E-mail: enid0989@gmail.com

ABSTRACT

Background: Concern for the health of women in poorer nations, is on the rise. Despite being more frequent than ill health during pregnancy, gynecological illnesses are often missed. These issues have a large effect on the lives of women creating discomfort and social fallout. There are only a few studies in Kerala dwelling into this subject. This was a pioneer study in Kannur looking into women's gynecological issues.
Methods: Cheruthazham Panchayat in Kannur district, serves as the field practice area for the department of community medicine at the Government Medical College in Kannur. Here a community-based descriptive research was conducted including 404 women, between June 2017 and July 2018. Relevant data was gathered utilizing a pre-tested, semi-structured questionnaire and SPSS was used for data analysis.
Results: The study population's mean age was 32.20±10.741 years. 81.7% was the prevalence of gynecological morbidity in the study. Menstruation related problems (68.1%) formed the majority of them. Gynecological morbidity was significantly associated with age at menarche, religion and education. Menstrual disorders and dysmenorrhoea also had significant associations with age at menarche, age and factors like parity, marital status, sexual activity. 30.6% of women sought treatment for their gynecological morbidity.
Conclusions: The prevalence of gynecological morbidity was very high among the study population, but the treatment seeking behaviour was very low. Education and guidance on identifying and managing these issues should be provided so as to improve their quality of life.

Keywords: Gynecological morbidity, Health seeking behaviour, Menstrual disorders, Reproductive age group

INTRODUCTION

Women worldwide suffer from various gynecological problems. In recent years, women's health problems in developing countries have been receiving increasing attention. Women's health has often been visualized as a narrow time period of pregnancy, delivery and peurperium, focusing only on physical health rather than the social and mental aspects of health.[1] The only indicator of women's health has been maternal mortality, for long, even though gynecological morbidity occurs far more frequently and has a serious impact on their lives.[2,3]

Reproductive age group is from 15 to 49 years.[4] Gynecological Morbidity is defined as any condition, disease or dysfunction of the reproductive system, which is not related to pregnancy, abortion or childbirth but it may be related to sexual behavior.[5] It includes reproductive tract infections, urinary problems, menstrual disorders, infertility, and sexual health concerns.[6]

Reproductive health problems accounts for 21.9% of the disability-adjusted life years lost by women aged 15-49 years.[7] As women usually prefer to take care of their children's and family's health than their own in a typical Indian society, their health issues are often neglected,

more so the gynecological problems.[8] Very often, women with gynecological morbidity like vaginal discharge and infertility face serious social consequences in terms of marital disharmony and discrimination.[9] Certain untreated conditions like RTI, can cause pregnancy related complications, congenital infections in infants, infertility, chronic pain and significantly increase the risk of acquiring pelvic inflammatory disease and HIV.[10]

The stigma associated with some gynecological problems, myths, misconceptions, various cultural differences and tradition, ignorance, illiteracy, poor social status, lack of decision making power and gender discrimination are major hurdles in seeking health care.[11] These further complicate and aggravate the existing disease condition and force women to suffer silently.[6] The universal access to reproductive health care was identified as a developmental goal in the 1994 International conference for population and development.[12]

Hence the present study aimed at finding the prevalence and pattern of gynecological morbidity among women in reproductive age group in the field practice area of Government Medical College, Kannur, the associated factors and their health seeking behavior.

METHODS

In the Kulappuram region of Cheruthazham Panchayat in Kannur district, which serves as the field practice area for the department of community medicine at the Government Medical College in Kannur, community-based descriptive research was conducted. The work was completed between June 2017 and July 2018.

Included were women who had lived in the research region for six months or longer and were considered permanent residents.

In the region, there were 458 women in the reproductive age range. People who were unwilling to provide information or were unavailable during the house visit were not included. 404 women in all, took part in the study, which involved a house-to-house visit. Each woman was personally interviewed utilizing a pre-tested, semi-structured questionnaire in order to gather information. The morbidities assessed in the present study were menstrual disorders, reproductive tract infection (RTI), urinary tract infection (UTI), stress urinary incontinence (SUI), urge urinary incontinence (UUI), polycystic ovarian disease (PCOD), prolapse, infertility, post hysterectomy problems and postmenopausal problems. Morbidities that occurred throughout a two-week period were taken into account for genital infections. They were measured using standard operational definitions.[6] The data was entered in Microsoft Excel 2007 spread sheet and analyzed using SPSS version 16.0 software. The descriptive statistical methods like mean, standard deviation, frequencies and proportions were used. Inferential statistics like Chi-square test, Student's t test and Fischer's exact test were used to test the significance between associated factors and gynecological morbidity. A 'p' value of less than 0.05 was taken as significant. Women who had any gynecological issues were directed to the closest medical facility for additional care. Everyone received education on sex and menstrual hygiene.

RESULTS

The study population's average age was 32.20±10.741 years. Of the 404 women who were examined, the majority (70%) were Hindu, the majority (68.8%) were married, none of them were illiterate and the majority were not working (76.2%). Of the total population, 53% were from nuclear households and 65.8% belonged to the upper middle class socioeconomic class (modified Kuppuswamy scale). The study population's average age at marriage was 21.49±3.6 years. The lowest and highest ages at marriage were 14 and 33 respectively.

Table 1: Pattern of gynecological problems faced by the study population (n=404) (not mutually exclusive).

Gynecological morbidity	Frequency	%
Menstruation related problems#	275	68.1
Infections	182	45.0
Incontinence	43	10.6
PCOD	17	4.2
Infertility	14	3.5
Post hysterectomy problems	7	1.7
Fibroid uterus	7	1.7
Mass per vaginum	4	1.0
Miscellaneous*	14	3.5

*Post coital bleeding, male pattern of hair distribution and vaginal dryness. #includes postmenopausal problems also.

Women in this study reported various gynecological problems ranging from dysmenorrhoea to prolapse. The prevalence of overall gynecological morbidity in our study was 81.7%. The prevalence of each morbidity varied from 0.2% (for primary amenorrhoea) to 68.8% (for menstrual problems). 64.3% of the women had more than one gynecological problem. The average number of diseases per woman was 1.81. Table 1 shows the pattern of gynecological problems faced by the study population. Menstruation related problems (68.1%) formed the bulk of gynecological morbidity.

Table 2 shows that dysmenorrhoea was the most common menstrual problem among the study population. None of them had menometrorrhagia. Among the 47 (12.7%) women who had premenstrual syndrome (PMS), 31 (65.95%) had mild PMS, 12 (25.5%) had moderate to severe PMS and 4 (8.5%) had premenstrual dysphoric disorder (PMDD). The two most common psycho-behavioral premenstrual symptoms complained by respondents with PMS were fatigue/lack of energy

(78.7%) and anxiety/tension (70.2%). 89.4% of them complained of at least one physical symptom like breast tenderness/headache/joint pain/ myalgia/bloating/weight gain.

Table 2: Summary of menstrual problems among the study population (n=374)[#].

Menstrual problems	Frequency	%
Only polymenorrhoea	5	1.3
Only oligomenorrhoea	31	8.2
Only hypomenorrhoea	9	2.4
Only menorrhagia	20	5.3
Only metrorrhagia	7	1.8
Only primary amenorrhoea	1	0.2
Only secondary amenorrhoea	2	0.5
Only dysmenorrhoea	122	32.6
Only PMS	6	1.6
More than one menstrual problem	55	14.7
No problem perceived	116	31.0
Total	374	100.0

There were 21 post menopausal women and 9 women who had undergone hysterectomy. Hot flushes (57.1%, 55.5% respectively) were the most common symptom perceived by these women. 240 (64.6%) of the menstruating women used disposable sanitary pad while 83 (22.3%) used washable cloth and 47 (12.6%) used both. 1 (0.2%) used menstrual cup. 314 (77.7%) women knew about menstrual cup.

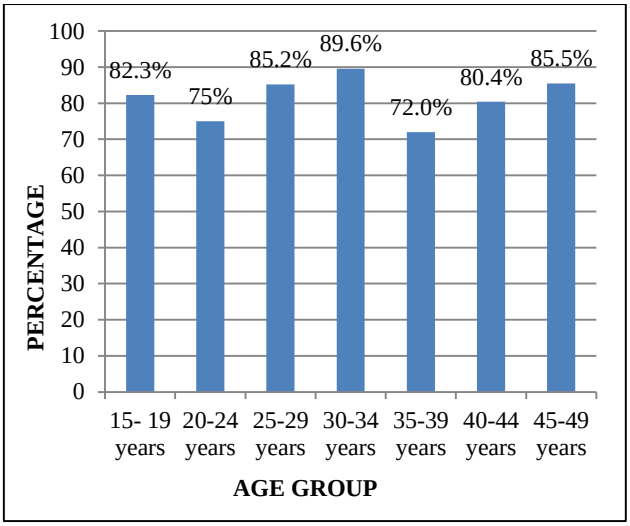

Figure 1: Relationship between age distribution and presence of any gynecological morbidity among the study population (n=404).

Figure 1 shows the relationship between age distribution and presence of any gynecological morbidity among the study population. Each age group had almost equal prevalence of gynecological morbidity. There was no significant difference between the age of women and gynecological problems. However, the mean age of women with menstrual problems and dysmenorrhoea per say, was lower than women without these problems. This difference was found to be statistically significant as shown in Table 3.

Table 3: Relationship between age distribution and presence of any menstrual problem among the study population.

Any menstrual problem (n=374)	Total	Mean age ±SD	CI		P value[^]
			Lower	Upper	
No	116	32.73±9.98	0.028	4.75	0.027*
Yes	258	30.21±10.24			
Dysmenorrhoea (n=371)					
No	171	34.54±9.90	4.762	8.704	<0.001*
Yes	200	27.8±9.37			

[^]t test, *significant

Table 4: Relationship between socio-demographic factors and presence of any gynecological morbidity among the study population (n=404).

Factors	Any gynecological problem, N (%)		Total (404)	P value[o]
	No	Yes		
Religion				
Hindu	45 (15.9)	238 (84.1)	283	0.034*
Christian	9 (17.0)	44 (83.0)	53	
Muslim	20 (29.4)	48 (70.6)	68	
Education				
Below graduation	58 (20.9)	220 (79.1)	278	0.049*
Graduation and above	16 (12.7)	110 (87.3)	126	

[o]Chi-square test, *significant

Table 5: Relationship between any gynecological problem and age at menarche among the study population.

Morbidity		Age at menarche, N (%)		Total	P value^
		<13 years	≥13 years		
Any gynecological problem (n=403)	No	3 (4.8)	71 (20.9)	74	0.002*
	Yes	60 (95.2)	269 (79.1)	329	
Menstrual problems (n=373)	No	6 (10.0)	110 (35.1)	116	<0.001*
	Yes	54 (90.0)	203 (64.9)	257	
Dysmennorhoea (n=371)	No	15 (25.0)	156 (50.2)	60	<0.001*
	Yes	45 (75.0)	155 (49.8)	311	

Table 6: Relationship between dysmenorrhea and other factors among the study population (n=371).

Factors		Dysmenorrhoea, N (%)		Total (371)	P value^
		No	Yes		
PMS	Absent	164 (50.6)	160 (49.4)	324	<0.001*
	Present	7 (14.9)	40 (85.1)	47	
Menstrual regularity	Normal/oligomenorrhea	161 (44.8)	198 (55.2)	359	0.009*
	Polymenorrhea	10 (83.3)	2 (16.7)	12	
Parity (n=269)	≤3	130 (52.6)	117 (47.4)	247	0.026*
	>3	17 (77.3)	5 (22.7)	22	
Sexually active (n=371)	No	37 (30.8)	83 (69.2)	120	<0.001*
	Yes	134 (53.4)	117 (46.6)	251	
Marital status (n=271)	Ever married	147 (54.6)	122 (45.4)	269	<0.001*
	Never married	24 (23.5)	78 (76.5)	102	
Vaginal delivery (n=247)	No	26 (41.9)	36 (58.1)	62	0.011*
	Yes	112 (60.5)	73 (39.5)	185	

^Chi-square test, *significant

Table 7: Treatment seeking for different gynecological problems reported (n=404).

Problem	Total cases reported (n=404)	Treatment sought, N (%)
Menstruation related problems	275	83 (30.2)
Infections	182	71 (39.0)
Incontinence	43	16 (37.2)
PCOD	17	11 (64.7)
Infertility	14	10 (71.4)
Post hysterectomy problems	7	3 (42.9)
Fibroid uterus	7	3 (42.9)
Mass per vaginum	4	4 (100.0)
Miscellaneous	48	19 (39.6)

Table 4 shows that Muslims (70.6%) had a lower prevalence of gynecological morbidity than others. Women who had education, graduation or above (87.3%), also had a higher prevalence of morbidity than others. These differences were found to be significant. Gynecological morbidity was not associated with education, occupation, socioeconomic status, type or size of family, marital status, age at marriage, comorbidities like diabetes or thyroid or obstetric history-history of abortions, antenatal complications, and parity.

Table 5 shows the relationship between any gynecological problem and age at menarche among the study population. The women who had menarche before 13 years had a significantly higher prevalence of gynecological morbidity and menstrual problems including dysmenorrhoea. Table 6 shows women with PMS and normal/oligomenorrhoea also had a significantly higher prevalence of dysmenorrhoea than others. Those who were married/sexually active/ with parity >3/ undergone a vaginal delivery had a significantly lower prevalence of dysmenorrhoea than others.

101 (30.6%) of women consulted a doctor for their gynecological morbidity. Table 7 shows treatment seeking for different gynecological problems reported.

Table 7 shows that the health seeking behaviour was high for mass per vaginum (100%) and infertility (71.4%).

74.3% of the women, who saw a doctor, consulted a gynecologist, for their problem. 29.7% of the people who had morbidity took treatment. 24.5% of the study population had no special preference for the sex of the gynecologist but 75.5% of them preferred a female doctor to a male. 20% of them said they would never share their gynecological problem with a male doctor. 74.4% of the women who sought treatment went to a private hospital or a private practitioner. The most common reasons enlisted by women in our community for opting a public sector were lack of female doctor in the nearest government facility, nearness of the private health facility, familiarity with the doctor in private sector and busy OPD and long waiting period in a government hospital.

The major reasons given by women who did not seek treatment were mildness of symptoms (34.1%), thought it would be ok by itself (11.2%), did not feel treatment was necessary (9.4%), time constraints (8.6%) etc. shyness, embarrassment, financial constraints, considering symptoms as an age-related problem were the other reasons.

194 (48%) of the women had heard about breast self-examination (BSE) and 151 (44.2%) practiced it. 58 (14.4%) had heard about PAP smear test and 14 (4.3%) had ever done a PAP test. 39 (9.7%) of the women had heard about human papilloma virus (HPV) vaccination and only one had taken it so far.

DISCUSSION

81.7% was the overall prevalence of gynecological morbidity in our study. Women in this study reported various gynecological problems ranging from dysmenorrhoea to prolapse. The prevalence ranged from 0.2% (for primary amenorrhoea) to 68.8% (for menstrual problems). 64.3% of the women reported more than one gynecological problem. This was much higher than that reported by other studies in Kerala at Trivandrum and Calicut. Jaya et al, Anitha et al, Sajna et al and Kambo et al reported a prevalence of 47.1%, 36.85%, 27.8% and 29.1% respectively.[8,13-15] There were no previous studies in Kannur. Hence this study stands important. This difference in prevalence may be attributed to the difference in gynecological morbidities studied, selection criteria and regional variations. In certain diseases, the "concept of normalcy" might play an important role as women would not complain of those considering it as normal, unless specifically asked for. This point was highlighted in the Gadchiroli study which also showed a higher prevalence of gynecological morbidity (92%).[16] A high prevalence was also noted in other studies outside Kerala-Nanded- 75.73%, Kanpur- 57.5 %.[13,17]

The overall prevalence of menstrual disorders in our study was 68.9%. Dysmenorrhoea topped the list with a prevalence of 53.9%. 11.5% of the women complained that they had to miss school/work every month due to dysmenorrhoea. Menstrual disorders formed the majority of gynecological morbidity in several other studies in China (83.3%), Andaman (75%), Mysore (77 to 80%) and Belgaum (31%).[18-21] A cross sectional study by Beevi et al in Trivandrum among 510 adolescent girls showed that 84.8% of them had menstrual problems. 31.6% of them said these affect their daily life. Out of the 33.0% who had dysmenorrhoea, 14.7% missed class every month and 12.8% restricted themselves from outdoor activities.[22] Another study in Kannur by Devaki et al also showed a prevalence of 48.4% of menstrual disorders in which 71.5% of them were dysmenorrhoea.[23]

In the community-based study by Bang et al, scanty periods (12.6%) and amenorrhoea (20.3%) were the most common problems.[16] Dysmenorrhoea was the most common disorder in studies by Shiferaw et al (85.1%), Parvez et al (34.0%) and Avasarala et al (54%) whereas Poornima et al in their study at Belgaum said oligomenorrhoea (49.3%) formed the majority of menstrual problems.[19,21,24] We had higher prevalence of menorrhagia (10.2%), oligomenorrhoea (14.3%) and PMS (12.5%) next to dysmenorrhoea in our study. These variations can be accounted to selection criteria, number of menstrual disorders studied, composition of the population, regional and ethnic backgrounds and differences in study setting.

PMS was a neglected aspect in many studies concerned with menstrual disorders.[8,14,21] We had 12.7% prevalence of PMS in our study. This was very low compared to a study by Shiferaw et al which reported it to be 72.8%.[25] Fatigue/lack of energy (78.7%) and anxiety/tension (70.2%) were the two most common psycho-behavioral premenstrual symptoms complained by respondents with PMS. 89.4% had at least one physical symptom like myalgia/bloating/weight gain/breast tenderness/headache/ joint pain. In the Ethiopian study, irritability (34.8%) and fatigue (28.7%) were the most common symptoms perceived by the respondents.[25] Nevertheless, it is unfortunate to reflect that a process as physiological as menstruation push women into such depths of despair and agony that often these affect their daily routine and work.

It was observed that menstrual disorders were significantly associated with age (p value =0.027), age at menarche (p value <0.001), marital status (p value =0.013) and parity (p value=0.012), in our study. As age advanced, menstrual disorders decreased. The mean age of women with menstrual disorders was significantly lower (30.21 years) than that of women without menstrual disorders (32.73 years). Women with age at menarche below 13 years also had a high prevalence (90.0%) than others with age at menarche 13 years or above (64.9%). The community-based study by Anitha et al also found out that women below 30 years had 2.07 times higher risk of menstrual problems and both age at menarche below 12 and above 14 had higher odds of menstrual problems.[8]

When associations of gynecological morbidity with other factors were seen for, we found out that it was significantly associated with religion (p value =0.034), education (p value =0.049) and age at menarche (p value =0.002). Muslims (70.6%) reported a lower prevalence of morbidity than Hindus (84.1%) and Christians (83.0%). This was similar to the Calicut study which also showed a lower prevalence in Muslims (28.1%).[14] However Anitha et al observed people in Hindu religion had lesser chances of gynecological morbidity. The prevalence was 66.3% in Hindus and 76.8% in non-Hindus.[8] These differences may be due to their culture, tradition, nutrition, practices, parity which needs to be studied in detail.

Interestingly, women who had graduation or above had a higher prevalence (87.3%) of gynecological morbidity than others (79.1%), in our study. This was in contrast to other studies done in Delhi, Punjab where illiterate women had a higher prevalence.[26,27] This might be because women who were highly educated might have perceived their problems better than others and reported them.

In this study, women who started menstruation earlier had significantly higher morbidity than others. 95.2% of women who had their menarche before 13 years had a gynecological problem compared to 79.1% in others. The same observation was made in the study by Inamdar et al. 83.43% of the women who had early menarche (≤12 years) had gynecological morbidity.[17] Although hormonal factors may play a role, the exact reason for this is not known and it needs further research.

Other studies reported significant association of gynecological morbidity with marital status, age at marriage, employment, overcrowding, history of abortions, antenatal complications, and parity.[8,14,16,28,29,30] However these were also not found significant in our study. Cultural variations, population characteristics and environmental factors may contribute to this difference in observation.

It was also observed that women who were never married had higher prevalence (78.6%) of menstrual disorders than others (65.3%). The cross-sectional study at Nanded city also observed that 42% of the unmarried girls had menstrual problems as against 21.3% in currently married women.[17] Unmarried women had significantly higher menstruation related problems in a study at Trivandrum too (25.9% in never married and 12.8% in married).[8] This might be because unmarried women were also of lower age group.

In contrast to our observation that with increased parity of more than 3, menstrual disorders decreased (40.9% in women with parity >3 and 67.5% in women with parity ≤3), Bhatia et al observed women with 4 or more pregnancies reported a higher prevalence. The prevalence of menstrual disorders or pain was 15% in their study.[31]

Dysmenorrhoea which formed the bulk (53.9%) of menstrual disorders in our study also showed decreased prevalence with advancing age, age at menarche and parity. Omidvar et al, in their study, among undergraduates and post graduates in Mysore city, said that a higher percentage of students who had early menarche experienced dysmenorrhoea than others with late menarche.[20]

Women who were sexually active or married or had vaginal delivery also showed a significantly lower prevalence of dysmenorrhoea in our study. The possible role of intercourse, hormone changes, changes in pain threshold after delivery must be explored further. It could also be said that these women of younger age group, in the initial years of menstruation, appreciate the newly occurring pain better than the older women who get used to it with several years of menstruation.

Menstrual disorders were associated with thyroid disorders, religion, education, caste etc in other studies.[5,8] But in our study, it had no association with religion, occupation, socioeconomic status or thyroid disorders.

Although menstrual problems and infections constituted most of gynecological morbidity, others like incontinence (10.6%), PCOD (4.2%), infertility (3.5%), fibroid uterus (1.7%), mass per vaginum (1.0%) were also a matter of concern for many.

A comparable rate of prolapse was seen in studies by Anitha et al (0.37%), Sajna et al (0.3%) and Rathore et al (2.01%).[8,14,32] But a very high prevalence of prolapse was noted in studies from Oman (10.0%) and Iran (41.4%).[29,33] This could be due to differences in fertility patterns in these countries.

As we only depended on the ultra sound scan report for fibroid uterus, the prevalence of 1.7% may be an underestimation. There might be women with menorrhagia or asymptomatic women in the population harboring uterine fibroid. Shaw's textbook of gynecology says fibroids are seen in 5-20% of women in reproductive age group.[6] Since the prevalence of other morbidities was low in our study, their individual association with other factors were not looked for.

30.6% of the women with any gynecological problem had sought treatment. Private hospital or private practitioner was the choice of majority (74.4%).

The practice of breast self-examination (BSE), PAP smear and HPV vaccination were 44.2%, 4.3% and 0.2% respectively. Despite a high prevalence of gynecological morbidity (81.7%), the health seeking behaviour was very low (30.6%) among this community. There should be continued efforts to educate and help women tackle these problems which affect their daily lives. There is also a need for awareness about prevention of genital infections.

There are a few limitations for this study. Certain asymptomatic cases can go unnoticed because the assessment was only focused on the questionnaire and the patients' perception of their symptoms, not on a clinical examination. The prevalence may be underestimated as a result of this. It is too tiny a study to draw conclusions about Kerala.

CONCLUSION

Education and guidance on managing menstrual issues and preventing missed work or school is necessary. Women should be encouraged to seek treatment for their morbidities in order to improve their quality of life. Public health facilities and services should be encouraged to be used and ASHA can with IFA tablets, health education, and disease recognition. Family health centers should be equipped with reproductive health clinics run by female doctors and health staff, with the initiative of the health department.

ACKNOWLEDGEMENTS

We appreciate the women, health facilitators, and Kulappuram library staff for their cooperation and time spent discussing their health with us during the study.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Dixon-Mueller R, Wasserheit JN. The Culture of Silence: Reproductive Tract Infections among women in the third world. International Women's Health Coalition; 1991.
2. WHO Department of Reproductive Health and Research. Women and Health: Today's Evidence Tomorrow's Agenda. World Health Organization; 2009.
3. Park K. Park's Textbook of preventive and social medicine. 24th edn. Banarsidas Bhanot; 2017:185-216.
4. World health Organisation. Measuring reproductive morbidity: Report of a technical working group. 1989. Available from: http://apps.who.int/iris/bitstream/10665/61306/1/WHO_MCH_90.4.pdfhttp://apps.who.int/iris/bitstream/handle/10665/61306/WHO_MCH_90.4.pdf?sequence=1&isAllowed=y. Accessed on 13 November 2016.
5. Singh SK, Singh S. Reproductive morbidity among the rural women in Maharashtra. MPS Semin Pap. 2006;1-206.
6. Padubidri VG, Daftary SN, eds. Shaw's Textbook of Gynaecology. 16th edn., editor. Reed Elsevier India Pvt Limited; 2015:321-423.
7. CDC. Reproductive Tract Infections Reproductive Health Epidemiology Series, Module 3, 2003, Department of Health and Human Services. 2003. Available from: https://stacks.cdc.gov/view/cdc/11673/cdc_11673_DS1.pdf. Accessed on 19 October 2018.
8. Abraham A, Varghese S, Satheesh M, Vijayakumar K, Gopakumar S, Mendez A. Pattern of gynecological morbidity, its factors and health seeking behavior among reproductive age group women in a rural community of Thiruvananthapuram district, South Kerala. Indian J Community Health. 2014;26(3):230-7.
9. UNFPA. Sexual and Reproductive Health for All. 2010. Available from: https://www.unfpa.org/sites/default/files/pub-pdf/uarh_report_2010.pdf. Accessed on 13 October 2018.
10. WHO. Reproductive health strategy to accelerate progress towards the attainment of international development goals and targets. 2004. Available from: http://apps.who.int/iris/bitstream/handle/10665/68754/WHO_RHR_04.8.pdf?sequence=1. Accessed on 19 October 2018.
11. AbouZahr C, Vaughan JP. Assessing the burden of sexual and reproductive ill-health: questions regarding the use of disability-adjusted life years. Bull World Health Organ. 2000;78(5):655-66.
12. Mani G, Annadurai K, Danasekaran R. Healthcare seeking behaviour for symptoms of reproductive tract infections among rural married women in Tamil Nadu- a community-based study. Online J Health Allied Sci. 2013;12(3).
13. Kambo IP, Dhillon B, Singh P, Saxena B, Saxena N. Self-reported gynecological problems from twenty-three districts of India (an ICMR task force study). Indian J Community Med. 2003;XXVIII(2):67-73.
14. Sanjna MV, Thomas B, Lucy R. Prevalence of reproductive morbidity and its determinants among ever married women of reproductive age group (15-45 years) in a rural area of Kozhikode. Public Health Rev Int J Public Health Res. 2017;4(02):57-64.
15. Babu A, Radha S, Nambisan B, Brahmanandan M. Gynaecological morbidities and health seeking behaviour of aged tribal women in Trivandrum district, Kerala, India. Int J Community Med Public Health. 2016;3:3430-5.
16. Bang R, Bang A. Women's perceptions of white vaginal discharge: Ethnographic data from rural Maharashtra. Listening to women talk about their health: issues and evidence from India. New Delhi: New Delhi India Har-Anand Publications; 1994: 79-94.
17. Inamdar IF, Sahu PC, Doibale MK. Gynecological morbidities among ever married women: a community based study in Nanded city, India. IOSR J Dent Med Sci. 2013;7(6):5-11.
18. Rong Yang L, Zhao H, Ping Wang H, Ping Niu J, Jian KS, Qing Mao H, et al. Improving ability of married women to prevent reproductive tract infections in rural western China. Environ Health Prev Med. 2006;11:233-40.

19. Parvez R, Sugunan AP, Saha MK, Muruganandam N, Thamizhmani R. Gynecological morbidity among the rural women of Andaman Islands-Community Based Study. Int J Curr Microbiol App Sci. 2016;5(4):28-31.
20. Omidvar S, Begum K. Menstrual pattern among unmarried women from south India. J Nat Sci Biol Med. 2011;2(2):174-9.
21. Poornima S, Katti SM, Mallapur MD, Vinay M. Gynecological problems of married women in the reproductive age group of urban Belgaum, Karnataka. Al Ameen J Med Sci. 2013;6(3):226-30.
22. Beevi N, Manju L, Anil Bindhu S, Haran JC, Jose R. Menstrual problems among adolescent girls in Thiruvananthapuram district. Int J Community Med Public Health. 2017;4(8):2995.
23. Antherjanam Devaki S, Karunakaran U, Jayasree AK, Antony R, Anitha SS, Harsha CH. Prevalence and pattern of menstrual disorders among school going adolescents in northern district of Kerala. Int J Public Health Res. 2016;3(3).
24. Avasarala AK, Panchangam S. Dysmenorrhoea in different settings: are the rural and urban adolescent girls perceiving and managing the dysmenorrhoea problem differently? Indian J Community Med. 2008;33(4):246-9.
25. Shiferaw MT, Wubshet M, Tegabu D. Menstrual problems and associated factors among students of Bahir Dar University, Amhara National Regional State, Ethiopia: a cross-sectional survey. Pan Afr Med J. 2014;17(246).
26. Verma A, Kumar Meena J, Banerjee B. A comparative study of prevalence of RTI/STI symptoms and treatment seeking behaviour among the married women in urban and rural areas of Delhi. Int J Reprod Med. 2015;2015.
27. Kaur S, Jairus R, Samuel G. An exploratory study to assess reproductive morbidities and treatment seeking behaviour among married women in a selected community, Ludhiana, Punjab. Nurs Midwife Res J. 2013;9(3):91-8.
28. Gosalia VV, Verma PB, Doshi VG, Singh M, Rathod SK, Parmar MT, et al. Gynecological morbidities in women of reproductive age group in urban slums of Bhavnagar city. Nat J Communoity Med. 2012;3(4):657-60.
29. Mabry R, Al-Riyami A, Morsi M. The prevalence of and risk factors for reproductive morbidities among women in Oman. Stud Fam Plann. 2007;38(2):121-8.
30. Akl OA, Ibrahim HK, Mamdouh HM. Perceived reproductive morbidity and treatment seeking behavior among ever married women in Siwa Oasis, Egypt. J Am Sci. 2011;7(6):749-56.
31. Bhatia JC, Cleland J, Bhagavan L, Rao NS. Levels and determinants of gynecological morbidity in a district of south India. Stud Fam Plann. 1997;28(2):95-103.
32. Rathore M, Swami SS, Gupta BL, Sen V, Vyas BL, Bhargav A, et al. Community based study of self-reported morbidity of reproductive tract among women of reproductive age in rural area of Rajasthan. Indian J Community Med. 2003;28(3):117-21.
33. Tehrani FR, Simbar M, Abedini M. Reproductive morbidity among Iranian women; issues often inappropriately addressed in health seeking behaviors. BMC Public Health. 2011;11:863.

Cite this article as: Thomas EE, Kumaran JA. A study on the gynecological morbidity among women in reproductive age group in a rural area in Kannur district. Int J Community Med Public Health 2024;11:3892-9.