

ORIGINAL STUDY

Knowledge and attitudes associated with menopause among women aged 45 to 60 years: a pilot study among rural and urban women in Bangladesh

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Abstract

Objective: To assess knowledge and attitudes associated with the menopause transition among women in Bangladesh.

Methods: A cross-sectional survey was conducted among women (age range 45-60 y), 160 participants were selected from both urban and rural settings using a systematic sampling procedure. We used face-to-face interview techniques employing a semistructured questionnaire. Bivariate and multivariate regression analyses were done to assess the associated factors.

Results: Around one-fourth (23%) of the participants did not have a basic understanding about symptoms of menopause. Knowledge about menopause increased proportionately with higher education levels (primary education, risk ratio [RR] = 3.91, 95% confidence interval [CI] = 0.66-22.92; secondary education, RR = 6.10, 95% CI = 1.26-29.41; higher education, RR = 6.74, 95% CI = 1.33-34) and was more common among urban than rural women ($P=0.001$). In addition, women who were service holders had greater knowledge about menopause compared with women who worked in the home (RR = 8.67, 95% CI = 1.94-38.58). Most of the women (96%) suffered from different kinds of depression during the menopause transition. Key barriers to gaining knowledge about menopause included access to information (63%), social stigma (57%), and shame (52%).

Conclusions: Menopause is a neglected issue in Bangladesh. Accurate and appropriate information regarding premenopause and menopause can help women cope with this life transition. Social and familial support may also play a role in minimizing isolation and depression. Public health messaging to increase awareness and knowledge about menopause should be undertaken to overcome the stigma and shame associated with menopause in Bangladesh.

Key Words: Attitudes – Bangladesh – Knowledge – Menopause – Practices – Socioeconomic status.

Video Summary: <http://links.lww.com/MENO/A556>.

Menopause, or the final menstrual period (FMP), signals the end of reproductive potential for women,¹ a natural process that occurs in women

in mid age.² Worldwide, more than 470 million women are older than 50 years,³ and it is estimated that by 2030 a total of 1.2 billion women will be peri- or postmenopausal.⁴ The

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transition to menopause and its effects varies considerably between individuals and across cultures,⁵ with some women reporting severe and disruptive symptoms and others simply the cessation of menstruation. Different types of physiological and psychological changes happen during this period.^{6,7} Common symptoms of menopause are depression, mood swings, reduced confidence and self-esteem, anxiety, forgetfulness, and difficulties concentrating.⁸⁻¹²

The hormonal changes for menopause usually occur in women entering their late 40s, and slightly earlier in low- and middle-income countries.¹³ A study conducted in high-income countries found that the beginning of menopause and its symptoms vary greatly between women.¹⁴ Another study identified that the socioeconomic challenges during early childhood and in adulthood are linked to the age of natural menopause.¹⁵ A multicountry study showed that the mean age of menopause is 49.24 years,¹⁶ but that age varies in different countries based on climate and nutritional status.¹⁷

It is broadly accepted that social and cultural influences significantly affect how women perceive and manage their menopausal symptoms and transition.¹⁸ The knowledge and attitudes about menopause among women vary across countries.¹⁹ Several studies have shown that negative attitudes

toward menopause have an increasing effect on the severity of specific menopausal symptoms that leads to more complaints.²⁰⁻²² Researchers also found evidence from qualitative investigations that menopause also varies according to socio-cultural context.²³⁻²⁵ In addition, the impact of menopause is not limited to women but may also affect families.²⁶

There are very few available reports or research on the issue of postmenopausal health in South Asia, especially in Bangladesh. Menopause is a neglected issue in Bangladesh, and there is very little evidence about knowledge and attitudes associated with menopause in Bangladesh. The objective of this study was to assess knowledge and attitudes and health determinants of menopause among menopausal women in Bangladesh.

MATERIALS AND METHODS

Study design and setting

We conducted a cross-sectional study in two predefined and purposively selected study areas from urban and rural sites in Bangladesh. The urban site was Ward 17, Zone 1, Dhaka City Corporation, and the rural site was the Chandanaish subdistrict, Chittagong. Study sites are shown in Figure 1. Preliminary information on these study areas was collected and sites were visited before data collection.

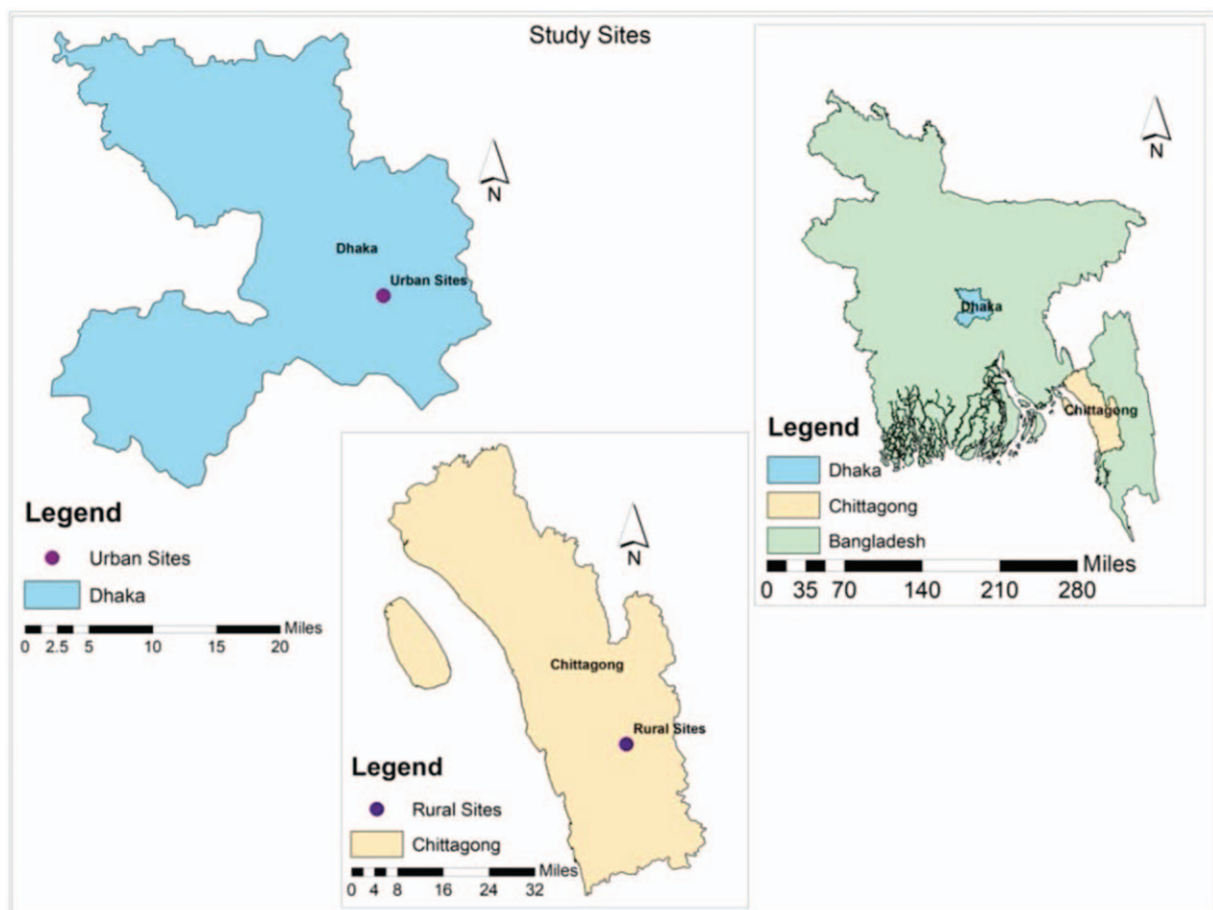


FIG. 1. The map of the study areas.

Study participants

The study population was women aged 45 to 60 years living in both urban (Dhaka City) and rural (Chittagong subdistrict) areas in Bangladesh. The following inclusion and exclusion criteria were applied to select participants for the study:

Inclusion criteria

During the enumeration survey, women were included if they were of menopausal age (aged 45-60); living in Dhaka city or Chandanaish subdistrict; and had hypomenorrhea and/or had not menstruated in the last 12 consecutive months.

Exclusion criteria

Women were excluded if they experienced premature menopause (before 45 y); were between 45 and 60 years, but could not confirm their menstrual status; did not receive consent for participation from the husband/legal guardian; or were mentally disabled, severely ill, or temporary migrants.

Sample size and sampling strategy

The sample size was calculated using the following formula:

$$n = \frac{z^2 pq}{d^2},$$

where p = prevalence of Bangladeshi women's knowledge of menopause; $q = 1 - p$; $z = 1.96$ (95% confidence interval [CI]); and $d = 7.5\%$ absolute precision.^{27,28} Assuming a knowledge prevalence of 64.25%, the calculated sample size was determined to be 156.

We identified 924 potential participants (448 urban, 476 rural) based on an enumeration survey with participants' sociodemographic information, which was used as a sampling frame. Employing a systematic random sampling (every fifth participant who met the requirements), we approached 220 women (110 urban, 110 rural) for enrollment from both study sites. Among the 220 women, 202 fulfilled the inclusion criteria. However, 20 urban and 22 rural women refused to participate in the study as they did not feel comfortable talking about menopause. Thus, a total of 160 postmenopausal women (80 from each site) were selected for participation. Sample size and sampling strategy are shown in Figure 2.

Development of tool and data collection

The questionnaire was developed in conjunction with a gynecologist and reproductive health specialist. A series of 20 close-ended questions was created to assess overall level of knowledge and attitudes of the participants about menopause with response options of "Yes," "Not sure," and "No." An additional 18 items were developed to assess attitudes toward menopause using "Agree" and "Disagree" options. The Bengali version of the survey questionnaire was pretested among 20 women (10 from urban and 10 from rural settings), who fulfilled inclusion criteria in nearby nonsample sites. The questionnaire was pretested to obtain feedback on the appropriateness, sequencing, and understanding of the questions.

This feedback was used for iterative revisions to the wording and ordering of questions and developing question prompts.

During April to December 2015, two experienced female interviewers carried out semistructured interviews at the participants' homes. Informed consent was obtained from each of the participants. Demographic and socioeconomic characteristics were recorded, including age, marital status, religion, educational status, family type, occupation, and monthly family income. For the knowledge questionnaire, correct responses were assigned scores of 1; incorrect and "Not sure" responses received scores of 0. Total scores were calculated based on the number of correct responses. A score of less than 50% was considered poor knowledge, 50% to 79% moderate, and 80% and above good (35). For the questionnaire regarding attitudes toward menopause, "Disagree" responses were given scores of 0, and "Agree" responses were given scores of 1. Scores of less than 50% were considered as having a negative attitude towards menopause, and scores greater than 50% were considered as having a positive attitude.

Data analysis

After data cleaning and coding, we used STATA version 13 (Statacorp, College Station, TX) for data entry and logic error detection and analysis. We summarized the sociodemographic characteristics of the participants according to frequencies and percentages if the variables were categorical. For numerical variables, we calculated mean and standard deviation for symmetric distribution and median and interquartile range for asymmetric distribution. To assess knowledge and attitudes about menopause, we determined prevalence across different indicators with a 95% CI. We also evaluated the distribution of knowledge and attitudes of participants across demographic variables, and compared the variation between indicators of knowledge and attitudes with the variation of demographic variables using chi-squared analyses. We conducted separate bivariate logistic regression to explore the factors associated with knowledge and the attitudes of women toward menopause.

Based on the literature and experiences, we conceptualized that socioeconomic and demographic variables influence women's menopause-related healthy behavior through enhancing their knowledge and attitudes (Fig. 3).

Ethical issues and consent to participate

We obtained institutional ethical approval for this study from the Faculty of Allied Health Sciences at Daffodil International University, Bangladesh. Before starting the data collection, we clearly explained the study objectives and obtained written informed consent from participants. Participants who were unable to read and write could use a thumbprint to denote consent. Given the local cultural context, we also obtained verbal consent for participation from the household head (either husband or father in law/mother in law). Anonymity and confidentiality were maintained while obtaining and presenting study information.

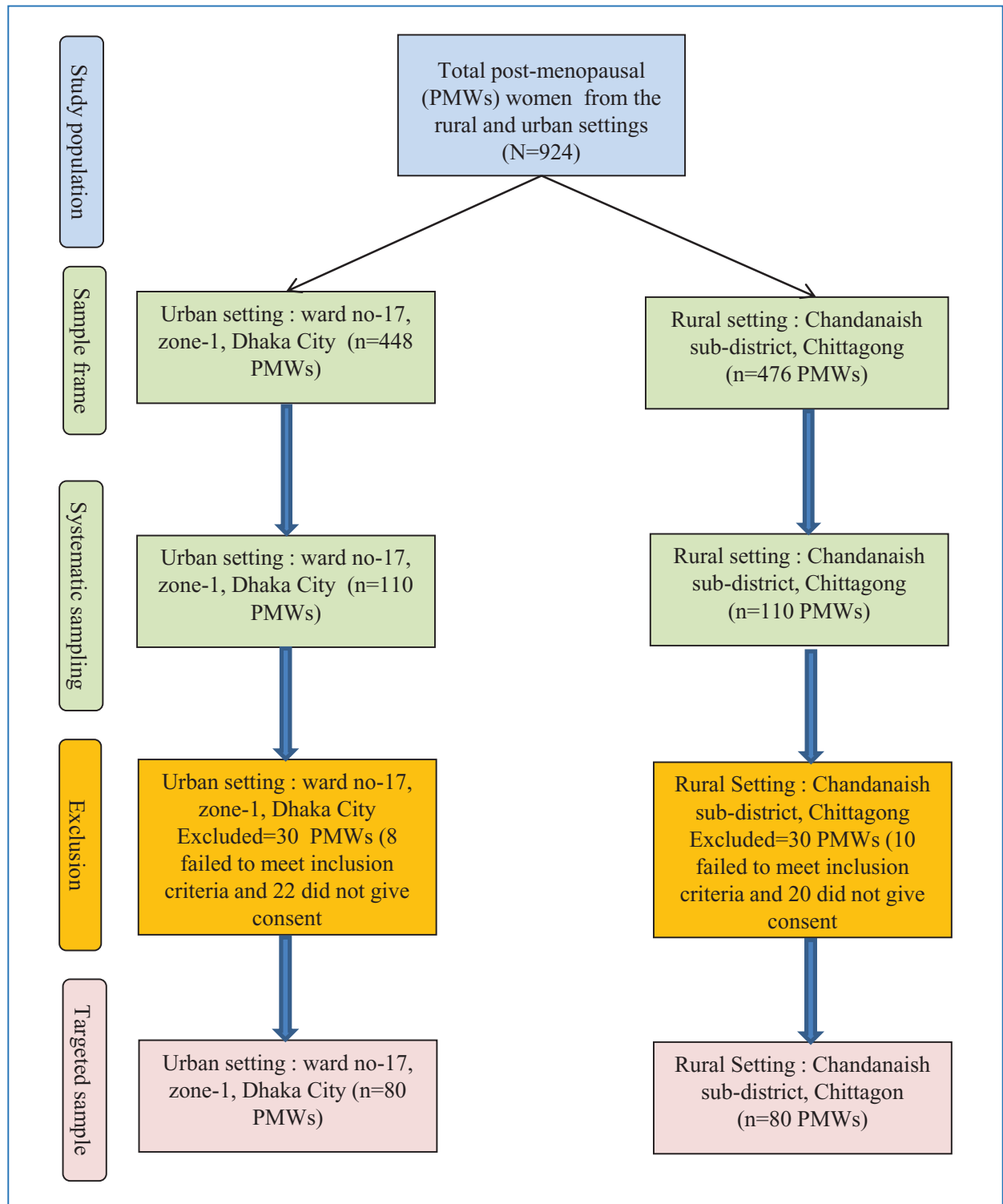


FIG. 2. Sample size for the study and sampling strategy.

RESULTS

Sociodemographic characteristics of the participants

Among the 160 participants, the mean age was 54.55 years (standard deviation = 3.92), with a minimum age of 46 and a maximum age of 60 years. Most of the participants (85%) were postmenopausal, defined as the absence of menses over 12

consecutive months. The majority of the study participants from both sites were married (81%). Nearly all of the urban participants had some level of education (97.5%), but 22.5% of the rural participants did not have any formal education. The average family monthly income was also significantly different between urban and rural women (Table 1). Forty-one percent of

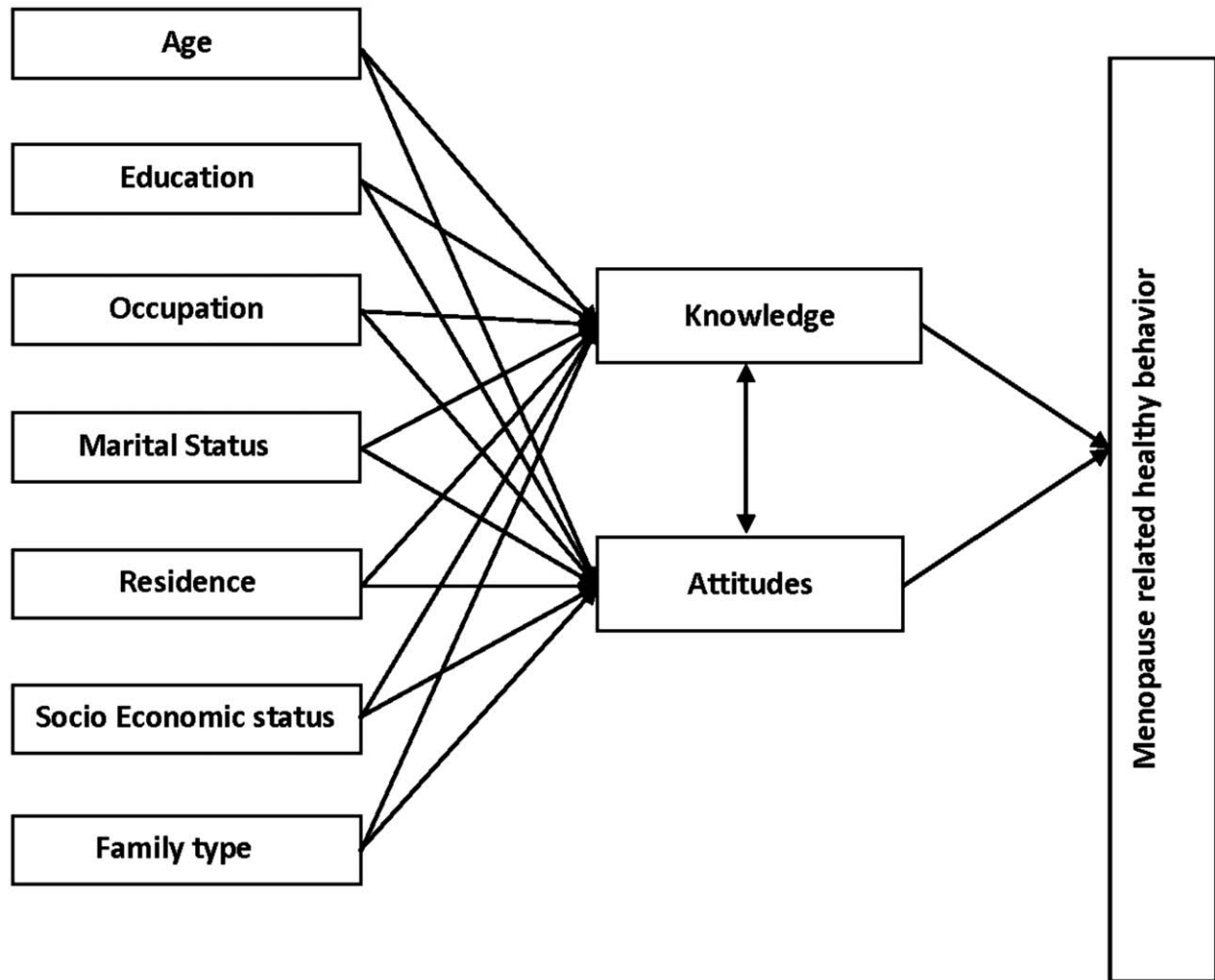


FIG. 3. Conceptual framework on menopause-related knowledge and attitudes.

the urban participants were from nuclear families, whereas 76% of the rural participants were living with extended family. The majority of the rural participants were housewives by profession (91%), whereas 42% of the urban participants were employed outside the home. Sociodemographic characteristics of the study participants are shown in Table 1.

Knowledge and attitude scores of the study participants about menopause

Regarding the status of knowledge, the study revealed that the majority of the study participants had poor (23%) and moderate (46%) knowledge about the menopause. Around one fourth (22.5%) had good attitudes toward and only 14% of the participants had very good attitudes toward menopause. Knowledge and attitude scores of women are shown in Table 2.

Participants' knowledge about menopause

Women living in an urban setting had significantly better knowledge about menopause than women living in a rural

setting ($P=0.001$). Three-fifths of the study participants reported that menstruation stops suddenly during menopause. With regards to the physical condition related to menopause, 38% (61/160) of participants thought that weaker or thinner women reached menopause earlier than stronger women, but 61% of rural women and only 15% of urban women agreed with this statement, demonstrating a highly significant ($P=0.001$) knowledge gap. More than two-fifths (43%) of the women from both study areas were not sure whether menopause increases genital infections or not. Around 19% of rural and 10% of urban participants reported that menopause increases the weight of women. Approximately half (49.4%) of the study participants from both sites were not sure whether or not menopause symptoms were preventable and curable. Participants' knowledge about menopause is depicted in Table 3.

Approximately half (77/160) of the participants reported that menopause increases osteoporosis in women and around two-thirds (113/160) thought menopause causes dryness and wrinkles in women. In response to questions regarding the

TABLE 1. Sociodemographic characteristics of the study participants

Variable	Urban n (%)	Rural n (%)	Total N (%)
Age in years			
46-50	33 (41)	9 (11)	42 (26)
51-55	25 (31)	32 (40)	57 (36)
56-60	22 (28)	39 (49)	61 (38)
Mean age 54.55 (SD ± 3.92); minimum age 46, maximum age 60			
Menopause status			
Postmenopausal	67 (84%)	69 (86%)	136 (85%)
Perimenopausal	13 (16%)	11 (14%)	24 (15%)
Marital status			
Married	69 (86)	60 (75)	129 (81)
Unmarried	3 (4)	0 (0)	3 (2)
Divorced	0 (0)	0 (0)	0 (0)
Widowed	8 (10)	20 (25)	28 (17)
Religion			
Muslim	76 (95)	74 (93)	150 (94)
Hindu	4 (5)	6 (7)	10 (6)
Level of education completed			
No education	2 (2.5)	19 (22.5)	20 (12.5)
Primary education	28 (35)	32 (45)	64 (40)
Secondary education	27 (35)	16 (21)	45 (28.1)
Higher education	24 (27)	11 (11)	31 (19.4)
Monthly family income (BDT)			
<10,000	1 (0)	6 (7.5)	7 (4)
10,001-15,000	3 (4)	7 (9)	10 (6)
15,001-20,000	22 (27)	61 (76)	83 (52)
20,001-25,000	27 (34)	4 (5)	31 (19)
>25,001+	27 (34)	2 (2.5)	29 (18)
Mean income 9,800 (SD ± 4,464.84); minimum 8,500, maximum 33,500			
Family type			
Nuclear family	33 (41)	19 (24)	52 (32.5)
Extended family	47 (59)	61 (76)	108 (67.5)
Occupation			
Housewife	46 (58)	73 (91)	119 (74)
Service /business	34 (42)	7 (9)	41 (26)

BDT, Bangladesh Taka; SD, standard deviation.

loss of sexual desire/libido during menopause, 51% of urban and 70% of rural participants stated this to be true. In response to the statement “menopause causes different diseases including cancer,” more than half (56%) of the rural participants but only 17% of urban participants said they agreed. Sixty percent of the rural participants and 36% of the urban participants were not sure whether menopause decreases cardiovascular diseases. We asked the participants about their opinion on sexual intercourse during menopause and two-thirds (117/160) of them reported that menopause causes vaginal dryness and painful sexual intercourse, and only 9.4% (15/160) reported not having vaginal dryness and pain during sexual intercourse. More than one-third (36%) of urban and 20% of rural participants said that menopause causes urinary frequency and dysuria, but more than half (52%) of the rural participants disagreed with the statement. Overall, 51% (82/160) of the participants thought that menopause affects the power of concentration and memory. Approximately 42%

(67/160) of the participants reported that stress and depression increase during menopause as well.

Participants’ attitudes toward menopause

The study also explored the participants’ attitudes about menopause, and we found mixed opinions between rural and urban women (Table 4). Sixty-one percent (49/80) of urban and 38% (30/80) of rural women had positive attitudes toward consulting a physician during menopause, which was statistically significant ($P=0.001$) between the two groups. The results demonstrated similar attitudes toward consulting a counselor/psychologist during menopause among urban and rural women ($P=0.002$). Seventy-nine percent of urban participants and 91.2% of rural participants agreed that menopause was an unpleasant experience in their life, and 20% of participants from both groups felt better after menopause.

More rural than urban participants reported that menopause changed their overall attitudes and lifestyle ($P=0.003$). A

TABLE 2. Knowledge and attitudes score of the study participants about menopause

Knowledge and attitudes scores	Poor 1-5 n (%)	Moderate 6-10 n (%)	Good 11-15 n (%)	V. good 11-15 n (%)	Total N (%)
Knowledge	37 (23.1%)	74 (46.2%)	30 (18.8%)	19 (11.9%)	160 (100%)
Attitudes	40 (25%)	61 (38.1%)	36 (22.5%)	23 (14.4%)	160 (100%)

TABLE 3. *Participants' knowledge about menopause by urban and rural setting*

Variable	Urban (n = 80)			Rural (n = 80)			Total (N = 160)			P
	Yes (%)	Not sure (%)	No (%)	Yes (%)	Not sure (%)	No (%)	Yes (%)	Not sure (%)	No (%)	
Basic knowledge about menopause	70 (87.5)	2 (2.5)	8 (10)	53 (66.2)	16 (20)	11 (13.8)	123 (76.9)	18 (11.2)	19 (11.9)	<0.001
Knowledge about symptoms of menopause	64 (80)	11 (13.8)	5 (6.2)	46 (57.5)	16 (20)	18 (22.5)	110 (68.8)	27 (16.8)	23 (14.4)	<0.01
Regular menstruation stops at late age is the symptom of menopause	50 (62.5)	23 (28.7)	7 (8.8)	46 (57.5)	19 (23.7)	15 (18.8)	96 (60)	42 (26.3)	22 (13.7)	0.178
Menopause may happen due to increasing sexual hormones	4 (5)	19 (23.7)	57 (71.3)	6 (7.5)	39 (48.7)	35 (43.8)	10 (6.3)	58 (36.3)	92 (57.4)	<0.01
Menopause may occur earlier to women with poor health	12 (15)	33 (41.3)	35 (43.7)	49 (61)	28 (35)	3 (3.7)	61 (38.1)	61 (38.1)	38 (23.2)	<0.001
Menopause increases the chance of genital infections of women	25 (31.3)	37 (46.2)	18 (22.5)	39 (48.7)	32 (40)	9 (11.3)	64 (40)	69 (43.1)	27 (16.9)	<0.01
Menopause may lead to weight gain and increased body fat	8 (10)	26 (32.5)	46 (57.5)	15 (18.7)	24 (30)	41 (51.3)	23 (14.4)	50 (31.3)	87 (54.3)	<0.05
Is menopause preventable/symptoms are preventable and curable	5 (6.3)	34 (42.4)	41 (51.3)	13 (16.3)	45 (56.2)	22 (27.5)	18 (11.3)	79 (49.4)	63 (39.4)	0.278
Menopause increases osteomalacia in women	33 (41.3)	35 (43.7)	12 (15)	44 (55)	28 (35)	8 (10)	77 (48.1)	63 (39.4)	20 (12.5)	0.207
Due to menopause the skin gets wrinkled and dry	60 (74)	11 (14)	9 (12)	53 (66.3)	19 (23.7)	8 (10)	113 (70.6)	30 (18.8)	17 (10.6)	0.319
Do you think menopause causes all sexualities to women	41 (51.2)	12 (15)	27 (33.8)	56 (70)	17 (21.2)	7 (8.8)	97 (60.6)	29 (18.1)	34 (21.3)	<0.001
Menopause may cause the increase risk of cancer, especially breast cancer.	14 (17.5)	38 (47.5)	28 (35)	45 (56.2)	23 (28.8)	12 (15)	59 (36.9)	61 (38.1)	40 (25)	<0.0001
Are you aware that menopause increases risk of cardiovascular disease in the form of higher blood pressure and cholesterol levels	12 (15)	29 (36.3)	39 (48.7)	13 (16.3)	48 (60)	19 (23.7)	25 (15.6)	77 (48.1)	58 (36.3)	<0.01
Do you think additional seen in women during menopause stage	5 (6.3)	14 (17.4)	61 (76.3)	07 (8.8)	18 (22.5)	55 (68.7)	12 (7.5)	32 (20)	116 (72.5)	0.564
Menopause causes vaginal dryness and pain during sexual intercourse	62 (77.5)	13 (16.2)	5 (6.3)	55 (68.7)	15 (18.8)	10 (12.5)	117 (73.1)	28 (17.5)	15 (9.4)	0.328
Menopause causes rapid urinary frequency and dysuria	29 (36.3)	27 (33.7)	24 (30)	16 (20)	22 (27.5)	42 (52.5)	45 (28.1)	49 (30.6)	66 (41.3)	<0.01
Physical activity is helpful to prevent osteomalacia	41 (51.2)	21 (26.3)	18 (22.5)	25 (31.3)	19 (23.7)	36 (45)	66 (41.3)	40 (25)	54 (33.7)	<0.01
Menopause affects the power of concentration and memory of women negatively	36 (45)	19 (23.8)	25 (31.2)	46 (57.5)	16 (20)	18 (22.5)	82 (51.2)	35 (21.9)	43 (26.9)	0.270
The stress and depression feeling increases at this stage	33 (41.2)	17 (21.3)	30 (37.5)	34 (42.4)	25 (31.3)	21 (26.3)	67 (41.9)	42 (26.3)	51 (31.8)	<0.05
After regular menstruation stop, pregnancy prevention is not necessary	57 (71.2)	17 (21.3)	6 (7.5)	54 (67.4)	21 (26.3)	5 (6.3)	111 (69.4)	38 (23.8)	11 (6.9)	0.743

substantial portion of both rural and urban women reported that they were mentally and emotionally humiliated during the start of menopause. Half of the study participants did not

consider themselves real women once they had lost reproductive capacity due to the hormonal changes. This attitude difference was more frequent among rural (61%) compared

TABLE 4. *Study participants' attitudes toward menopause (N = 160)*

Variable	Urban (n=80)		Rural (n=80)		Total (N=160)		P
	Agree (%)	Disagree (%)	Agree (%)	Disagree (%)	Agree (%)	Disagree (%)	
Should go to a Physician at the menopause stage for treatment	49 (61.2)	31 (38.8)	30 (38)	50 (62)	79 (48.1)	83 (51.9)	<0.001
Should see a counselor/psychologist during menopause transition	30 (37.5)	50 (62.5)	13 (16.2)	67 (83.8)	43 (26.9)	117 (73.1)	<0.01
Concerned on how husband will feel about her after menopause	31 (38.8)	49 (61.2)	50 (62.5)	30 (37.5)	81 (50.6)	79 (49.4)	<0.01
Menopause is an unpleasant experience in my life	63 (78.7)	17 (21.3)	73 (91.2)	7 (8.8)	136 (85)	24 (15)	<0.05
I felt better after the menopause	20 (25)	60 (75)	12 (15)	68 (85)	32 (20)	128 (80)	0.083
Menopause changed overall attitudes and my life style	29 (36.3)	51 (63.7)	47 (58.7)	33 (41.3)	76 (47.5)	84 (52.5)	<0.01
I felt mentally and emotionally humiliated at the time of menopause	32 (40)	48 (60)	53 (66.2)	27 (33.7)	85 (53.1)	75 (46.9)	<0.05
My life is more interesting after menopause	31 (38.7)	49 (61.3)	17 (21.3)	63 (78.7)	48 (30)	112 (70)	<0.01
I get more confidence after the change of life	23 (28.7)	57 (71.3)	19 (23.7)	61 (76.3)	42 (26.3)	118 (73.7)	<0.05
Going through menopause really does not change you much	30 (37.5)	50 (62.5)	42 (52.5)	38 (47.5)	72 (45)	88 (55)	<0.05
After the menopause, I do not consider myself a real women	31 (38.7)	49 (61.3)	49 (61.3)	31 (38.7)	80 (50)	80 (50)	<0.01
Menopause is an unpleasant experience in your sexual life	67 (83.8)	13 (16.2)	49 (61.2)	31 (38.8)	116 (72.5)	44 (27.5)	<0.001
During the menopause, I have a better relationship with my husband	5 (6.3)	75 (93.7)	9 (11.3)	71 (88.7)	14 (8.8)	146 (91.2)	0.201
After the menopause, I was more interested in community affairs	28 (35)	52 (65)	44 (55)	36 (45)	72 (45)	88 (55)	<0.01
I was afraid and hopeless during the start of menopause	68 (85)	12 (15)	51 (63.7)	29 (36.3)	119 (74.4)	41 (25.6)	<0.01
A women often get self-centered at the time of the menopause	38 (47.5)	42 (52.5)	35 (43.7)	45 (56.3)	73 (45.6)	87 (54.4)	0.367
I did crazy things that I did not understand in menopause starting	27 (33.7)	53 (66.3)	31 (38.7)	49 (61.3)	68 (42.5)	92 (57.5)	0.311
I will share my experience with other women so that they are aware of this transition	59 (73.7)	21 (26.3)	41 (51.3)	39 (48.7)	100 (62.5)	60 (37.5)	<0.01

with urban (39%) women ($P = 0.004$). The majority (91.2%) of the participants reported that their relationship with their husbands deteriorated during menopause. According to the questionnaire findings, 74.4% of the women felt nervous and hopeless during this hormonal change, and urban participants were significantly more frightened and anxious than rural participants (85% vs 63.7%; $P = 0.002$). The study revealed that 45.6% (73/160) of the women became self-centered, and 42.5% did something they deemed crazy during menopause. The findings showed that 62.5% (100/160) of the participants agreed that they would share this experience with others, including their daughters and daughters-in-law, friends, neighbors, and other women so that they can manage the transition smoothly. These attitudes were more positive among the urban women (74%) than the rural women (51%), which was also found to be statistically significant ($P = 0.003$).

Factors associated with knowledge and attitudes about menopause

As part of this study, we further investigated the factors associated with knowledge and attitudes of women toward menopause. Risk factor analysis of knowledge and attitudes of the study participants are shown in Table 5.

Women’s education, residence, marital status, family type, and occupation played a significant role in knowledge and attitudes of menopause. Compared to women from low socioeconomic backgrounds, middle class women were more likely

to have knowledge about menopause (risk ratio [RR] = 4.60, 95% CI = 1.74-12.10). Women who lived in urban areas had increased knowledge about menopause compared to women who lived in rural areas (RR = 5.17, 95% CI = 2.33-11.48). Adjusting for other associated factors, more educated women were expected to have more opportunities (no education vs primary education, RR = 3.91, 95% CI = 0.66-22.92; no education vs secondary education, RR = 6.10, 95% CI = 1.26-29.41; no education vs higher education, RR = 6.74, 95% CI = 1.33-34) to gain knowledge about menopause compared to less educated women. In extended families, women had more opportunities (RR = 1.30, 95% CI = 0.05-3.0) to share their problems about menopause, whereas women in nuclear families felt isolated. Similar scenarios occurred with women who held jobs (RR = 8.67, 95% CI = 1.94-38.58), because women who worked outside of the home were more conscious about their health compared to women who were housewives.

Key barriers to knowledge of the study participants about menopause

The study aimed to identify potential barriers to acquiring knowledge about menopause, shown in Figure 4. Access to information 63%, (95% CI: 58-73), social stigma 57%, (95% CI: 39-58), and shame/shyness 52% (95% CI: 44-60) were the key barriers mentioned to obtaining knowledge about menopause in both study areas.

TABLE 5. Risk factor analysis of knowledge and attitudes of the study participants

Characteristics/risk factor	Bivariate analysis RR (95% CI)	P	Multivariate analysis OR (95% CI)	P
Age				
46-50	1		1	
51-55	0.76 (0.30-1.94)	0.577	0.81 (0.60-1.09)	0.164
56-60	1.40 (0.63-3.10)	0.399	1.19 (0.88-1.62)	0.241
Marital status ^a				
Married	1		1	
Unmarried	1.33 (0.57-3.10)	0.510	1.30 (0.55-3.06) ^a	0.549
Socioeconomic condition ^b				
Poor	1		1	
Middle	4.60 (1.74-12.10)	0.002	0.53 (0.37-0.76) ^b	<0.001
Rich	0.54 (0.32-0.91)	0.020	0.54 (0.27-1.09)	0.090
Residence ^c				
Rural	1		1	
Urban	5.17 (2.33-11.48)	0.001	5.48 (2.36-12.69)	<0.001
Education ^d				
No education	1		1	
Primary	8.15 (1.56-46.07)	0.013	3.91 (0.66-22.92)	0.131
Secondary	9.84 (2.15-44.98)	0.003	6.10 (1.26-29.41)	<0.05
Higher	7.36 (1.53-35.32)	0.013	6.74 (1.33-34.00)	<0.05
Family type ^e				
Nuclear family	1		1	
Extended family	2.30 (0.26-7.0)	0.002	1.30 (0.55-3.06)	<0.01
Occupation ^e				
Housewife	1		1	
Service/others	11.05 (2.54-48.03)	0.001	8.67 (1.94-38.58)	<0.01

CI, confidence interval; RR, risk ratio.

^aAdjusted by socio-economic status, residence, education, family type.

^bAdjusted by residence, education, family type, occupation.

^cAdjusted by education, family type, occupation.

^dAdjusted by socioeconomic status, residence, family type, occupation.

^eAdjusted by socioeconomic status, residence, occupation.

^fAdjusted by socioeconomic status, residence, education, occupation.

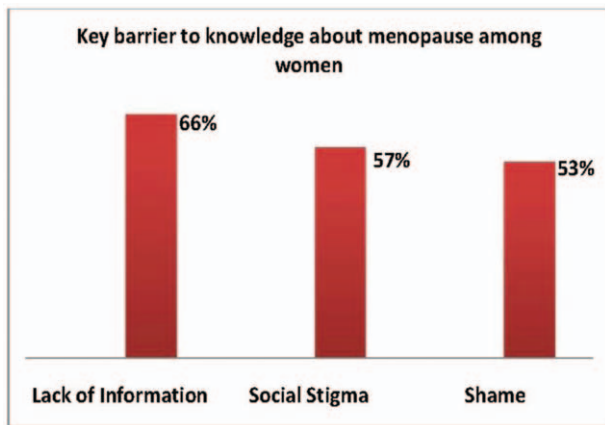


FIG. 4. Key barriers to knowledge of the study participants about menopause.

DISCUSSION

This is the first cross-sectional study that has explored women's knowledge and attitudes related to menopause among both rural and urban women in Bangladesh. This study revealed that there is a significant difference in knowledge and attitudes between rural and urban women about menopause, and this difference is influenced by education, occupation, socioeconomic status, and living location (urban/rural) of women. This finding is consistent with a study conducted among Iranian women.²⁷ Around one-fourth of the study participants did not have any knowledge about menopause and its appropriate management. All of the urban participants had some level of education, but 22.5% of the rural participants did not have any formal education. Rural participants had lower levels of knowledge and poorer attitudes toward menopause in comparison to urban women. Three-fourths of the participants were housewives, and the remaining one-fourth had salaried jobs by profession. The women with jobs had better knowledge and attitudes ($P < 0.001$) as they got the opportunity to share with female colleagues and could also learn from female colleagues. Family monthly income was also found to have a statistically significant association with menopause knowledge and attitudes, which is similar to other study findings.²⁸ Sixty-one percent of urban and 35% of rural women thought that they should visit a physician during menopause, and this difference was statistically significant between the two groups of women. This is perhaps a reflection of women's cultural context, residence, education, economic status, and professional affiliation.²⁹ Some other studies on the connection between education, culture, and menopause showed that sociocultural aspects and geographical location greatly influence the meanings and experiences of menopause among women.^{30,31} In this study, the majority (85%) of the women considered the menopause transition as an unpleasant experience in their lives, and half of the women did not consider themselves real women because menopause ended their reproductive function and reduced their sexual lives. This study identified that social stigma (57%), access to

information (63%), and shame/shyness to talk about menopause (52%) were key barriers to obtaining knowledge about menopause in both study areas in Bangladesh. This kind of barrier has been observed in many countries in the world, including developed countries. A study conducted in the USA identified similar barriers to gaining knowledge about menopause.³² Although there are several barriers to obtaining knowledge about menopause, the majority of the participants mentioned that they were willing to share their knowledge with others.

Limitations of the study

So far as we know, there is no study in Bangladesh comparing the knowledge and attitudes regarding menopause between rural and urban postmenopausal women. This study identified that knowledge and attitudes were significantly different between rural and urban women. The study had some limitations as well. As this was a cross-sectional study with a small sample population, it does not exclude other confounding effects of the natural aging process that may influence the experience of symptoms. In addition, some participants could have been misclassified as perimenopausal/postmenopausal. A study with a larger sample could provide a more concrete evaluation of this issue.

Recommendations

The Government of Bangladesh can take initiatives via educational institutions, health service providers, and print and electronic media to educate women about menopause, its symptoms, treatment options, and long-term consequences. Community healthcare service providers need to be actively engaged to raise awareness among midlevel women about the transition and appropriate management of menopause. Community-level volunteers such as community health workers traditional birth attendants, school teachers, female local government representatives, religious leaders, and nongovernment organization activists can also play an important role to increase mass awareness. It is also essential to educate men about menopause so that they can provide continuous support during this transition.

CONCLUSIONS

Menopause is an important part of a woman's life. In this study, nearly a quarter of the participants did not have any knowledge about menopause. The study clearly indicated that there was poor knowledge about menopause, and the level of knowledge was associated with the level of education. Physical, mental, educational, psychological, and social aspects need to be taken into consideration in developing appropriate programs. In addition, tailored pre- and postmenopausal educational interventions are required according to status, symptoms, and severity of menopause.

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