

Awareness and Effectiveness of Physiotherapy Interventions among Pregnant Women Attending Antenatal Care in Gangawatakoralle

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Abstract

Background: Physiotherapy interventions in antenatal health care provide many benefits to pregnant mothers. Adequate awareness of physiotherapy interventions in antenatal care is important to practice it during pregnancy. The quality of life during pregnancy in pregnant mothers and the effectiveness of physiotherapy interventions in quality of life has not been investigated previously in Sri Lanka. The aim of this study is to explore the level of the awareness of physiotherapy interventions in antenatal care and effectiveness of physiotherapy interventions in quality of life among pregnant women in Gangawatakoralle division, Kandy.

Methods: A descriptive cross sectional study was conducted among 174 pregnant mothers. Effectiveness of physiotherapy interventions in quality of life was assessed among 52 mothers after one month period using a self-administered questionnaire.

Results: Awareness of physiotherapy among pregnant women is poor (38%) (n=174). Awareness of physiotherapy interventions in antenatal care is poor (40%) (n=174). There is no association between age and physiotherapy interventions in antenatal care. ($p=0.690$, $\alpha=0.05$). There is no association between education level and physiotherapy interventions in antenatal care ($p=0.474$, $\alpha=0.05$). There is an improvement in quality of life by means of physiotherapy interventions in pregnant women ($p=0.007$, $\alpha=0.05$).

Conclusions: Awareness in physiotherapy in antenatal care among pregnant women attending antenatal care in Gangawatakoralle is poor. There is a positive effect of physiotherapy interventions in quality of life of pregnant women during pregnancy. Measures should be taken to improve their awareness, knowledge and practices of antenatal physiotherapy during pregnancy.

Key words: antenatal care, awareness, quality of life, physiotherapy

INTRODUCTION

A healthy woman is the most important bond in the family, which in turn becomes an important factor in the society. Pregnancy, childbirth and postpartum are common events in the life of women that influence all aspects of their lives. Some studies have reported that physical performance of women and their level of health and wellbeing decrease after childbirth compared to pre-pregnancy period, having a negative effect in their quality of life (Bahadoran and Mohamadirizi, 2015).

Physiotherapy plays an important role in obstetrics, both in antenatal and postnatal periods. It is not associated with any risk factors to the newborn. It can also lead to beneficial, long-term effects for women (Nascimento, 2012). Physical activities are important for pregnant women as they help to overcome pregnancy-related complications and maintain good physical fitness. Women who practiced antenatal exercises (birthing ball exercises) with supervised practice showed quicker deliveries during labour (Fournier, 2017). In addition, it is proved that higher physical activities in multiparous women during late pregnancy positively influence the duration of the second stage of labour (Kondo, 2016). Furthermore there is evidence that proves females who practiced antenatal exercises have fewer chances of caesarean section, backache and urinary incontinence (Khatri and Pandey, 2014).

Antenatal exercises include pelvic floor exercises (Kegel exercises), core stability, abdominal exercises, breathing exercises, aerobic, postural education and back care (Britnell, 2005; Kramer, 2006). Pelvic floor exercises (Kegel exercises) are commonly used prenatal exercises to strengthen the pelvic floor muscles. It is proven that an intensive pelvic floor muscle training during pregnancy prevents urinary incontinence during pregnancy and after delivery (Morkver, 2003). In addition, there are evidences to show that pelvic floor muscle strengthening has been effective at shortening the first and second stages of labour. Antenatal

pelvic floor muscle strengthening may not increase the risk of episiotomy, instrumental delivery and perineal laceration in the primigravida, a women who is pregnant for the first time (Du, 2015). Pelvic floor muscle strengthening also has a positive association with improvement of stress urinary incontinence (Bo, 2003).

Obstetrical physiotherapy is an important part of maternal health in developed countries. But in countries such as Sri Lanka, obstetrical physiotherapy is not yet well known. Sri Lanka has become the best country on maternal mortality rate among South Asian countries in 2014 (The Island, 26 January, 2014). However, the quality of life during pregnancy and postpartum is still uncertain. Therefore, assessing the quality of life of pregnant women will provide important evidence to improve health related services of our country.

Furthermore, some studies have proven that physiotherapy interventions in antenatal period helps pregnant women in reducing complications of pregnancy, reduce the time spent in labour (Du, 2015) and helps faster post-delivery recovery (Arati et al., 2014). It is a fact that the role of physiotherapy interventions increases the effectiveness of maternal healthcare.

Many women suffer in silence and are unaware of available physiotherapy interventions. Several studies around the world have shown that pregnant women who attend antenatal care are unaware of physiotherapy interventions, which are practiced in antenatal period. Due to lack of awareness, women fail to get the advantage of physiotherapy interventions that can improve their quality of life and relieve their suffering. Therefore, it is necessary to make women aware of physiotherapy interventions that are practiced for maternal health.

METHODS

A descriptive and mixed cross sectional study was conducted among pregnant women attending antenatal care in Gangawatakoralle from May to July 2017 using a self-administered questionnaire. Approval was obtained from ethics review committee, faculty of allied health sciences, university of peradeniya and relevant authorities.

Questionnaire was intended to assess the awareness of physiotherapy and physiotherapy interventions in antenatal care and the quality of life of pregnant women. WHOQOL-BREF was used (obtained from WHO website) to assess the quality of life in which was evaluated from 4 domains; physical health, psychological, social relationship and environment by 26 questions.

All the pregnant women attending antenatal care in Gangawatakorella were taken as the study sample and pregnant women who did not give consent, pregnant women who are in their first trimester, pregnant women who are absent for antenatal care in Gangawatakoralle, and pregnant women with following conditions; hypertension, placenta previa, incompetence cervix, gestational diabetes, loss of amniotic fluid were excluded from the study.

Nine subdivisions were included for the study and 2 subdivisions (Udabowala and Suduhampola) were not included due to unavoidable reasons. An explanation of the study was given to the pregnant mothers who were volunteers to participate in the program. Questionnaires were distributed among the participants along with the consent form. Investigators conducted an awareness program of physiotherapy interventions used in antenatal care with demonstrations. The participants were met again after one month for the second time. At that time, post-test data were collected with the second questionnaire to re-assess quality of life measures.

Statistical analysis:

Statistical Package for the Social Sciences (SPSS) version was used.

RESULTS

Of the 320 pregnant mothers who were approached, 146 had to be excluded because their consent could not be obtained (7) and 139 were under the exclusion criteria. Hence, a total of 174 pregnant mothers were considered for this study.

Awareness of physiotherapy and physiotherapy interventions in antenatal care:

38% (n=66) of pregnant women were aware of physiotherapy. Among 38% of pregnant mothers who were aware of physiotherapy, 94% (n= 58) of pregnant mothers were not aware of physiotherapy interventions in antenatal care. Among the 62% (n=108) of pregnant mothers who were not aware of physiotherapy, 10% (n=11) of pregnant mothers were aware of physiotherapy interventions (exercise) in antenatal care. According to the results, only 40% of the study participants were aware of antenatal physiotherapy.

Pearson Chi-Square test revealed that there was no significant relationship between age of pregnant women and awareness of antenatal physiotherapy, (p=0.05) (table 1) and no significant relationship between educational level of the study participants and their awareness of antenatal physiotherapy (p=0.05)(table 2).

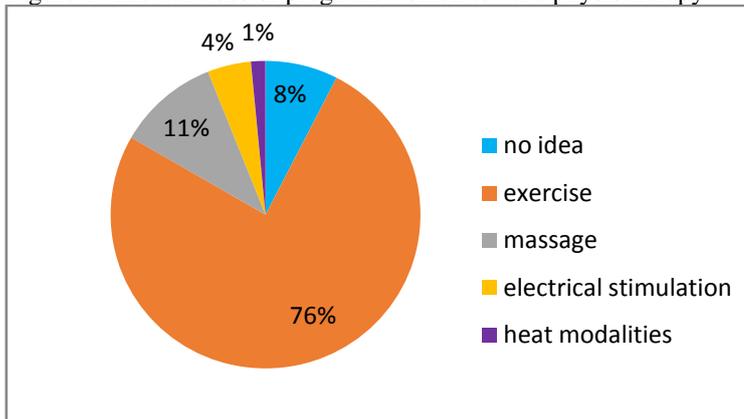
Table 1: Awareness of antenatal physiotherapy versus age

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.066 ^a	5	.690

Table 2: Awareness of antenatal physiotherapy versus educational level

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.543 ^a	5	.474

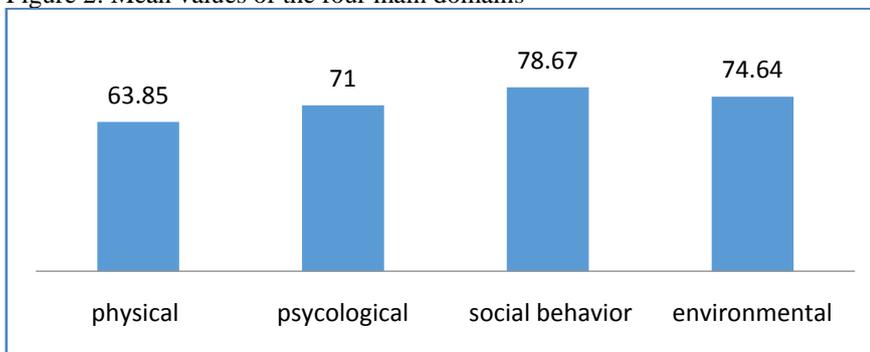
Figure 1: The attitudes of pregnant women toward physiotherapy



Quality of life of pregnant women:

It was evaluated by analyzing four main domains; physical, psychological, social behavior and environmental factors. Figure 2 displays the mean values of transformed scores of these four main domains accordingly to WHOQOL-BREF questionnaire.

Figure 2: Mean values of the four main domains



Effectiveness of physiotherapy intervention on quality of life of pregnant women attending antenatal care in Gangawatakoralle

From the total sample of 174, only 66 pregnant women mothers from 6 divisions of Gangawatakorelle were included in the post-test sample. It was due to that some participants were absent for the clinics and some had the delivery during the one month period. Furthermore, 4 divisions had to be eliminated from post-test data collection due to time constraints. The results of the post-test indicated that 52 out of 66 (79%) pregnant mothers reported to have done the prescribed antenatal exercises.

The effectiveness of physiotherapy interventions was analyzed by two sample t-test. Pre-test and post-test mean values were interpreted in paired sample t-test, calculated p value is 0.007 at $\alpha=0.05$. Therefore there is a significant improvement in quality of life before and after applying physiotherapy interventions during pregnancy.

All pregnant mothers who were met for the second assessment (including those who could not do the prescribed exercises, n=66), mentioned in their feedback on our antenatal programme as “good” and “very important to have.”

Table 3 shows that the average rating of statements regarding physiotherapy and table 4 indicates the prevalence of complications in pregnancy in second and third trimester.

Table 3: Average rating of statements regarding physiotherapy

	Average score
Physiotherapy has positive role in antenatal care	8
Physiotherapy can reduce complication of pregnancy	8
Physiotherapy helps to fast post-delivery recovery	8
Physiotherapy intervention were helpful and should be recommended During pregnancy	8
Antenatal exercise programme should be done in antenatal clinics	9

Table 4: Prevalence of complications in pregnancy pertaining to each trimester

Complication	Prevalence in 2 nd trimester	Prevalence in 3 rd trimester
Backache	42.6%	27.8%
Urinary incontinence	33.9%	17.3%
Painful leg	39.1%	15.6%
Leg swell	14.7%	10.3%
Hand swell	7.8%	2.6%
numbness	15.6%	10.3%
Leg cramp	20.0%	17.3%
Fatigue	24.3%	11.3%

DISCUSSION

The awareness of physiotherapy services available in hospital (38%) and utilization of physiotherapy interventions during antenatal period and also overall awareness regarding physiotherapy (40%) are extremely low. Among the 62% of pregnant mothers who were not aware of physiotherapy, 10% were aware of exercises in antenatal care.

In terms of the specific objectives of the study, there was no relationship between awareness of physiotherapy interventions in antenatal care and the age ($p=0.69 \alpha=0.05$). Similarly, there was no relationship between awareness of physiotherapy interventions in antenatal care and education level ($p=0.47 \alpha=0.05$). When considering the education level, less than 50% of each category, except one group (diploma, $n=5$) responded positive for awareness of physiotherapy. It emphasizes that regardless of age or educational level, the awareness of physiotherapy interventions in antenatal care is very poor.

According to Sajan, (2013) there is a significant relationship between mother's age and utilization of physiotherapy interventions, and mother's education level and utilization of physiotherapy interventions. But in our study, the utilization of physiotherapy services during the antenatal period is negligible and it was found that there was no relationship between age or educational level and awareness of physiotherapy. In addition, the majority (77%) of the participants in our study selected exercise as their perception between the four given choices.

The effectiveness of physiotherapy interventions is assessed through the physical domain of quality of life by comparing pre- and post-intervention scores on a questionnaire. From the pre-test, the overall quality of life was in an appreciable level among the pregnant mothers. We assume that the reasons for this observation are satisfaction of pregnancy, cultural values, positive attitudes toward pregnancy and positive support by family members. The social behaviour domain is the domain which obtained the highest value among four domains while physical domain obtained the lowest value. This shows the negative effect of pregnancy in physical health of pregnant mothers.

According to the post-intervention results, there was an overall improvement of quality of life in physical domain compared to pre-intervention values. However, some of the individual values have decreased comparing to the pre-intervention assessment. It may be due to progression of pregnancy, increasing foetal weight, hormonal changes and psychological stress. Because of

increase of foetal growth, the foetal weight also increases, which in turn affects the centre of gravity. In addition, some mothers had not followed adequate frequency of exercises which was prescribed during the intervention programme.

According to the results, backache was the major complication of pregnant mothers (46.55%). The prevalence of backache in the 2nd trimester was higher than in the 3rd trimester according to our study. This particular observation contradicts with the study conducted by Carvolho (2016) on evaluating the frequency of lower backache during the pregnancy, which showed that lower back pain was more frequent during 3rd trimester.

Out of 66 mothers, only 52 mothers reported to have engaged in recommended exercises at home. Most of the pregnant mothers had done the prescribed exercises according to their complications of pregnancy. As the reasons for not engaging in exercise, majority of the participants mentioned lack of time and tiredness when coming back home after the job and family work.

CONCLUSION

Awareness of physiotherapy treatments and interventions in antenatal care among pregnant mothers in Gangawatakoralle area is poor. However, the quality of life of pregnant mothers who are attending to the antenatal clinics in Gangawatakoralle is already in a good level among them.

The study reveals that there is no significant relationship between age and educational level of pregnant women and the awareness of physiotherapy interventions in antenatal care. The significant reason for the poor awareness about antenatal physiotherapy interventions are, poor practice of physiotherapy interventions during antenatal period in general and poor referral of pregnant mother for physiotherapy treatments or exercises. It was found that we could improve physical wellbeing through introducing physiotherapy interventions which in turn improved quality of life. Significant number of pregnant mothers (79%) followed the recommended antenatal exercise programme. That was a satisfactory outcome we could obtain and some pregnant mothers were willing to get involved in these kinds of programmes. The only limitation for them to practice physiotherapy interventions was the lack of awareness of antenatal physiotherapy. Therefore, we strongly suggest that these type of programmes should be conducted in the community more often and, if possible, all areas.

Physiotherapist have a significant role to play for the establishment of physiotherapy services in women's health and it will pave the way for improve quality of health service provided to pregnant women in Sri Lanka. Another important fact that we observed was the positive attitudes of women where they tend to face everything strongly and with a positive approach. Almost all pregnant mothers perceive their quality of life and health more towards the positive side.

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