

Effectiveness of Pelvic Floor Muscle Exercise on Labor Outcome Among Antenatal Mothers

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Abstract: Pregnancy is a period where women have been exposed to drastic physical and mental changes. Fluctuation in mental health is reversible after labor outcome, but the physical damage to the internal organ, cannot be reversed back to its original stage. Antenatal period not only composed with safe maternity and neonatal outcome but also the stability of maternal health for future purpose. This is accompanied by antenatal exercise. The present aim was to assess the effectiveness of pelvic floor muscle exercise on labor outcome among antenatal mothers. A quantitative approach with pre-experimental research design was adopted for the present study. 60 antenatal mothers (n=60) were selected by using convenient sampling technique. A self-structured questionnaire method was used to collect both the demographic data and the level of knowledge on PFME. The pre-test data was collected among 60 study participants, after intervention, post-test was done to assess the effectiveness. Outcome of the present study revealed that pre-test mean score on effectiveness of pelvic floor muscle exercise towards antenatal mother found 7.72 and post-test about 17.85. Hence concluded that the antenatal mother had improvement in level of knowledge in post-test compared to pre-test.

Keywords: Antenatal mothers, Effectiveness of exercise, Labor outcome, Pelvic floor muscle exercise.

1. Introduction

Pregnancy is a period where women have been exposed to drastic physical and mental changes. Fluctuation in mental health is reversible after labor outcome, but the physical damage to the internal organ, cannot be reversed back to its original stage [1]. Antenatal period not only composed with safe maternity and neonatal outcome but also the stability of maternal health for future purpose. This is accompanied by antenatal exercise [2]. During vaginal delivery, the pelvic floor muscles undergoes grievous changes, even bowel and bladder also exposed to severe damage were this pelvic floor muscle also support, abdominal organs, controls urination and defecation [3]. The interruption of mid-passage of urine in women, tightens the vagina, bladder and anus, their physiology is carried out by pelvic floor muscle, where this pelvic floor muscle loses its capacity with subsequent deliveries [4]. Pelvic floor is muscular structure that plays a vital role not only during pregnancy, but also important for urological, gastroenterological, gynecological and pulmonary function [5]. Pelvic floor dysfunction can lead to mild to severe consequences such as urinary incontinence, pelvic floor

prolapsed, fecal incontinence, sexual dysfunction [6]. Pelvic floor muscle exercise shows a drastic effect during labor outcome. About 7.2% who had practiced exercise one a day a week sustained third degree and fourth degree compared with 6.3% who had performed pelvic floor muscle exercise for 3 times a week [7], [8]. Therefore, the objectives was to assess the effectiveness of pre-test and post-test level of knowledge on pelvic floor muscle exercise on labor outcome and to assess the effectiveness of health education on pelvic floor muscle exercise among antenatal mothers. To find out of post test level of knowledge with selected variables.

2. Materials and Methods

A quantitative approach with pre-experimental, one group pretest and post test research design was adopted for the present study. After obtaining ethical clearance from the institutional ethical committee (IEC) of Saveetha Institute of Medical And Technical Sciences (SIMATS) and a formal permission from the administrative head of Saveetha College Of Nursing, the main study was conducted. A total of 60 antenatal women, who met the inclusion criteria were recruited as the study participants by using convenient sampling technique. The inclusion criteria for the study participants were only antenatal women, those who are willing to participate and can read, write and understand English and Tamil. The exclusion criteria include non-pregnant women, women who got pregnant by fertility treatment, and are not available during the study period. The study purpose was explained by the investigator to each of the study participant and a written informed consent was obtained from them. The demographic data and pretest knowledge on pelvic floor muscle exercise on outcome of labor was assessed by using self-structured questionnaire and after a period of intervention by health education on pelvic floor muscle exercise and live demonstration of pelvic floor muscle exercise. The post test was done using same questionnaire. The collected data were tabulated, analyzed by using descriptive and inferential statistics.

3. Result and Discussion

A. Demographic Variables

Among 60 study participants, finding of the present study shows that, 38.4% of the study mother were in the age group of

26-29, 53.3% were Hindus, 36.7% had primary education, 50% of the mother were housewife, 38.3% of the family were earning monthly income in rupees 5001-10,000, 51.7% were from nuclear family, 53.3% were of urban residence.

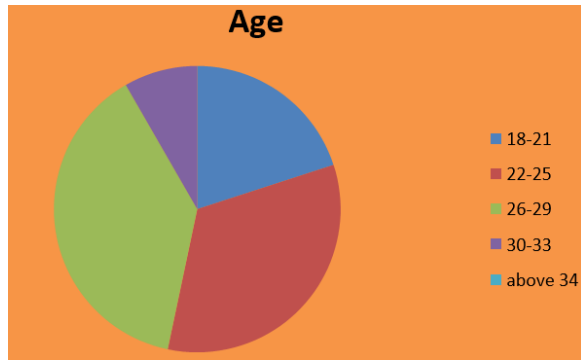


Fig. 1. Percentage distribution of age

B. Assessment of Pretest and Post Test Level of Knowledge on Pelvic Floor Muscle Exercise on Labour Outcome

In pretest, 66.7% of them had inadequate knowledge, 26.7% of them had moderate knowledge and 6.7% of them had adequate knowledge and in post test, 56.7% of them had moderate knowledge and 43.35 of them had adequate knowledge.

Table 1

Frequency and percentage distribution of level of knowledge on pelvic floor muscle exercise (N= 60)

Knowledge	Inadequate		Moderate		Adequate	
	No.	%	No.	%	No.	%
Pretest	40	66.7	16	26.7	4	6.7
Post Test	-	-	34	56.7	26	43.3

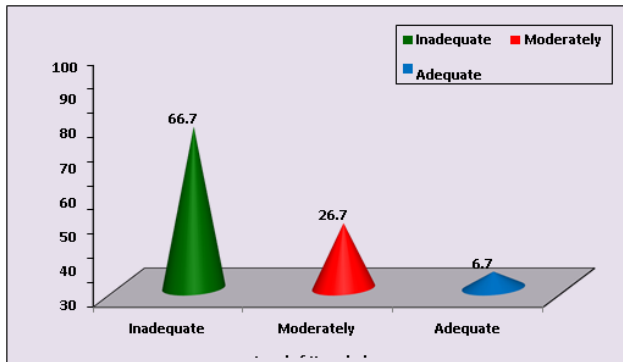


Fig. 2. Level of knowledge in pre test

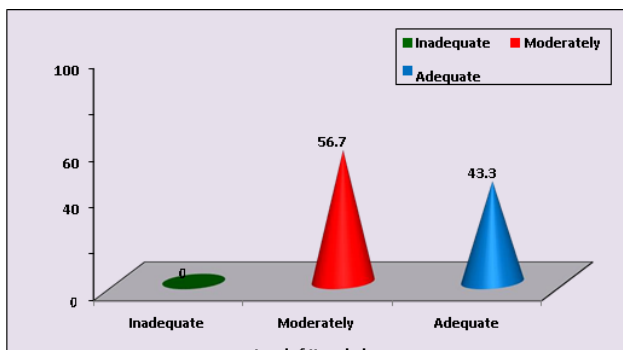


Fig. 3. Level of knowledge in post test

The present study finding is supported by a study conducted by Sahar Sadat Sobhgol, (2020) in an aim to assess the effect of antenatal pelvic floor muscle exercise on labor and birth outcomes. Outcome of the study concluded that, antenatal PFME may be effective on second stage of labor and reduce severe perineal trauma. Then randomized controlled trial is more needed.

The present study finding is supported by a study conducted by Shuaijun Ren, (2020) in an aim to assess the effect of pelvic floor muscle training on pelvic floor dysfunction in pregnant and postpartum women. Outcome of the study concluded that, pelvic floor muscle training can prevent the pelvic dysfunction in late pregnancy and early postpartum.

C. To Assess the Effectiveness of Health Education on Pelvic Floor Muscle Exercise Among Antenatal Mother

The present study shows that pretest mean score of knowledge was 7.72±2.43 and the post test mean score was 17.85±2.29. The calculated paired ‘t’ test value of t=21.547 was found to be statistically highly significant at p<0.001 level. This clearly infers that health education on pelvic floor muscle exercise on labor outcome among antenatal mothers significantly increases the post test level of knowledge.

Table 2

Variables	Test	Mean	S.D	Paired ‘t’ test value
Knowledge	Pre Test	7.72	2.43	t = 21.547 p = 0.0001 S***
	Post Test	17.85	2.29	

D. Association of Post Test Level of Knowledge with Selected Demographic Variables

The demographic variable such as educational qualification and area of residential living shows significant association with post test level of knowledge on pelvic floor muscle exercise on labor outcome among antenatal mothers.

4. Conclusion

Thus, findings of the present study revealed that their was a improvement in the level of knowledge regarding pelvic floor muscle exercise on labor outcome among antenatal mothers. By performing pelvic floor muscle exercise will enhance vaginal delivery and prevent pelvic dysfunction in late pregnancy. Therefore we can promote awareness by providing adequate information on labor outcome through health education, pamphlets and additional booklets.

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References

[1] Sujindra, E., Bupathy, A., Suganya, A., & Praveena, R. (2015). Knowledge, attitude, and practice of exercise during pregnancy among antenatal mothers. International Journal of Educational and Psychological Researches, 1(3), 234.

- [2] Nascimento, S. L. D., Godoy, A. C., Surita, F. G., & Pinto e Silva, J. L. (2014). Recommendations for physical exercise practice during pregnancy: a critical review. *Revista Brasileira de Ginecologia e Obstetrícia*, 36(9), 423-431.
- [3] Awusi, V. O., Anyanwu, E. B., & Okeleke, V. (2009). Determinants of antenatal care services utilization in Emevor Village, Nigeria. *Benin Journal of Postgraduate Medicine*, 11(1).
- [4] Bharucha, A. E. (2006). Pelvic floor: anatomy and function. *Neurogastroenterology & Motility*, 18(7), 507-519.
- [5] Moen, M., Noone, M., Vassallo, B., Lopata, R., Nash, M., Sum, B., & Schy, S. (2007). Knowledge and performance of pelvic muscle exercises in women. *Female Pelvic Medicine & Reconstructive Surgery*, 13(3), 113-117.
- [6] Han, D., & Ha, M. (2015). Effect of pelvic floor muscle exercises on pulmonary function. *Journal of physical therapy science*, 27(10), 3233-3235.
- [7] Özdemir, Ö. Ç., Bakar, Y., Özengin, N., & Duran, B. (2015). The effect of parity on pelvic floor muscle strength and quality of life in women with urinary incontinence: a cross sectional study. *Journal of Physical Therapy Science*, 27(7), 2133-2137.
- [8] Bø, K., Fleten, C., & Nystad, W. (2009). Effect of antenatal pelvic floor muscle training on labor and birth. *Obstetrics & Gynecology*, 113(6), 1279-1284.
- [9] Sobhgol, S. S., Smith, C. A., & Dahlen, H. G. (2020). The effect of antenatal pelvic floor muscle exercises on labour and birth outcomes: a systematic review and meta- analysis. *International Urogynecology Journal*, 1-15.