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Gynecological Morbidities in a Population of Rural Postmenopausal Women in Pondicherry: Uncovering the Hidden Base of the Iceberg

Susila T. · Roy Gautam

Abstract

Research Questions (1) What is the prevalence of common gynecological morbidities and gynecological symptoms among postmenopausal women in rural Pondicherry? (2) What are the determinants of postmenopausal gynecological morbidities?

Methods Study Design: Community-based cross-sectional study. Setting: Two villages in Pondicherry, India. Participants: All postmenopausal women aged 50 years and above in the two villages. The participants were interviewed in their households and motivated for examination. By adopting social mobilization strategies coupled with a "Geriatric-friendly" camp approach, 239 eligible women completed gynecological examination. Bivariate analysis of association between gynecological morbidities and its determinants was done using Chi square test.

Results Among the study population, the prevalence of at least one gynecological morbidity was 44.4 % (CI 38.0–50.8), whereas the prevalence of at least one gynecological symptom was only 25.9 % (CI 20.3–31.5).

Genital prolapse was the most common morbidity which was present in 18.8 % of women. On bivariate analysis, the prevalence of gynecological morbidity was significantly associated with a lower socio-economic status and associated chronic co-morbidities.

Conclusions Postmenopausal women harbor a considerable magnitude of gynecological morbidities, and approaches such as geriatric-friendly camps can help in uncovering the full spectrum of gynecological morbidities.

Keywords Gynecological morbidity ·
Postmenopausal women · Geriatric health camp ·
Socio-demographic determinants

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Introduction

Population aging is emerging as a pre-eminent phenomenon throughout the world. Among the aged, women deserve special attention because they outlive men in most societies. This longevity also makes them vulnerable to different morbidities of which gynecological disorders remain hidden and hitherto neglected because of the "culture of silence" surrounding women's lives [1].

Gynecological morbidities, by definition, include conditions of the reproductive tract which are not associated with a particular pregnancy such as reproductive tract infections, cervical cell changes, prolapse, infertility, and related morbidities like urinary tract infections [1].The

community-based prevalence of gynecological morbidities varies between 43 and 92 % among women of all age groups combined [2–4]. They are influenced by socio-cultural, demographic, and behavioral factors [1].

As early as 1994, the International Conference on Population and Development (ICPD) held at Cairo stressed the need for life cycle approach in dealing with the health issues of women. This was further reaffirmed at the ICPD+5 review in 1999 [5]. Nevertheless, postmenopausal and geriatric gynecological problems have not received adequate attention in India. Till date, there is not a single community-based Indian study, specifically on the full range of postmenopausal gynecological morbidities.

Therefore, there is an obvious need for providing geriatric gynecological services, but a paucity of data regarding gynecological morbidity in postmenopausal women hampers proper planning. Hence, the present study is contemplated with a view to assess the magnitude and socio-demographic determinants of postmenopausal gynecological morbidity.

Materials and Methods

This was a cross-sectional study done in two villages of the rural field practice area of the department of preventive and social medicine, Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), Pondicherry, during the year 2009–2010. Village "A" had a population of 3,000 and village "B" had a population of 850. Both the villages were contiguous with a similar socio-demographic profile. Their nearest health facility was the JIPMER Rural Health Centre where they could avail 24-h primary health care services including maternal and child health care. Before initiating the study, door-to-door enumeration was done to obtain the list of women who are above 50 years and postmenopausal and thus eligible to participate in the study. The total number of eligible women was found to be 283 of which 222 were in village "A" and 61 in village "B."

The study was approved by the JIPMER Research Council and ethical clearance was obtained from the Institute Ethics Committee.

For the purpose of this study, menopause was defined as spontaneous cessation of menstruation for at least 1 year [6]. The age group of 50 years was selected to insure that a majority have attained menopause. The sample size was calculated [7] taking the lowest prevalence of 40 % from the available community-based studies on gynecological morbidities [2–4] with an alpha value of 0.05 and a relative precision of 15 %. The calculated sample size was 282 accommodating a non-response rate of 10 %. Hence, the entire sampling frame of 283 postmenopausal women aged

above 50 years in the two villages was included in the study.

In the first phase, the eligible women were interviewed in their households using a pre-tested, structured questionnaire after obtaining informed consent and gynecological symptoms were elicited using a checklist. In the second phase, three "Geriatric women Friendly" gynecological camps were held in three different outreach sites after extensive behavior change communication activities. All the eligible women who consented were subjected to per speculum examination and Papanicolaou smear was taken, immediately fixed with 95 % ethanol in coplin jars and transported to the JIPMER cytopathology laboratory. Subjects with at least one urinary symptom like dysuria, urgency, frequency, fever, or suprapubic pain were offered sterile containers and instructed to collect clean catch mid-stream samples of urine on the early morning of the subsequent day. The urine samples were immediately transported to the JIPMER microbiology laboratory and processed within 2 h of collection. Urine cultures were done by inoculating the samples on blood agar and Mac conkey agar plates using a calibrated loop and incubating at 37 °C for 18–24 h. The culture reports with colony-forming units of more than 10^5/ml of voided urine were considered positive.

Vaginal swabs were collected from women with vaginal discharge on per speculum examination and examined under a microscope in the campsite. The vaginal secretions were placed on two slides, one of which was diluted with 0.9 % NaCl (saline wet mount) and the other with 10 % KOH (KOH wet mount). Saline wet mount was microscopically examined to detect trichomonas vaginalis, yeast cells, and clue cells. KOH wet mount was examined for better visualization of pseudo hyphae and budding yeast cells. Owing to resource and manpower constraints, culture and gram staining of vaginal swabs were not done.

Arrangements were made for appropriate treatment and gynecological surgery as required.

The socio-economic status (SES) of the participants was assessed using the BG Prasad classification [8], modified for the study period 2009–2010 using the correction factor computed with the All India Consumer Price Index (AICPI) for 2009–2010 [9]. The correction factor came to be 35.84. Thus, the ranges of per capita per month income of this classification for the year 2009 were >Rs 3,600; 1,800–3,599; 1,080–1,799; 540–1,079; and <540 for the SES classes I through V, respectively. The term "chronic co-morbidities" in this study includes clinician-diagnosed chronic non-communicable diseases, viz., diabetes mellitus, hypertension, bronchial asthma, ischemic heart disease, and stroke. The study subjects who had no reliable records of their diabetic and hypertensive status were subjected to screening blood sugar test and blood pressure measurements during the camp.

The various gynecological morbidities were classified and coded according to International classification of diseases (ICD-10) [10]. Data were analyzed using SPSS V.16.0. Bivariate analysis of the association between gynecological morbidities and its determinants was done by Chi square test.

Results

Out of 283 postmenopausal women in the two villages, 239 completed both the interview and gynecological examination, achieving a population coverage of 84.5 %. Among the study subjects, 58 % were aged above 60 years and their mean age at menopause was 47.6 years (SD ±3.9). Only 11 % of the women had completed at least primary level of education. About 26 % were employed and a majority (57 %) belonged to the SES class IV of modified B.G Prasad's classification, 2009. Fifty seven percent of the women were widowed. Among the study subjects, 29.7 % had at least one of the chronic co-morbidities. The mean age at marriage was 17.3 years (SD ±3.2) and the mean age at delivery of first child was 19.6 years (SD ±2.6). The mean age at menopause was 47.1 years (SD ±3.84, range 30–56).

The prevalence of at least one gynecological morbidity was 44.4 % (95 % CI 38.0–50.8 %). The prevalence of at least one gynecological symptom was 25.9 % (95 % CI 20.3–31.5 %). The prevalence of individual gynecological symptoms and morbidities is given in Tables 1 and 2, respectively. None of the women had symptoms of postmenopausal bleeding at the time of the household interview. The lower urinary tract problems encountered in the study were urinary incontinence, urinary tract infection, and urethral caruncle (ICD-10: N39.3, N39.0, and N36.9). The reproductive tract infections encountered were candidiasis and trichomonas vaginalis (ICD-10: B37.3 and A59.0). Table 3 shows the sub-classifications and proportions of various gynecological diseases seen among the study subjects.

The prevalence of gynecological morbidities was significantly associated with lower socio-economic status and the associated chronic co-morbidities (Table 4).

Discussion

The present study showed that 44.4 % of women had at least one gynecological morbidity which is within the lower range of the prevalence observed in many of the community-based studies on gynecological morbidities in India among women of all age groups, which ranged from 43 to 92 % [2–4]. Studies dealing with gynecological morbidities exclusively among postmenopausal women are lacking in India. The wide variation in prevalence across studies could be explained due to variation in baseline characteristics of the study population, variations in access to services, differing response rates for gynecological examination, and variations in methods of measurement of gynecological morbidities.

Nearly half of the women above 50 years of age had some gynecological morbidity, whereas only one-fourth of them complained of symptoms. Similar findings were documented in the literature [2, 4]. The asymptomatic nature of certain gynecological morbidities, being unaware of the symptoms, and cultural inhibitions in expressing the symptoms related to private parts could be the reasons for high under-reporting of gynecological symptoms.

Table 1 Prevalence of Gynecological symptoms in the study subjects

Gynecological symptoms	Number	Prevalence (%) ($n = 239$)
Symptoms of UTI[a]	41	17.2
Incontinence symptoms[b]	20	8.4
Mass descending per vaginum	19	7.9
Vaginal discharge	8	3.3
Lower abdominal pain	2	0.8
Total no. of symptoms	90	37.7
Women with single symptom	40	16.7
Women with dual symptoms	16	6.7
Women with triple symptoms	6	2.5
No. of women with any symptom	62	25.9

[a] Any one of the following: dysuria, frequency, urgency, suprapubic pain, fever

[b] Leakage of urine on exertion or on urge to pass urine

Table 2 Prevalence of Gynecological morbidities in the study subjects

Gynecological diseases	Number	Prevalence % ($n = 239$)
Genital prolapse	45	18.8
Lower urinary tract problems	35	14.6
Diseases of cervix	23	9.6
Diseases of vagina	24	10.0
Diseases of vulva	12	5.0
Total no. of diseases	139	58.2
Women with single morbidity	82	33.5
Women with two morbidities	17	7.9
Women with ≥3 morbidities	7	3
No. of women with any morbidity	106	44.4

Table 3 Sub-classifications and proportions of various gynecological morbidities in the study population

Gynecological diseases	ICD-10 code	Frequency[a]	Proportions (%)
Genital prolapse			
Cystocele	N81.1	12	26.7
Rectocele	N81.6	7	15.6
Cystorectocele	N81.7	3	6.7
Enterocele and rectocele	N81.5,6	2	4.4
I degree UV prolapse	N81.2	5	11.1
II degree UV prolapse	N81.2	2	4.4
III degree UV prolapse	N81.3	9	20.0
Procidentia	N81.3	4	8.9
Vault prolapse	N99.3	1	2.2
Total		45	100.0
Lower urinary tract problems			
Urinary incontinence (UI)	N39.3	20	54.1
Urinary tract infection(UTI)[b]	N39.0	16	43.2
Urethral caruncle	N36.9	1	2.7
Total		37	100.0
Diseases of cervix			
Erosion of cervix	N86	6	23.1
Fibrosis of cervix	N88	6	23.1
Cervical polyp	N84.1	5	19.2
Precancerous lesions of cervix (LGSIL-3, ASCUS-1)	N87	4	15.4
Chronic cervicitis	N72	3	11.5
Carcinoma cervix (squamous cell carcinoma)	C53	2	7.7
Total		26	100.0
Diseases of vagina and vulva			
Vaginal fibrosis	N89.5	12	32.4
Senile vaginitis	N95.2	6	16.2
Candidal vaginitis	B37.3	6	16.2
Trichomonmas vaginalis vaginitis	A59.0	1	2.7
Vulval leukoplakia	N90.4	12	32.4
Total		37	100.0

LGSIL low grade squamous intraepithelial lesion, ASCUS atypical squamous cells of undetermined significance

[a] A single woman can have one or more morbidities

[b] The organisms found in urine culture were *E.coli* ($n = 11$), *Klebsiella* ($n = 4$), and *Pseudomonas aeruginosa* ($n = 1$)

There was a significant independent association of prevalence of gynecological morbidities with lower socio-economic status which was also demonstrated by other studies [11]. Gynecological morbidities are by and large curable and their prevalence is a function of both incidence of gynecological condition and the duration for which they stay with the condition without seeking treatment. Women from lower socio-economic strata are limited in their ability to deal with disease effectively because of limited access to resources and they tend not to report their condition or seek treatment. Therefore, gynecological screening camps and follow-up care can be targeted to these groups.

There was a significant association of chronic co-morbidities with overall gynecological morbidities in the present study. The postmenopausal state, by itself, is a risk factor for co-morbidities like diabetes, hypertension, and cardiovascular diseases [12]. The literature supports a biologically plausible association between diabetes mellitus and infections of urinary and reproductive tract [13] and also between bronchial asthma and pelvic floor disorders [14]. The temporality and causality of this association cannot be proved by this cross-sectional type of study. Nevertheless, non-communicable disease clinics proposed under the National Program for Prevention and Control of Cancer, Diabetes, Cardiovascular diseases, and Stroke at the community health center level [15] offer a viable setting for motivation and gynecological examination for postmenopausal women with co-morbidities, while symptomatic screening with a gynecological symptom checklist can be done in sub-centers and primary health centers.

Table 4 Association of prevalence of gynecological morbidity with socio-demographic factors, reproductive Factors, and co-morbidities

No	Parameters	Frequency (n = 239)	Number with gynecological morbidity	Prevalence (%)	p value
1	Age (years)				0.993
	50–59	101	44	43.9	
	60–69	90	41	45.6	
	70–79	41	18	43.9	
	≥80	7	3	42.9	
2	Educational status				0.090
	<5 years of schooling	213	99	46.5	
	>5 years of schooling	26	7	26.9	
3	Occupational status				0.986
	Employed	63	28	44.4	
	Unemployed	176	78	44.3	
4	SES(B.G.Pasad's classification, 2009)				0.038*
	I, II (≥ Rs 1,800)	23	5	21.7	
	III, IV, V (< Rs 1,800)	216	101	46.8	
5	Marital status				0.801
	Married	99	42	42.4	
	Widowed/Separated	137	63	46.0	
	Unmarried	3	1	33.3	
6	Parity				0.785
	Nullipara	6	2	33.3	
	Primipara	8	3	37.5	
	Multipara (2–4 deliveries)	120	51	42.5	
	Grand multipara (≥5 deliveries)	105	50	47.6	
7	Home deliveries (n = 233)				0.060
	No home delivery	39	15	38.5	
	1–2	60	20	33.3	
	>2	140	71	50.7	
8	Age at first child birth (n = 233)				0.079
	<20 years	115	58	50.4	
	≥20 years	118	46	39.0	
9	Associated chronic co-morbidities				0.007*
	No	168	65	38.7	
	Yes	71	41	57.7	

* Significant $p < 0.05$

Certain obstetric factors like parity, mode of delivery, and age at marriage were recognized risk factors for the widely prevalent gynecological diseases like genital prolapse and urinary incontinence [13]. This study did not find such significant association because the entire patterns of gynecological morbidities in postmenopausal women were considered together in this study rather than individual entities.

This study had a refusal rate to undergo gynecological examination of 15 %, and the results have to be viewed with this limitation in mind because with pelvic examination, being a sensitive issue, it is not ethical to compel every woman to undergo it. However, a participation rate of 85 % is higher compared to other community-based studies on gynecological morbidities where the average participation rate was 72.5 % [16].

Conclusions

Postmenopausal women harbor a considerable magnitude of gynecological morbidities. Approaches such as Geriatric-friendly camps and opportunistic screening among women with chronic co-morbidities can be considered complementary approaches to uncover the hidden gynecological morbidities.

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