

Knowledge, Attitude, And Practice About Pelvic Floor Muscle Exercise Among Bangladeshi Postpartum Women

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ABSTRACT

Introduction: Postpartum urinary incontinence (UI) negatively impacts women's quality and conjugal life. Pelvic floor muscle exercise (PFME) is an effective method for the prevention of UI.

Aims and Objective: The aim of this study is to explore the level of knowledge, attitude, and practice of PFME among Bangladeshi postpartum women.

Methods: A descriptive correlational study was done among 156 postpartum women from a tertiary hospital in Dhaka, Bangladesh. A structured, self-administered, close-ended questionnaire was used. Data were analyzed by using statistical package for the social sciences (SPSS) version 23.

Results: The result demonstrated overall mean score of PFMEs knowledge, attitude, and practice were found to be 2.87 ± 3.58 , 2.99 ± 0.93 , and 0.0 ± 0.0 , respectively. There were significant differences in the level of knowledge toward PFME relating to young age ($F = 7.185$, $p < .01$), higher education ($F = 23.554$, $p < .001$), occupation ($F = 14.55$, $p < .001$), monthly income ($F = 5.316$, $p < .01$), and number of children ($r = .158$, $p = .049$). Moreover, a significant differences in attitude toward PFME was revealed on young age ($F = 5.029$, $p < .01$), higher education ($F = 15.59$, $p < .001$), occupation ($F = 3.34$, $p = .038$), and BMI ($t = -1.996$, $p = .048$). A significant positive relation found between knowledge and attitude toward PFME ($r = .513$, $p < .01$).

Conclusion: In conclusion, the study on postpartum women exhibited a low level of knowledge, a little bit positive attitude, & zero level of PFME practices. Finding suggested the need for structured PFME program among Bangladeshi postpartum women that enable them to acquire the necessary knowledge, appropriate attitude, and performing postpartum PFME.

Keywords: Pelvic floor muscle exercise, postpartum women, knowledge, attitude, and practice.

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I. INTRODUCTION

Childbirth is one of the main causes of urinary incontinence (UI) that affects millions of women worldwide ⁽¹⁾. It also puts a heavy financial burden on the healthcare systems of many countries ⁽²⁾. The prevalence of UI varies widely from 6 to 43 %; with the most recent data suggesting an increase in the prevalence of 18.6 to 60 % of postpartum women ⁽³⁾. In developing countries found the mean prevalence to be of 28.7 %, within a range of 5.2 % to 70.8 % ⁽⁴⁾.

Several studies reported that UI is a significant health problem that negatively impacts women's quality and sexual life ^(5, 6); despite this, Women perceive the problem to be a natural result of fertility and an inevitable and incorrigible outcome of aging ⁽⁷⁾. This perception leads women to be reluctant to pursue healthy behaviors and rectify the condition ⁽⁸⁾. A cross-sectional study in Pakistan reported that 17 % of women said UI had no impact on their lives, compared to 45 % who reported greater or moderate impact on their lives ⁽⁹⁾.

Pelvic floor muscle exercise (PFME) is the first-line treatment of UI ⁽¹⁰⁾. PFMEs helps to strengthen the pelvic floor muscles that improve urethral sphincter function ⁽¹¹⁾. Kegel (1948) is the first to suggest the positive effects of regular, specific strength training of the pelvic floor muscles on female UI and pelvic organ prolapse ⁽¹²⁾. Systematic review studies have confirmed such findings by showing that pelvic floor exercise can improve up to 70% of the symptom of stress incontinence (SI) ⁽¹³⁾.

Several studies showed that the women who practice continued pelvic floor muscle exercise did not face urinary incontinence in life. The investigator is more interested in this area because the nursing discipline has limitations of knowledge on this issue. Furthermore, studies of urinary incontinence on Bangladeshi women specifically are limited. This study will serve an important purpose for contextualizing the current situation of Bangladeshi postpartum mothers.

Therefore, it is necessary to take an initial step to explore to what extent Bangladeshi women practice PFME and the level of their knowledge and attitude on both incontinence and the appropriate remedies. Thus, the investigator would like to investigate the knowledge (K), attitude (A), and practice (P) of PFME among Bangladeshi postpartum women.

II. OBJECTIVES

General Objective: The aim of this study is to explore the level of knowledge, attitude, and practice of PFME among Bangladeshi postpartum women.

Specific Objectives

- 1) To explore the level of knowledge, attitude, and practice of PFME among Bangladeshi postpartum women.
- 2) To explore the differences in knowledge, attitude, and practice of PFME between Bangladeshi postpartum women and various respective personal characteristics.
- 3) To examine the relationship between knowledge, attitude, and practice of PFME among Bangladeshi postpartum women

III. MATERIAL AND METHODS

This descriptive correlational study was conducted in a tertiary level teaching hospital in the Dhaka city, consisting of 156 postpartum women who met inclusion criteria, and attended the outpatient department and immunization center at Mugda Medical College Hospital (MMCH), Dhaka, Bangladesh from January 2018 to February 2018 were recruited conveniently.

Study design: A descriptive correlational design was used in this study.

Study Location: The study was conducted outpatient department and immunization center at Mugda Medical College Hospital (MMCH), Dhaka, Bangladesh.

Study Duration: June 2017 to July 2018.

Sample size: 156 postpartum women

Sample size calculation: Power analysis was used to estimate the number of the subjects in this study. The estimated sample size was calculated for an acceptable minimum level of significant alpha (α) of 0.05, an expected power of 0.80 1-beta ("1- β ", the power of the test), and an estimated population effect size of gamma 0.25 (γ) as the medium effect size used in the nursing studies (Grove, Burn, & Gray, 2013). According to power analysis, the estimated sample size was 156.

Subject & selection method: The postpartum women who met inclusion criteria, and attended the outpatient department and immunization center from January 2018 to February 2018 were recruited conveniently. The inclusion criteria were: (1) normal spontaneous vaginal delivery, (2) one month of childbirth to one year, (3) who are eligible and willing to participate in this study?, and (4) can read and write.

Procedure methodology:

The study was approved by ethics committee of the Bangabandhu Sheikh Mujib Medical University (BSMMU) and NIANER (IRB No. NIANER/2017-13).

Data collection was started after obtaining permission from the director of MMCH in Dhaka. A structured questionnaire was prepared in the English language. It was translated into Bengali for data collection. Data were collected from January 2018 to February 2018. It was collected by using a structured self-administered questionnaire at the place in OPD from 8.00 am to 2.00 pm on each official day. The purpose of the study was explained to the participants, and written consent was obtained from them. All mothers participated in the study voluntarily, and the response rate was hundred percent. The participant took about 20 minutes to complete the questionnaire. After collection, it was translated back to English to check for consistency by experts.

Statistical analysis:

Collected data were analyzed by using Statistical Package for Social Sciences (SPSS) version 23. Descriptive statistics such as frequency and percentages mean and standard deviations were used to describe the subject characteristics. Independent t-test, analysis of variance (ANOVA) test, with post-hoc multiple comparisons (Schéffe test) were performed to identify the difference in the level of knowledge and attitude toward PFME according to subject characteristics. The Pearson correlation analyses were performed to examine the relationship between continuous variables. A value of $P \leq 0.05$ was considered statistically significant.

IV. RESULTS

1. Demographic and obstetric characteristics of the subjects

A total of 156 postpartum women recruited for this study. Table 1 shows the demographic and obstetric characteristics of the subjects. Data of the subject revealed that their mean age was 24.65 years (SD = 4.40) with a range from (17–37 years). The most of them were Muslim (96.2%). About a third of the subject was completed secondary school (33.4%) and only master degree (5.1%). Most of them were the housewife (91%) and Govt. employee only (1.9%), and (45%) of the subject had a family income (monthly) 12000–21000 /- (Taka). Majority of the subject (40.4%) had the number of pregnancy 1, and (50.6%) had 1 child. Most of the subject (59.7%) had normal vaginal delivery and place of delivery was hospital (68.6%), and (98.7%) vertex

presentation. A total of 123 subjects showed the weight of newborn at birth. Most of the subject (71.5%) had a birth weight of newborn between 2.5–3.0 kg.

2. Health status of the subject

Overall, the subjects mean score of BMI was 23.38 ± 3.45 with a range from (18–31). Most of the subject had no associated diseases or symptoms with risk factors of UI in the last one month. Only 12.2 % had back pain, and very few (0.6%) had diabetes. Most of the subject was a little bit healthy (81.4%) (Table 2).

Table 1. Distribution of demographic and obstetric characteristics of the subjects

Variables		n	(%)	M±SD	(N = 156) (Max – Min)
Age		156		24.65±4.40	(37–17)
Marital Status	Married	156	(100)		
Religion	Islam	150	(96.2)		
	Hinduism	3	(1.9)		
	Buddhisium	2	(1.3)		
	Christianity	1	(0.6)		
Educational qualification	Primary	48	(30.8)		
	Secondary	52	(33.4)		
	Higher Secondary	23	(14.7)		
	Bachelor degree	25	(16.0)		
	Master degree	8	(5.1)		
Occupation	Housewife	142	(91.1)		
	Government employee	3	(1.9)		
	Private employee	8	(5.1)		
	Others	3	(1.9)		
Monthly income (Taka)	<12000 /-	45	(28.8)	20.66 ± 14.70	(4000–11ac)
	12000–21000 /-	70	(45.0)		
	22000–31000 /-	18	(11.5)		
	≥ 32000 /-	23	(14.7)		
Number of pregnancy	1	156		1.93 ± 0.98	(5–1)
	2	63	(40.4)		
	≥ 3	55	(35.3)		
		38	(24.4)		
Number of children	1	156		1.67 ± 0.78	(4–1)
	2	79	(50.6)		
	≥ 3	53	(34.0)		
		24	(15.4)		
Type of delivery	NSVD	93	(59.7)		
	NSVD with episiotomy	62	(39.7)		
	Assisted vaginal delivery	1	(0.6)		
Place of delivery	Hospital	107	(68.6)		
	Home	49	(31.4)		
Presentation of delivery	Vertex	154	(98.7)		
	Breech	2	(1.3)		
Newborn weight at birth*	≤ 2.40 kg	123		2.89 ± 0.40	(4.0–1.40)
	2.50–3.0 kg	14	(11.4)		
	≥ 3.10 kg	88	(71.5)		
		21	(17.1)		

Note: Newborn weight at birth* missing 33, NSVD = Normal Spontaneous vaginal delivery

Table 2. Distribution of health status of the subject

Variables		n	(%)	M±SD	(N = 156) (Max–Min)
BMI		156		23.38 ± 3.45	(31–18)
Associated diseases or symptoms with risk factors of UI in the last one month					
Diabetes	No	155	(99.4)		
	Yes	1	(0.6)		
Renal disease	No	156	(100.0)		
	Yes	19	(12.2)		
Back pain	No	152	(97.4)		
	Yes	4	(2.6)		

Constipation	No	150	(96.2)
	Yes	6	(3.8)
Others	No	154	(98.7)
	Yes	2	(1.3)
In general, your health	Little bit not healthy	10	(6.4)
	Little bit healthy	127	(81.4)
	Very healthy	19	(12.2)

3. Knowledge, attitude, and practice toward PFME among postpartum women

Knowledge about PFME among postpartum women

Table 3 showed knowledge of the subject toward correct responses PFME. A little more than third (36.5%) knew about labor may cause PFM weakness. While the subject had knowledge about PFM weakness is caused by SUI, uterine prolapse, bladder prolapse, and rectal prolapse (44.2%, 34.6%, 12.2%, and 13.5%, respectively). The subject had knowledge toward PFME consists of tightening and relaxing the pelvic muscles (14.7%), and only (7.1%) knew this movement is also called the Kegel's exercise. Similarly, the subject reported that PFME can be done anywhere and anytime (16%), and can only be done by supine position (5.1%). About (9%) mentioned PFME should hold 10 seconds for each contraction before relaxing and should be done 10 repetitions contraction in each time (8.3%). Around (10.3%) knew when doing PFM contraction, feel gentle lift inside & squeeze around vagina and anus. Similarly when doing pelvic floor muscle contraction, feel PFM tighten together was (9%). The subject knew PFME is the first recommended method for the treatment of UI (9.6 %). A little more than quarter half subject knew PFME can prevent UI (28.8%), and help sexual life (27.6%). The subject had the highest score in the item 'Stress urinary incontinence is caused by PFM weakness' 69(44.2%) with the mean score was (0.44±0.498). However, the subject had the lowest score in knowledge about the item 'PFME can only be done by supine position' 8(5.1) with mean = 0.05 ± 0.22.

Attitude toward PFME among postpartum women

When enquired about the attitude of subjects toward an I do not want to do exercise PFM disagreed (29.5%) and strongly agreed (12.8%) which link to responded positively, whereas positive response of subjects toward PFME is a beneficial exercise agreed (34.7%), and I feel PFME is a boring strongly disagreed (35.4 %). A little more than third (37.9%) of the subject had neutral that I want to talk to others about the benefits of PFME. Similarly, (42.9%) of the subject showed neutral with the statement that I may recommend PFME to others for UI prevention, and a little less than third (30.1%) PFME can help sexual life, whereas only 13.5% believed that PFME can help sexual life. The highest score (3.44 ± 1.286) was for the item 'PFME is a beneficial exercise'. The subject of the item 'I feel PFME is a boring' was the lowest scored (2.03 ± 0.953) shown in (Table 4).

Practice toward PFME among postpartum women

The entire subject (100 %) had never practice toward frequency of PFME shown in (Table 5).

Table 3. Knowledge about PFME of the subjects

Variables	n (%)	(N=156)
		M ± SD
Labor may cause PFM weakness	57 (36.5)	0.37 ± 0.48
SUI is caused by PFM weakness	69 (44.2)	0.44 ± 0.50
PFM weakness can cause uterine prolapse	54 (34.6)	0.35 ± 0.48
PFM weakness can cause bladder prolapse	19 (12.2)	0.12 ± 0.33
PFM weakness can cause rectal prolapse	21 (13.5)	0.13 ± 0.34
PFME consists of tightening and relaxing the pelvic muscles	23 (14.7)	0.15 ± 0.36
This movement is also called the Kegel's exercise	11 (7.1)	0.07 ± 0.26
PFME can be done anywhere and anytime	25 (16.0)	0.16 ± 0.37
PFME can only be done by supine position	8 (5.1)	0.05 ± 0.22
PFME should hold 10 seconds for each contraction before being relax	14 (9.0)	0.09 ± 0.29
PFME should be done 10 repetitions contraction in an each time	13 (8.3)	0.08 ± 0.28
When do PFM contraction, feel gentle lift inside & squeeze around vagina and anus	16 (10.3)	0.10 ± 0.30
When do pelvic floor muscle contraction, feel PFM tighten together	14 (9.0)	0.09 ± 0.29
PFME is the first recommended method for the treatment of UI	15 (9.6)	0.10 ± 0.30
PFME can prevent UI	45 (28.8)	0.29 ± 0.45
PFME can help your sexual life	43 (27.6)	0.28 ± 0.45

Note: PFME= Pelvic floor muscle exercise, PFM= Pelvic floor muscle, UI= Urinary incontinence, SUI= Stress urinary incontinence

Table 4. Attitude of subjects toward pelvic floor muscle exercises

Variable	(N=156)					
	Numbers of responder's					n (%)
	SD	D	N	A	SA	
Attitude toward PFME						
I do not want to do exercise PFM	38(24.4)	46(29.5)	29 (18.6)	23(14.7)	20 (12.8)	3.38 ± 1.34
PFME is a beneficial exercise	17(10.9)	23(14.7)	27(17.3)	54(34.7)	35(22.4)	3.44 ± 1.29
I feel PFME is a Boring	55(35.4)	52(33.3)	40(25.5)	7(4.5)	2(1.3)	2.03 ± 0.95
I want to talk to others about the benefits of PFME	22(14.1)	23(14.7)	59(37.9)	35(22.4)	17(10.9)	3.01 ± 1.17
I may recommend PFME to others for UI prevention	22(14.1)	24(15.4)	67(42.9)	29(18.6)	14 (9.0)	2.93 ± 1.12

I think that PFME can help sexual life 21(13.5) 23(14.7) 47(30.1) 44(28.2) 21 (13.5) 3.13 ± 1.22
 Note: SD = Strongly disagree, D= Disagree, N= Neutral, A= Agree, SA= Strongly Agree, UI=Urinary incontinence

Table 5. Practice of the subjects toward frequency of PFME

Variable	Numbers of responder's n (%)				
	Never	Seldom	Usually	often	Always
How often do you pelvic floormuscle exercise in a week?	156(100)	0(0.0)	0(0.0)	0(0.0)	0(0.0)
How often did you pelvic floormuscle exercise during pregnancy?	156(100)	0(0.0)	0(0.0)	0(0.0)	0(0.0)
How often did you pelvic floor muscle exercise before pregnancy	156(100)	0(0.0)	0(0.0)	0(0.0)	0(0.0)

The overall mean score of the subjects for knowledge, attitude, and practice are shown in Table 6. The entire mean score of knowledge toward PFME was 2.87 ± 3.58. The highest score was 15 and the lowest score was 0. The mean for the total level of attitude toward PFME was 2.99 ± 0.93. The highest score was 5 and the lowest score was 1. And the mean score of practice toward PFME was 0.00 ± 0.00. The highest score was 0 and the lowest score was 0.

Table 6. Mean score of the level of knowledge, attitude and, practice of the subjects toward PFME

Variable	M±SD	(N = 156)	
		Max	Min
Knowledge	2.87 ± 3.58	15	0
Attitude	2.99 ± 0.93	5	1
Practice	0.00 ± 0.00	0	0

4. Differences of PFME knowledge by subjects characteristics

Bivariate analysis was performed for knowledge toward PFME according to demographic and obstetric variables, the knowledge toward PFME was significantly related to age ($F = 7.209, p < .01$). Post hoc finding revealed that the subject with 23–28years of age showed significantly higher mean knowledge toward PFME compared to those with > 29years and < 23years (4.11 ± 3.85 vs 2.26 ± 3.82 vs $1.87 \pm 2.77, P < .01$). A significant difference in knowledge toward PFME related to educational level ($F = 23.554, p < .001$).The result demonstrated that subject with a bachelor degree and above showed significantly higher knowledge compared to those with higher secondary, secondary, and primary level (6.12 ± 4.19 vs 3.74 ± 3.45 vs 2.85 ± 3.24 vs $0.38 \pm 1.19, p < .001$). Similarly, a significant difference in knowledge toward PFME found based on occupation ($F = 14.550, p < .001$). The subjects with Govt. employee showed a significantly higher knowledge than a private employee and housewife (12.67 ± 3.51 vs 2.57 ± 3.38 vs $4.64 \pm 3.50, p < .001$). Moreover, A significant difference in knowledge toward PFME also found based on monthly income ($F = 5.316, P = .002$). The result revealed that subject with 22000– 31000/-(Taka) of monthly income showed significantly higher knowledge as compared to those with $\geq 32000/-, 12000 - 21000/-, and <12000/-$ (4.94 ± 3.84 vs 4.48 ± 4.61 vs 2.63 ± 3.49 vs $1.73 \pm 2.76, p < .001$), and significantly negative correlation between knowledge and number of children ($r = -.158, p = .049$) (Table 7).

Table 7. Differences of PFME knowledge by subjects characteristics

Variable	Categories	M ± SD	F/t/r	(p)
Age (year)	<23 ^a	1.87 ± 2.77	7.185	.01
	23-28 ^b	4.11 ± 3.85		
	>29 ^c	2.26 ± 3.82		
Religion	Muslim	2.85 ± 3.61	0.209	.835
	Non-Muslim	3.17 ± 2.99		
Education	Primary ^a	0.38 ± 1.19	23.554	.001
	Secondary ^b	2.85 ± 3.24		
	Higher secondary ^c	3.74 ± 3.45		
	Bachelor degree ^d and above	6.12 ± 4.19		
Occupation	Housewife ^a	2.57 ± 3.38	14.55	.001
	Govt. employee ^b	12.67 ± 3.51		
	Private employee ^c or others	4.64 ± 3.50		
Monthly income	<12000 ^a	1.73 ± 2.76	5.316	.002
	12000 – 21000 ^b	2.63 ± 3.49		
	22000 – 31000 ^c	4.94 ± 3.84		
	≥ 32000 ^d	4.48 ± 4.61		
Number of Pregnancy	1	2.71 ± 3.30	1.642	.197
	2	3.51 ± 3.85		
	≥ 3	2.18 ± 3.60		
Number of children			- 0.158	.049
	Type of delivery	SVD		
Delivery place	SVD with episiotomy and AVD	3.59 ± 3.85	- 2.092	.038
	Hospital	3.01 ± 3.53		
Delivery presentation	Home	2.55 ± 3.70	0.740	.460
	Vertex	2.90 ± 3.56		
	Breech	0.50 ± 0.70		
BMI	< 25	2.36 ± 3.40	- 2.337	.021
	≥ 25	3.74 ± 3.76		

Disease or symptoms	Yes	2.64 ± 4.50	0.113	.911
	No	2.33 ± 2.51		
Newborn weight at birth	≤ 2.40 kg	2.14 ± 3.70	0.556	.575
	2.50–3.0 kg	2.97 ± 3.28		
	≥ 3.10 kg	3.38 ± 3.81		
In general, your	Little bit not healthy	1.80 ± 2.20	0.480	.620
	Little bit healthy	2.92 ± 3.64		
	Very healthy	3.05 ± 3.82		

5. Differences of attitude toward PFME by subjects characteristics

The differences in attitude and demographic characteristics are expressed in Table 8. Attitude toward PFME was significantly related to age ($F = 5.029, p < .01$). Post hoc finding demonstrates that the subject with 23 – 28 years of age showed significantly higher mean knowledge toward PFME compared to those with >29years and <23years (3.26 ± 0.72 vs 2.85 ± 1.19 vs $2.77 \pm 0.92, P < 0.01$). In the religion, mean score of Muslim and Nonmuslim were (2.97 ± 0.95 and 3.36 ± 0.22 , respectively).By using t-test, there were significant in the ($t = - 3.278, p = .005$). A significant difference in attitude toward PFME related to educational level ($F = 15.59, p < .001$).The finding with a bachelor degree and above showed significantly higher mean knowledge as compared to those with higher secondary, secondary, and primary level (3.51 ± 0.80 vs 3.38 ± 0.74 vs 3.06 ± 0.83 vs $2.36 \pm 0.86, p < .001$). Similarly, a significant difference in knowledge toward PFME also found based on occupation ($F = 3.34, p = .038$). The subjects of Govt. employee showed a higher mean knowledge than a private employee and housewife (4.00 ± 0.29 vs 3.42 ± 0.88 vs $2.93 \pm 0.93, p = .038$). Furthermore, there was significant difference found between mean score of BMI < 25 and ≥ 25 (2.88 ± 0.99 vs $3.17 \pm 0.93, t = -1.996, p = .048$).

Table 8. Differences of attitude toward PFME by subject characteristics

(N = 156)				
Variable	Categories	M ± SD	F/t/r	(p)
Age (year)	<23 ^a	2.77 ± 0.92	5.029	.01
	23-28 ^b	3.26 ± 0.72		
	>29 ^c	2.85 ± 1.19		
Religion	Muslim	2.97 ± 0.95	- 3.278	.005
	Non-Muslim	3.36 ± 0.22		
Education	Primary ^a	2.36 ± 0.86	15.59	.001
	Secondary ^b	3.06 ± 0.83		
	Higher secondary ^c	3.38 ± 0.74		
	Bachelor degree ^d and above	3.51 ± 0.80		
Occupation	Housewife ^a	2.93 ± 0.93	3.34	.038
	Govt. employee ^b	4.00 ± 0.29		
	Private employee ^c or others	3.42 ± 0.88		
Monthly income	<12000 ^a	2.73 ± 0.93	2.042	.110
	12000 – 21000 ^b	3.03 ± 0.84		
	22000 – 31000 ^c	3.31 ± 1.00		
	≥ 32000 ^d	3.09 ± 1.08		
Number of Pregnancy	1	2.94 ± 0.90	3.045	.051
	2	3.21 ± 0.83		
	≥ 3	2.74 ± 1.06		
Number of children			- 0.074	.357
	Type of delivery			
Delivery place	SVD	2.84 ± 0.96	-2.346	.20
	SVD with episiotomy and others	3.20 ± 0.87		
Delivery presentation	Hospital	3.04 ± 0.961	0.985	.326
	Home	2.88 ± 0.864		
BMI	Vertex	2.99 ± 0.93	-0.21	.983
	Breech	3.00 ± 1.41		
Disease or symptoms	< 25	2.88 ± 0.99	-1.996	.048
	≥ 25	3.17 ± 0.93		
Newborn weight at birth	Yes	2.95 ± 1.01	0.922	.366
	No	3.50 ± 0.44		
In general, your	≤ 2.40 kg	2.65 ± 0.97	1.446	.240
	2.50–3.0 kg	3.10 ± 0.89		
	≥ 3.10 kg	3.10 ± 1.04		
In general, your	Little bit not healthy	2.92 ± 0.96	0.342	.711
	Little bit healthy	2.97 ± 0.95		
	Very healthy	3.15 ± 0.78		

6. The relationship between knowledge and attitude among the subjects

The Pearson correlation (r) was used to analyze the correlation between knowledge and attitude. The study findings revealed a significant positive correlation between knowledge and attitude ($r = .513, p < .01$) (Table 9).

Table 9. Correlation between knowledge and attitude toward PFME

(N = 156)	
Variable	Knowledge
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	<i>r</i>	<i>p</i>
Attitude	.513	.01

V. DISCUSSION

A total of 156 postpartum women who met inclusion criteria and attended outpatient department for postpartum check-up and immunization center for vaccination of the baby at Mugda Medical College Hospital (MMCH), Dhaka from January 2018 to February 2018, were included in the study. Hence, this study disclosed the knowledge, attitude, and practice of PFME among a sample of Bangladeshi postpartum women.

Demographic characteristics the subjects

The subjects consisted of young postpartum women (mean age 25 years). One third had secondary school education and only (5.1%) was master degree. These characteristics are similar to those found in the sample described by (Ribeiro, & Milanez, 2011). It has been found from previous studies that subjects' characteristics such as age⁽¹⁵⁾, level of education^(16, 14), occupation^(17,15), and parity⁽¹⁸⁾ significantly influence knowledge, attitude, and practice of postpartum women toward exercises.

In this study, Bangladeshi postpartum women knowledge on PFME was measured using 16 item with true/false/ don't know as the mean score was (2.87 ± 3.58), which was about 17.94 % level of knowledge. This finding suggested that Bangladeshi postpartum women demonstrated the low level of knowledge on PFME, and it may negatively impact women's quality and conjugal life. These findings were consistent with the previous study^(18, 17, 19). Another study⁽¹⁹⁾ mentioned knowledge regarding risk factors of UI and Kegel exercise in Polish women were very poor, such as more than half women did not know the risk factors of UI and quarter half knew the causes and more than half did not know Kegel exercise and only (18.6 %) admitted women having practiced or still practicing this exercise. A study in Sri Lanka⁽¹⁷⁾ stated that knowledge regarding antenatal exercise was 'poor' (72.7%) among Colombo pregnant women; only 6.4 percent and 5.5 percent knew the importance of strengthening pelvic floor exercises and technique of performing it, respectively. Another study⁽¹⁸⁾ also reported Nigerian nursing mothers had poor knowledge about types, benefits of any contraindication to postnatal exercise; only (26.7%) knew PFME.

In contrast to Rosediani et al. (2012), mentioned Malaysian antenatal mother's knowledge score was 'good' 51.2 percent and practice score was only 10.7 %, despite the majority of respondents came from good educational status. Faiza (2016) found Sudan postpartum women knowledge regarding the benefit of Kegel exercise was 46.8 % but only 6 % women perform it regardless of majority women came from good educational status. In contrast to a current study, this explains why the percentage of poor knowledge score in this study was only 17.94 % percent. Perhaps, this could be several factors such as majority of postpartum women came from secondary school (33.4%) while master degree only (5.1 %), and home delivery was (31.4 %), lesser degree of motivation by health personnel to know about PFME before being hospital discharged, and lack of concern regarding teaching and guidance on importance of PFME, and don't know how to perform it, low attendance of postpartum follow-up (recommended postpartum visit) and/ or limited interaction with health professionals. Therefore, it is necessary to improve postpartum women's knowledge, attitude, and practice of PFME by providing them with effective education programs thereby chance to reduce potential risk.

Furthermore, there were significant differences in knowledge toward PFMEs based on age, educational qualification, occupation and monthly income (family), and the number of children. The postpartum women with 23–28 years of age showed significantly higher mean knowledge score as compared to their counterparts ($p = 0.01$). Educational qualification of bachelor degree and above showed significantly higher mean knowledge score compared to those with higher secondary, secondary, and primary level ($p = .001$). The result compatible with the study that mentioned knowledge of physical exercise was significantly higher among the women with tertiary level education⁽¹⁴⁾. Based on occupation, Govt. employee showed a significantly higher knowledge than the private employee and housewife ($p = .001$) which consistent with the result of the previous study⁽¹⁷⁾. The postpartum women with 22000– 31000/-(taka) of monthly income showed significantly higher mean knowledge score as compared to their counterparts ($p = .001$). The possible explanation for such a finding could be that more than half was hospital delivery and being occupied 14 percent (Govt. employee, private employee or others) and less than quarter half 21 percent was higher educational status. Moreover, frequent interaction between health professionals and/or source of information from social media or book might be the reason for increased PFMEs knowledge among Bangladeshi postpartum women. Furthermore, there was significantly negative correlation between knowledge and number of children ($r = -.158$, $p = .049$).

Attitude toward PFME among Bangladeshi postpartum women

In the current study, overall attitude toward PFME among Bangladeshi postpartum women as the mean score was 2.99 (SD = 0.93) on the basis of 6 item in 5-point Likert scale, which was about 49.83%. The postpartum women showed attitude toward an 'I do not want to do exercise PFM' strongly disagreed (24.4%), disagreed (29.5%) which link to responded positively, and strongly agreed (12.8 %) was the most linked factors for negative attitude towards postnatal exercise which was similar with the study that Mbada, et al. (2016) found

Nigerian nursing mother demonstrated positive attitude (84.1 %), while negative attitude was (15.9 %) and lack of feeling for exercise (20.7%) were the most linked factors for negative attitude towards postnatal exercise. In addition, the postpartum women showed the neutral attitude that I want to talk to others about the benefits of PFME (37.9%), I may recommend PFME to others for UI prevention (42.9 %) and PFME can help sexual life (30.1%). The attitude of the postpartum women showed quite positive toward PFME is a beneficial exercise agreed (34.7%) and I feel PFME is a boring strongly disagreed (35.4 %) and strongly agreed (1.3%).

In contrast to Rosediani et al. (2012), 96.4% had positive attitude score. In contrast to current study Bangladeshi postpartum women exhibited the little bit positive attitude and poor practices toward PFME. It can be speculated that low-level PFMEs knowledge among postpartum women could be the main reason for such a finding.

Therefore, in health care setting, it is important for nurses to explore and understand the attitude of postpartum women towards PFME in order to minimize the barrier to exercise. According to health belief model, positive attitude by the health care providers is one of the important factors to make women comply with PFME⁽²⁰⁾.

Moreover, there were significant differences in attitude toward PFMEs based on age, religion, educational qualification, occupation, and BMI. The postpartum women with 23–28 years of age showed significantly higher mean attitude toward PFME compared to their counterparts ($p = .01$) which were consistent with the study that mentioned age significantly influence attitude toward physical exercise⁽¹⁵⁾. Educational qualification of bachelor degree and above showed significantly higher mean attitude score as compared to their counterparts ($p = .001$) similar to what Nkhata et al. (2016) had found. Based on occupation Govt. employee showed a higher mean attitude score than the private employee and housewife ($p = .05$) which was consistent with the study that mentioned occupation significantly influence attitude toward physical exercise⁽¹⁵⁾. Furthermore, there was significant difference found between BMI group ($p = .048$).

Practice toward PFME among Bangladeshi postpartum women

Regarding PFME practice, the present study showed the practice of PFMEs among Bangladeshi postpartum women were ‘zero level’ as the mean score was (0.00 ± 0.00) on the basis of 3. The study sample of (21.1%) was higher educated (bachelor degree and above). Nevertheless, none of them were practices of PFME. A study in Malaysia⁽²⁰⁾ reported practice was still ‘poor’ only 10.7 % PFME practices. Another Study⁽²¹⁾ found only 6% women (out of 100) performed it despite this majority was came from good educational status.

In contrast to Nigerian study⁽¹⁶⁾ mentioned the practice of postnatal PFME was (23.7%) and frequency was mostly 1-2 times per week (40.8%). In contrast to a current study, the possible reasons are may be due to lack of information regarding PFME, do not know how to perform it with no proper teaching or training were given to them. Lack of knowledge adversely influences the attitude to poor practices of postpartum women.

In the present study, a significant positive correlation was observed between knowledge and attitude of PFMEs among postpartum women. However, as the level of PFMEs knowledge was low and attitude was somewhat positive, the relationship was just little. Furthermore, with a better understanding of the correlation of knowledge and attitude in PFMEs, it is useful when health providers teach and provide proper training with a structured PFME program.

In conclusion, the result of this study demonstrated poor knowledge, little bit positive attitude, and poor practice toward PFME among Bangladeshi postpartum women. However, most of the women had a neutral attitude toward PFME. Finding suggested the need for structured PFME program among Bangladeshi postpartum women that enable them to acquire the necessary knowledge, appropriate attitude, and performing postpartum PFME. It is also necessary to provide proper instruction regarding PFMEs technique before being hospital discharged.

Limitation of the study

The present study has some limitations that might have influenced the outcome. Firstly, data were collected by convenient sampling method from one hospital in Bangladesh. This may limit the generalizability of the results. Secondly, failure to draw a causal relationship between knowledge and practice, because the subjects had zero level of PFME practices. Thirdly, data on newborn weight at birth were collected based on mother’s recall, which is suspected to call recall bias. Recommendation: Finding suggested the need for structured PFME program to provide proper instruction regarding PFMEs technique before being hospital discharged. Furthermore, health providers need proper training with a structured PFME program.

VI. CONCLUSION AND RECOMMENDATIONS

Conclusion

There was a highly significant difference in the level of knowledge relating to age, educational level, occupation, monthly income, number of children, and BMI. Moreover, a significant difference in attitude toward PFME was revealed on age, religion, educational level, occupation, and BMI. A significant positive relation found between knowledge and attitude toward PFME ($r = .513, p < .01$). However, as the level of PFMEs

knowledge was low and attitude was somewhat positive, the relationship was just little. In conclusion, the study on postpartum women exhibited the low level of knowledge, a little bit positive attitude, & zero level of PFME practices.

Recommendations

Finding suggested the need for structured PFME program among Bangladeshi postpartum women that enable them to acquire the necessary knowledge, appropriate attitude, and performing postpartum PFME. It is also necessary to provide proper instruction regarding PFMEs technique before being hospital discharged. Furthermore, with a better understanding of the correlation of knowledge and attitude in PFMEs, it is useful when health providers teach and provide proper training with a structured PFME program.

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