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Original Research Article

## Knowledge, attitude and practice of post-natal exercises among post-natal women from a tertiary care centre, South India

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### ABSTRACT

**Background:** Stressful puerperal period and its complications can be prevented by adequate care, proper diet and exercises. Though studies have indicated post-natal exercises (PNE) is helpful in reducing the effect of perineal muscle weakness, many women are unaware of its full benefits. This study is planned to know the knowledge, attitude and practice of PNE in post-natal mothers.

**Methods:** Descriptive cross-sectional study was conducted in department of obstetrics and gynecology for 3 months (November 2019 to January 2020). 160 post-natal women were enrolled with convenient sampling. Structured questionnaire was used to collect socio-demographic and obstetric details, source of information, knowledge, attitude and practice of PNE.

**Results:** A total 58.8% of this study participants revealed health care professions were the commonest source of information. More than half of them had adequate knowledge but still many were not aware of full benefits of PNE as only 3-5% aware of other benefits like prevention of urinary incontinence. 98.8% of the women's felt PNE is essential and 62.5% felt household work hinder them doing. 92.5% said they will emphasize the importance of PNE to others. No significant correlation found between socio-demographic characters and knowledge, attitude and practice of PNE.

**Conclusions:** Though most of the study population had adequate knowledge and positive attitude, household activities were the commonest barrier in doing PNE. Educating and creating awareness among family members is essential to improve the adherence. Continuing influence by health care workers during antenatal and postnatal period will be the key for improving adherence.

**Keywords:** Knowledge attitude and practice, Postnatal exercise, Postnatal women

### INTRODUCTION

First six weeks following childbirth known as puerperal period is a stressful for any women due to physiological and psychological adaptations which happens during this period and pelvic organ returns to pre pregnant state.<sup>1</sup> Inadequate care during this period will lead to most of the

complications like perineal muscle weakness leading to bladder incontinence, back pain, postpartum psychosis etc.<sup>2-5</sup> These complications can be prevented by adequate care like proper diet and exercises.<sup>5-7</sup>

Post-natal exercises (PNE) like Kegel's, abdominal and breathing exercises helps to improve the pelvic floor and

abdominal muscle tone, bowel and bladder function and cardio vascular fitness.<sup>5,7,8</sup> Also PNE will have the positive influence on preventing depression and other psychological disorders as it keeps the mother more relaxed.<sup>2</sup>

PNE can be started soon after birth with simple exercises and gradually progress to advance depending on the level of comfort.<sup>9,10</sup> Though many studies have indicated that PNE plays the major role in preventing complications like bladder incontinence, many women are unaware of full benefits of postnatal exercise and also some of the customs and superstitions existing in the community will be prohibiting the postnatal women from performing exercises.<sup>5,6,8</sup>

This study is planned to know the knowledge, attitude and practice of the post-natal mothers related to PNE to make a positive culture of adherence to PNE among all of the postnatal mothers.

## METHODS

This descriptive cross-sectional study was carried out in the department obstetrics and gynecology of the tertiary care centre, South India, spanned over a period of 3 months (November 2019 to January 2020) after attaining the Institutional Ethics Committee approval. After getting the written informed consent 160 postnatal women who have attended the obstetrics and gynecology and pediatric outpatient department (OPD) were enrolled in the study with convenient sampling. Patient unaware of post-natal exercise, 1st post-natal period and women not willing to participate were excluded from the study

Structured proforma was used to collect socio demographic details like religion, education, occupation, income, type of family and domicile nature of the study participants. Followed by obstetric history like parity, mode of delivery and children were collected.

Source of information for PNE was collected as next part. Knowledge of the participants about PNE were collected with the structured questionnaire which includes when to start, how frequently needed, types of PNE, benefits and disadvantage of PNE. Attitude and practice of the study population also collected with the structured questionnaire which includes which includes barriers preventing PNE, way to improve adherence, health professions and emphasis of PNE during antenatal postnatal visit.

### Statistical analysis

Statistical analysis was carried out using SPSS version 20. Descriptive data were expressed as number and percentage. Chi square test was used to analysis the correlation of socio-economic characters with knowledge, attitude and practice of the study population. Each question in the knowledge, attitude and practical was

given 1 mark. Total score of 5 was there in each category, mothers those who scored > 3 marks were considered as good.

## RESULTS

A total of 160 women who have attended OBG and Paediatric OPD department of the tertiary care centre were enrolled in the study. Age distribution of the study population was 22-38 years with the mean age of 28.2±4.1 years.

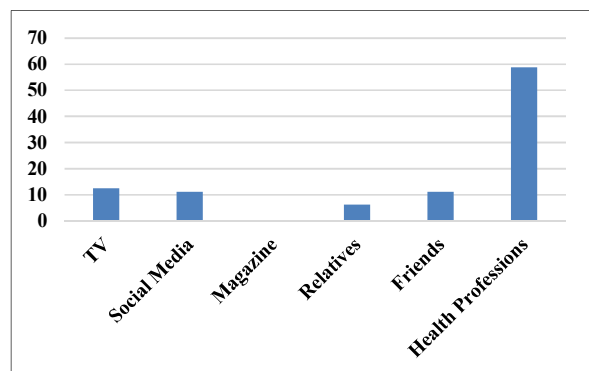
**Table 1: Socio-demographic characters of the study population.**

Socio- demographic status	Number	%
<b>Religion</b>		
Hindu	132	82.5%
Christian	4	2.5%
Muslim	24	15%
<b>Education</b>		
Illiterate	2	1.2%
Primary	2	1.2%
Middle	14	8.8%
High school	60	37.5%
Graduation and above	82	51.3%
<b>Occupation</b>		
Unemployed	72	45%
Govt. service	4	2.5%
Self	14	8.8%
Private employed	70	43.7%
<b>Income in rupees</b>		
Not applicable	72	45%
< 2500	-	-
2501-5000	-	-
5001-10000	42	26.3%
Above 10000	46	28.7%
<b>Type of family</b>		
Nuclear	134	83.8%
Joint	26	16.2%
<b>Domicile</b>		
Rural	-	-
Semi urban	84	52.5%
Urban	76	47.5%

Majority of the participants were belonging to Hindu religion (82.5%). Half of the study population were graduates (51.3%). Unemployed and private employed were distributed equally (45, 43.7% respectively). 55% of the participants had income above Rs. 5000. 83.8% belongs to nuclear family. All of them were either from semi urban and/ or urban area. Table 1 represents the socio demographic status of this study population.

Obstetric history of study participants showed 51.2% had caesarean; 48.8% had normal vaginal delivery. 66.3% of participants had two children and 33.7% had one child.

A total 58.8% of the study participants were given that health care professions as a source of information for PNE followed by TV (12.5%), social media (11.2%) and friends (11.2%). Figure 1 represents the source of information regarding postnatal exercise among this study population.



**Figure 1: Source of information regarding post-natal exercise.**

**Table 2: Knowledge about postnatal exercise among the study populations.**

Knowledge	Number	%
<b>When to start PNE?</b>		
Immediately	88	55%
After 2 weeks	64	40%
After 1 month	6	3.8%
After 6 months	2	1.2%
<b>How frequently PNE is needed?</b>		
Once a day	106	66.3%
Once a week	30	18.7%
4-5 days/weeks	24	15%
Once a month	-	-
<b>What are the types of PNE you know?</b>		
Breathing exercise	124	77.5%
Kegel's exercise	30	18.6%
Pelvic floor exercise	46	28.7%
Abdominal exercise	88	55%
<b>Benefits of PNE in preventing</b>		
Uterine prolapse	156	97.5%
Diastasis recti	8	5%
Bowel incontinence	8	5%
Urinary incontinence	6	3.7%
<b>Disadvantage of not performing PNE?</b>		
Weight gain	138	86.3%
High BP	-	-
Back pain	34	21.2%
Postpartum depression	20	12.5%

Among the study populations 55% of women were aware of when to start PNE; 66.3% was aware of how frequently PNE needed; breathing exercise (77.5%) followed by abdominal exercise (55%) were the well-

known types of exercise among the study populations. 97.5% known that prevention of uterine prolapse was one of the benefits of PNE. 86.3% women told that weight gain was the most common disadvantage of not performing PNE. Table 2 represents knowledge about PNE among this study populations.

**Table 3: Attitude about postnatal exercise among this study populations.**

Attitude	Number	%
<b>PNE is necessary</b>		
Agree	158	98.8%
Disagree	2	1.2%
<b>I adhere to PNE regularly</b>		
Agree	78	48.7%
Disagree	82	51.3%
<b>I feel guilty on omitting PNE</b>		
Agree	98	61.3%
Disagree	62	38.7%
<b>Health professions having positive influence</b>		
Agree	152	95%
Disagree	8	5%
<b>What prevents you to do PNE?</b>		
Pain	14	8.8%
Fear of injury	22	13.7%
Baby care	32	20%
Household work	100	62.5%
Fatigue	14	8.7%
Lack of information	8	5%
<b>How adherence to PNE can be improved?</b>		
Motivation	40	25%
Training and education	20	12.5%
Display boards	4	2.5%
Awareness during antenatal visit	106	66.2%

**Table 4: Practice about postnatal exercise among this study populations.**

Practice	Number	%
<b>How frequency of you are doing PNE</b>		
Daily	90	56.3%
Once a week	58	36.3%
Occasionally	12	7.5%
<b>Have you experienced benefits of PNE</b>		
Yes	142	88.8%
No	18	11.2%
<b>Antenatal visits having positive influence on PNE</b>		
Yes	98	61.3%
No	62	38.7%
<b>Postnatal visits having positive influence on PNE</b>		
Yes	136	85%
No	24	15%
<b>I will emphasize PNE to others</b>		
Yes	148	92.5%
No	12	7.5%

A total 98.8% of the women's felt PNE is essential but only 48.7% agreed for adherence to PNE. 61.3% said that they feel guilty when omitting PNE. 95% had the opinion that health professions had the positive influence. Analysis of reason which prevents the PNE 62.5% felt that household work followed by baby care (20%) and

fear of injury (13.7%). The way to improve adherence 66.2% felt that emphasis during the antenatal visit was important followed by motivation (25%). Table 3 represents attitude about PNE among this study populations.

**Table 5: Cross tabulation between socio demographic characteristic and total score of knowledge and practice.**

Socio demographic data	Total knowledge		Total practice	
	Test statistic	Sig. (2 tailed)	Test statistic	Sig. (2 tailed)
Age	0.731	0.866	0.566	0.904
Religion	0.380	0.827	1.131	0.568
Education	3.544	0.471	1.045	0.903
Occupation	6.026	0.110	0.952	0.813
Income	3.550	0.169	0.68	0.967
Family type	0.373	0.402	1.035	0.309
Domicile	0.664	0.415	0.334	0.563
Parity	0.396	0.529	0.451	0.502
Mode of delivery	0.090	0.925	0.270	0.603

A total 56% of the women practising PNE daily and 36.3% practicing once a week; 88.8% experienced the benefits; 62% and 85% have felt that antenatal visit and postnatal visit respectively had the positive influence. 92.5% said that they will emphasise the importance of PNE to others. Table 4 represents practice about PNE among this study populations.

Correlation of socio demographic character with knowledge and practice showed no significant association ( $p > 0.05$ ). Table 5 represents cross tabulation between socio demographic characteristic and total score of knowledge and practice.

## DISCUSSION

Total of 160 women with the mean age of  $28.2 \pm 4.1$  years were enrolled in this study, of which 66.3% were multigravida, 51.2% had caesarean mode of delivery. This study population group was discordant with the study group of Jawaher et al, Mbada et al, most of their study population were vaginal delivery.<sup>6,8</sup> As caesarean delivery was predominate in this set up, we need to create more awareness among this study population to change the attitude from conservative cultural perceptions and myths that exercise is unsafe for pregnant women which makes them afraid to participate in view of fear that it will have negative impact on their health.

On analyzing the source of information for PNE, 58.8% of this study participants were revealed that health care professions were the most common mode followed by TV and social media (23.7%). This study findings were in discordant with many other study results like Jawaher et al, Ibrahim et al, Alharqi et al, which media was the most common source reported for information of PNE.<sup>6,11,12</sup> This study findings may be attributed to the

protocol of the tertiary care centre which is having the practice of getting physiotherapy consultant for all post-natal mother delivered in the hospital and also the consultants and nursing staffs will emphasize the importance of PNE during antenatal and postnatal visit.

On analyzing the knowledge about PNE, 55% of this study population were aware of when to start PNE and 66.3% aware of how frequently it needed. This findings were in concordance with Alharqi et al (65% awareness) but discordant with Sreenivasan A et al, Ashok VG et al, (6.7% and 22% awareness respectively).<sup>4,12,13</sup> Better knowledge in this study may be attributed to the domicile nature of this study population as all of them either from semi urban or urban area and also more than half of this study population were graduates.

Breathing exercises (77.5%) followed by abdominal exercises (55%) were the well-known types of exercises among this study populations. 81.4% and 71.3% not aware of Kegel's and pelvic floor exercises respectively. This results were in concordance with Wojno et al.<sup>14</sup> There was a knowledge gap about other exercises, it may be due to, still people may have belief in the community that pelvic floor exercises should not be carried out after caesarean section, which was the major group who may not interested in knowing other exercises.

A total 97.5% known that prevention of uterine prolapse was one of the benefits of PNE. In contrast only 3-5% aware of other benefits like prevention of bowel, urinary incontinence. On analyzing disadvantage of not performing PNE, weight gain (86.3%) was the most common followed by back pain (21.2%). Here also there was a knowledge gap found among this study populations related to advantage and disadvantage which may be rectified by proper training and education.

On analysis the attitude of this study population about PNE revealed that 98.8% of the women's felt PNE is essential and 61.3% felt that they feel guilt when omitting PNE. This positive attitude may be attributed to the health professions who constantly encouraging and emphasizing the importance of PNE among post-natal mothers which was also indicated by this study group as 95% had the opinion that health professions had the positive influence.

Analysis of barrier which prevents the PNE revealed that 62.5% felt that household work followed by baby care (20%) and fear of injury (13.7%). This was in discordant with study result of Alharqi et al, who reported that lack of information and fear of injury were the most common barrier.<sup>12</sup> This study finding may be attributed due to the nuclear family nature of this study population. So, help from others (friend/family) may have the positive impact in this study setup. Analyzing the way to improve adherence 66.2% felt that emphasis during the antenatal visit was important followed by motivation (25%). This study finding emphasis that gaining the confidence of the mother related to false beliefs regarding PNE is very important during both antenatal and postnatal visit to improve the attitude.

On analyzing the practice of PNE among this study population revealed that 56% practicing PNE daily and 36.3% practicing once a week; 88.8% experienced the benefits; 62% and 85% have felt that antenatal visit and postnatal visit respectively had the positive influence. 92.5% said that they will emphasize the importance of PNE to others. This may be attributed to the antenatal and postnatal health education provided to the women through the health care professions.

In contrast to the other studies Jawaher et al, Alharqi et al, who have reported positive association between women's education and knowledge about PNE, this studies report suggest that there was no significant correlation between any socio demographic character with knowledge, attitude and practice of PNE.<sup>6,12</sup> This may be due to nature of this study population which had more than 50% educated and all of them either from urban or semi urban area and protocol of the health system had the positive influence on adherence to PNE which was shown by the positive attitude almost by all patients.

## CONCLUSION

More than half of this study population had adequate knowledge about PNE but still many of them were not aware of the full benefits of PNE. As most of them said health care professions were the main source of information, it is the prime role to throw light on the importance of postnatal exercise and emphasis to adherence to PNE among all the post-natal mothers. Most of study population had the positive attitude but felt that household activities were the most common barrier.

Education and creating awareness among family members and friends of the post-natal mothers are also very important to improve the adherence. More than half were also practising the exercises and said that they will emphasise the importance of PNE to others. This culture making will have a positive impact among the community in relation to women health. No association was found among socio-demographic character with knowledge, attitude and practice. So continuing influence by health care workers will be the key for improving the adherence rate among this study populations.

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