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Original Research Article

Reproductive morbidity and quality of life among rural and urban ever-married women in Puducherry: A comparative cross-sectional study

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Abstract

Background: Sexual and reproductive health is vital for women's well-being, yet remains a major cause of morbidity and mortality, especially in developing countries. In past decades, primary focus was on reducing maternal mortality and reproductive morbidity had received less attention, despite the fact that it negatively impacts the well-being and over-all health of the sufferer to a very great extent.

Aim and Objective: To estimate and compare the prevalence of reproductive morbidity and health-related quality of life among ever-married women of reproductive age.

Materials and Methods: A community-based cross-sectional study was conducted over one year in urban and rural areas of a tertiary care hospital in Puducherry among 322 ever-married women aged 18-49 years, residing in the area for over 6 months. Participants were selected using systematic sampling proportional to size, and data were collected using a structured questionnaire. Analysis was performed using SPSS version 16.

Result: The study found that 56.6% of ever-married women aged 18-49 in Puducherry experienced at least one symptom of reproductive morbidity, with a higher prevalence in rural areas (58.5%) than in urban areas (54.7%). Women with the symptoms of reproductive morbidity had a poorer quality of life than their counterparts who did not report any symptoms.

Conclusion: Reproductive morbidity is prevalent among ever-married women in Puducherry, particularly in rural areas, and is associated with reduced quality of life. The findings highlight the need for targeted interventions to improve healthcare access, promote contraceptive use, and encourage treatment-seeking behaviour to enhance overall quality of life.

Keywords: Ever-married women, Reproductive morbidity, Quality of life, Reproductive empowerment, Treatment-seeking behaviour, Cross-sectional study.

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1. Introduction

According to the phrase "Healthy women, Healthy World," women are essential to preserving their families' and communities' health and well-being. A multitude of reproductive disorders discreetly affect women as a silent epidemic.[1] Reproductive health is a broad term encompassing obstetric morbidity, gynaecological morbidity, and contraceptive morbidity and are a leading cause of ill health and mortality for women and girls of childbearing age in developing countries.[2,3] In general, reproductive morbidity results from a combination of biological factors as well as women's poverty, helplessness, and lack of resources.[4]

The World Health Organisation defines quality of life as an individual's assessment of their current situation in life, based on their cultural and value systems, taking into account their aspirations, standards, expectations, and worries. Numerous studies conducted on various facets of reproductive morbidity in different regions of India demonstrate the detrimental effects they have on women's quality of life in a variety of ways.[5,6] This study aims to estimate and compare the prevalence of reproductive morbidities and the health-related quality of life among women of reproductive age in urban and rural areas of Puducherry.

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2. Materials and Methods

This community-based cross-sectional study was conducted at urban and rural field practice areas of the department of community medicine of Mahatma Gandhi Medical College and Research Institute, Puducherry district over a period of one year (February 2023 to February 2024). The final sample size was calculated as 322 using the two-proportion formula; where P1 = 69%; P2 = 53% from a previous study by Kosambiya et al.[7] In this study 322 ever-married women aged between 18 to 49 years, who were residing in the study area for more than 6 months were included by systematic sampling proportional to size. Ethical approval was obtained from the Institutional Human Ethical Committee (IHEC) of Mahatma Gandhi Medical College and Research Institute. Data collection was done using a pre-tested and pre-validated structured questionnaire based on DLHS-3 ever-married questionnaire & CDC's HRQOL Scale. Informed consent was obtained from all the study participants.

3. Results

In the present study, a total of 325 participants were included. The demographic profile of the study participants revealed that majority of the ever-married women were found to be within 36 to 49 age group. A significant majority of the women are married (92.6%) and 27.1% possessed a graduate degree. A significant number of women (40%) were homemakers, particularly predominant in rural areas (48.8%) and most (81.9%) fell into the category of having 1 to 2 live births (**Table 1**).

Overall, 52.9% of the women reported experiencing menarche between the ages of 11 to 13, with a higher prevalence in urban areas (58.4%) compared to rural areas (47.6%). Menstrual problems in last 3 months were found to be in 14.5% of the 325 respondents, which was slightly higher in rural residents and painful menstruation emerged as the common symptom, affecting 38.3% overall. Out of the 23 individuals who experienced menopause, 69.5% reported problems post-menopause, with a higher incidence in urban residents. (**Table 2**)

The age distribution at the time of first pregnancy was predominantly between 20 and 25 years, accounting for 75.2% of the total. This age group included 38.2% of urban residents and 36.8% of rural residents. The percentage of individuals who had their first pregnancy under the age of 20 was 7.9%, with a higher occurrence among rural residents (6.9%) compared to urban residents (1.1%). Among 290 women who had given live birth, 23.7% reported that they experienced pregnancy-related problems during their last pregnancy. (**Table 3**).

Around 6.2% out of 325 study participants reported having an abortion. The age distribution shows that the majority of abortions occurred among individuals aged 20 to 25, accounting for 70% of the cases. Regarding the outcome of abortions, 80% experienced spontaneous abortions. Whereas About 5.6% reported experiencing infertility among the study participants and a significant majority, 72.2%, faced infertility after their first conception. (**Table 4**)

Out of the 325 participants, 12.9% reported experiencing reproductive tract infections (RTIs). The prevalence of RTIs was slightly higher in rural areas (14.6%) compared to urban areas (11.1%). The most common symptom reported was vaginal discharge, affecting 33.3% followed by itching in the genital region, reported by 30.9% of the individuals. (**Table 5**)

Overall, 56.3% are using contraceptive methods, whereas 43.7% are not. Out of 183 respondents currently using contraception, 55.2% opted for female sterilization and 20.7% reported experiencing contraceptive problems. The most common issues included body/backache, reported by 28.9% of the women followed by weight gain noted in 18.4%.(**Table 6**).

A significant proportion of ever-married women, 56.6%, experienced at least one symptom of reproductive morbidity. This prevalence is slightly higher among rural women (58.5%) compared to urban women (54.7%). When considering the occurrence of two or more symptoms, the overall prevalence is 19.1%. Again, rural women exhibited a higher prevalence (21.3%) compared to their urban counterparts (16.7%).

Out of 325 people surveyed for assessing health related quality of life, most 53.9% didn't have any unhealthy days. About 41.2% experienced between 1 to 10 unhealthy days. Only 2.8%, had between 10 to 20 unhealthy days, and even fewer, just 7 people (2%), had more than 20 unhealthy days.

The Mann-Whitney U test shows that there is a significant difference in health-related quality of life between those who reported symptoms and those who did not. People with symptoms had a higher average rank than those without symptoms (p – 0.041). (**Table 7**).

Table 1: Socio-demographic details of the ever-married women

Socio-demographic details	Residence		Total (%) (n=325)
	Urban (n=161)	Rural (n=164)	
Age			
18 to 25	23 (14.3)	22 (13.4)	45 (13.9)
26 to 35	58 (36.1)	63 (38.4)	121 (37.2)
36 to 49	80 (49.6)	79 (48.2)	159 (48.9)
Marital Status			
Married	152 (94.4)	149 (90.8)	301 (92.6)
Separated	4 (2.4)	5 (3.1)	9 (2.8)
Widow	5 (3.2)	10 (6.1)	15 (4.6)
Education			
Graduate	61 (37.9)	27 (16.5)	88 (27.1)
Higher secondary/ Any diploma	37 (22.9)	46 (28.1)	83 (25.5)
High school	29 (18.1)	28 (17.1)	57 (17.6)
Primary school	10 (6.2)	20 (12.1)	30 (9.2)
Illiterate	24 (14.9)	43 (26.2)	67 (20.6)
Occupation			
Govt employee	12 (7.5)	7 (4.3)	19 (5.9)
Private organization employee	59 (36.6)	24 (14.6)	83 (25.5)
Daily wage labourer	40 (24.8)	53 (32.3)	93 (28.6)
Homemaker	50 (31.1)	80 (48.8)	130 (40)
Type of family			
Joint	17 (10.5)	54 (32.9)	71 (21.8)
Nuclear	144 (89.5)	110 (67.1)	254 (78.2)
Total no of live births			
0	20 (12.4)	15 (9.2)	35 (10.8)
1-2	134 (83.3)	132 (80.4)	266 (81.9)
>2	7 (4.3)	17 (10.4)	24 (7.3)
Socio-economic status			
Class I	40 (24.8)	25 (15.3)	65 (20.0)
Class II	46 (28.6)	49 (29.8)	95 (29.2)
Class III	56 (34.8)	52 (31.7)	108 (33.3)
Class IV	13 (8.1)	28 (17.1)	41 (12.6)
Class V	6 (3.7)	10 (6.1)	16 (4.9)

Table 2: Distribution of menstrual and menopausal problems among ever-married women

Menstrual & Menopausal problems	Residence		Total (%)
	Urban	Rural	
Experienced any menstrual problems in last 3 months (n=325)			
Yes	20 (12.4)	27 (16.4)	47 (14.5)
No	141 (87.6)	137 (83.6)	278 (85.5)
Symptoms (n=47)			
Delayed periods	3 (6.4)	3 (6.4)	6 (12.8)
Painful menstruation	7 (14.8)	11 (23.4)	18 (38.3)
Frequent/ short periods	3 (6.4)	4 (8.5)	7 (14.9)
Irregular periods	2 (4.3)	3 (6.4)	5 (10.6)
Intermenstrual bleeding	1 (2.1)	4 (8.5)	5 (10.6)
Excessive bleeding	4 (8.5)	2 (4.3)	6 (12.8)
Experienced problems after menopause (n=23)			
Yes	9 (39.1)	7 (30.4)	16 (69.5)
No	4 (17.4)	3 (13.1)	7 (30.5)
Symptoms (n=16)			
Pruritus	1 (6.2)	2 (12.5)	3 (18.7)
Backpains	7 (43.7)	4 (25)	11 (68.7)
Mood swings/ irritability	1 (6.3)	1 (6.3)	2 (12.6)

Table 3: Distribution of pregnancy related problems among ever-married women

Pregnancy and its related problems	Residence		Total (%)
	Urban	Rural	
Did your register your last pregnancy (n=290)			
Yes	133 (45.9)	135 (46.6)	268 (92.5)
No	8 (2.6)	14 (4.9)	22 (7.5)
Problems in last pregnancy (n=290)			
Yes	34 (11.6)	35 (12.1)	69 (23.7)
No	107 (36.9)	114 (39.4)	221 (76.3)
Symptoms (n=69)			
Swellings of hands, feet & face	6 (8.7)	5 (7.2)	11 (15.9)
Anaemia	18 (26.1)	13 (18.8)	31 (44.9)
High blood sugar	9 (13.1)	7 (10.1)	16 (23.2)
Vaginal bleeding	0 (0)	2 (2.9)	2 (2.9)
Fever	0 ()	1 (1.5)	1 (1.5)
Excessive vomiting	1 (1.5)	7 (10.1)	8 (11.6)

Table 4: Prevalence of abortion and infertility among ever-married women

Abortion & Infertility	Residence		Total (%)
	Urban	Rural	
Abortion (n=325)			
Yes	10 (6.2)	10 (6.1)	20 (6.2)
No	151 (93.8)	154 (93.9)	305(93.8)
Age at abortion (n=20)			
<20	1 (5)	0 (0)	1 (5)
20 – 25	9 (45)	5 (25)	14 (70)
>25	0 (0)	5 (25)	5 (25)
Outcome of abortion (n=20)			
Spontaneous abortion	10 (50)	6 (30)	16 (80)
Induced abortion	0 (0)	4 (20)	4 (20)
Infertility (n=325)			
Yes	8 (4.9)	10 (6.1)	18 (5.6)
No	153 (95.1)	154 (93.9)	307 (94.4)
Occurrence of infertility (n=18)			
Before 1st conception	6 (33.4)	7 (38.8)	13 (72.2)
After alive/ stillbirth	1 (5.6)	1 (5.6)	2 (11.2)
After induced abortion	1 (5.6)	2 (11)	3 (16.6)

Table 5: Distribution of reproductive tract infections among ever-married women

Reproductive Tract Infections	Residence		Total (%)
	Urban (n=161)	Rural (n=164)	
Experienced symptoms of RTIs (n=325)			
Yes	18 (11.1)	24 (14.6)	42 (12.9)
No	143 (88.9)	140 (85.4)	283 (87.1)
Symptoms (n=42)			
Vaginal discharge	6 (14.2)	8 (19.1)	14 (33.3)
Urinary problems	3 (7.2)	5 (11.9)	8 (19.1)
Itching in the genital region	6 (14.2)	7 (16.6)	13 (30.9)
Swelling in the groin	1 (2.4)	1 (2.4)	2 (4.8)
Boils/ Ulcer/ warts	1 (2.4)	1 (2.4)	2 (4.8)
Low backache	1 (2.4)	2 (4.8)	3 (7.1)

Table 6: Distribution of contraceptive usage related problems among ever-married women

Contraceptive usage & its problems	Residence		Total (%)
	Urban	Rural	
Using any method to delay pregnancy			
Yes	96 (59.7)	87 (53.1)	183 (56.3)
No	65 (40.3)	77 (46.9)	142 (43.7)
Currently using method of contraception			
Female sterilization	54 (29.5)	47 (25.7)	101 (55.2)
IUD	10 (5.4)	15 (8.2)	25 (13.6)
Daily pills	10 (5.4)	7 (3.9)	17 (9.3)
Weekly pills	2 (1.1)	1 (0.6)	3 (1.7)
Condom	20 (10.9)	17 (9.3)	37 (20.2)
Experienced contraceptive problem (n=183)			
Yes	20 (10.9)	18 (9.8)	38 (20.7)
No	76 (41.5)	69 (37.8)	145 (79.3)
Symptoms			
Weakness or inability to work	3 (7.9)	0 (0)	3 (7.9)
Body/ backache	4 (10.5)	7 (18.4)	11 (28.9)
Weight gain	3 (7.8)	4 (10.6)	7 (18.4)
Dizziness	1 (2.6)	2 (5.3)	3 (7.9)
Nausea vomiting	1 (2.6)	1 (2.6)	2 (5.2)
Breast tenderness	1 (2.7)	0 (0)	1 (2.7)
Irregular bleeding	2 (5.3)	1 (2.6)	3 (7.9)
Spotting	1 (2.7)	0 (0)	1 (2.7)
Excessive bleeding	2 (5.3)	1 (2.6)	3 (7.9)
White discharge	2 (5.3)	2 (5.2)	4 (10.5)

Table 7: Association between reproductive morbidity and health-related quality of life

Reproductive Morbidity with health-related quality of life	Mean Rank	MW#	P value
Any one of the symptoms			
Yes	171.58	14550.5	0.041
No	151.80		

#Mann Whitney U test

4. Discussion

Our study revealed that a majority of women (52.9%) experienced menarche between the ages of 11 to 13, with a higher prevalence in urban areas (58.4%) compared to rural areas (47.6%). These findings align with research by Mallick et al. and Ray et al., which indicated that rural girls generally experience menarche later than urban girls.[8,9]

The current study identified that 14.5% of the 325 respondents reported menstrual problems in the last three months, with a slightly higher prevalence among rural residents (16.4%) compared to urban residents (12.4%). This was further supported by the results of the study by Mishra et al, where significant differences were observed between rural and urban girls regarding age at menarche, menstrual hygiene practices, and the prevalence of gynaecological problems.[10]

In the present study, 14.5% of respondents reported menstrual problems, with painful menstruation being the most common symptom, reported by 14.8% of urban women and 23.4% of rural women. Research by Ravi MD et al. found that 87.7% of girls experienced menstrual problems, with dysmenorrhea prevalent in 72.6%.[11]

Our study found that among the individuals (7.1%) who experienced menopause, 69.5% reported post-menopausal problems, with a higher incidence among urban residents with back pain, affecting 68.7% of those with symptoms. Sagdeo et al also found that menopausal symptoms were more common in urban women, with hot flushes, joint and muscular discomfort, being frequently observed.[12]

Our study found that 23.7% of participants experienced pregnancy-related problems during their last pregnancy, with similar prevalence in urban (11.7%) and rural (12.1%) areas. Anaemia emerged as the most common issue, affecting 44.9% of the women similar to Tiwari et al.[13]

In the present study, 6.8% of the 325 participants reported having had an abortion, with this incidence being evenly distributed between urban and rural regions. Kochar et al. conducted a study in Bihar women and estimated the stillbirth rate at 20 per 1,000 births, with induced abortion and miscarriage rates at 8.6 and 46 per 1,000 pregnancies with outcomes, respectively.[14]

In the present study, 5.6% of participants reported experiencing infertility, comprising 4.9% from urban areas and 6.1% from rural areas. Daud et al. found that the percentage of couples in rural and urban areas who had been infertile for less than five years was 46% and 42%, respectively.[15] Conversely, Ganguly et al. indicated a higher infertility rate among women in urban areas, potentially due to lifestyle factors and a later age at first marriage.[16]

In this study, 12.9% of the 325 participants reported experiencing reproductive tract infections (RTIs), with a slightly higher prevalence in rural areas (14.6%). The most common symptom was vaginal discharge (33.3%). These is contrast with Kosambiya et al., who reported a high prevalence of RTI/STI among housewives in Surat, with urban women suffering more due to the increasing urban population and metropolitan growth. This might be due to the inherent differences in the population characteristics like better treatment seeking behaviour or awareness among the urban participants of the study area.[7]

Our study found that 20.7% of respondents using contraceptive methods reported experiencing problems, with an equal distribution between urban and rural areas. Among those facing issues, body/backache was the most common, reported by 28.9% of the women, with a higher incidence in rural areas (18.4%) compared to urban areas (10.5%), and these findings were also reflected in those reported by Chellan et al.[17]

In current study, a significant proportion of ever-married women (56.6%) reported experiencing at least one symptom of reproductive morbidity. This prevalence is slightly higher among rural women (58.5%) similar to a study conducted by De et al.[18]

The current study revealed a notable difference in the health-related quality of life between individuals experiencing symptoms of reproductive morbidity and those who are not. This observation is consistent with findings from studies by Yerra et al. and Dasgupta et al., which similarly highlight the detrimental impact of reproductive health issues on overall quality of life.[19,20]

5. Conclusion

This study highlights the high prevalence of reproductive morbidities and menstrual problems among ever-married women aged 18-49 years in a tertiary care hospital's field practice area in Puducherry, with rural women slightly more affected than their urban counterparts. Urban women however, reported higher incidences of post-menopausal issues, infertility, and pregnancy-related problems. The study found a significant difference in health-related quality of life between those with and without reproductive issues, emphasizing the impact on well-being. Targeted health education campaigns are recommended to improve awareness and treatment-seeking behaviour, potentially reducing reproductive health problems. As the study is limited to a specific area, broader research is needed to assess reproductive health issues at a larger scale. The cross-sectional design of this study only captures data at one point of time and limits the ability to establish causality and therefore, regular surveys are suggested to monitor trends and implement population-specific interventions to improve quality of life.

6. Source of Funding

None.

7. Conflict of Interest

None.

8. Ethical Committee Approval

Ethical approval was obtained from the Institutional Human Ethical Committee (IHEC) of Mahatma Gandhi Medical College and Research Institute.

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