



## EFFECT OF EXERCISE PROGRAM IN QUALITY OF LIFE AMONG POSTNATAL WOMEN FOLLOWING CESAREAN SECTION

Bharathi K., Rizwana Begum and VPR.Sivakumar

Clinical Therapist SRM College of Physiotherapy SRM University Kattankulathur-603203

### ARTICLE INFO

#### Article History:

Received 17<sup>th</sup> March, 2017

Received in revised form 20<sup>th</sup>

April, 2017

Accepted 25<sup>th</sup> May, 2017

Published online 28<sup>th</sup> June, 2017

#### Key words:

Exercise Program, Cesarean Section

### ABSTRACT

**Back ground:** - Quality of life (QOL) has been defined by the World Health Organization as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is argued that postnatal women experience certain physical health problems that may affect their Quality of life, future health, and health of their children. **Objective:** - To find the effectiveness of an exercise program in quality of life among postnatal women following cesarean section. **Study design:** - Non-Experimental Design, Observational study. **Subjects:** - Applying inclusion and exclusion criteria, 100 postnatal women were selected (50 women who were undergoing exercise program and 50 women who were not undergoing any exercise program following the cesarean section). A format of Mother Generated Index (MGI), a simple questionnaire was filled up 3 weeks after the cesarean section. Instructions were given to the postnatal women according to the protocol of Mother Generated Index manual. **Results:** - Significant difference was found in the primary and secondary scores of quality of life between postnatal women who have undergone exercise program and those who have not undergone exercise program. **Conclusion:** - The study shows a statistically significant improved quality of life among postnatal women who underwent an exercise program as compared to postnatal women who did not undergo any exercise program following their cesarean section. So this study recommends incorporating exercise program among postnatal women to improve their quality of life.

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### INTRODUCTION

Quality of life (QOL) has been defined by the World Health Organization as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns<sup>7</sup>. It is a broad ranging concept incorporating in a complex way the person's physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of the environment<sup>7</sup>.

The extent of postnatal morbidity in vaginal delivery and cesarean section has increasingly been recognized in recent years<sup>22</sup>. According to a study, from 2000 to 2010 the Cesarean section rate increased from 19.9 to 29.6 per 100 births<sup>26</sup>. Cesarean section might increase the incidence of surgical interventions and problems resulting from hospitalization and thus affecting Quality of life in women after delivery<sup>22</sup>. Studies on either postnatal Quality of life in general or studies that compare quality of life in new mothers after different types of delivery are limited<sup>22</sup>.

An investigation on psychometric evaluation of health-related quality of life measures in women after different types of delivery showed that women with vaginal delivery had better health-related quality of life compared with elective or emergency cesarean section<sup>22</sup>.

In particular comparing health-related Quality of life (QOL) between three modes of delivery (vaginal, elective, and emergency cesarean) it was found that postnatal women after vaginal delivery had higher mean physical health-related Quality of life (QOL) scores than after cesarean section, while mean mental health-related quality of life were similar among three groups<sup>22</sup>.

In contrast, some investigators have shown that in addition to variables such as the occurrence of pregnancy complications, life stress and less social support, cesarean delivery is predictor of poorer mental health in postnatal women<sup>22</sup>.

It is argued that postnatal women experience certain physical health problems that may affect their Quality of life, future health, and health of their children. Yet, the physical health of postnatal women is relatively neglected in both research and practice<sup>22</sup>.

\*Corresponding author: **Bharathi K**

Clinical Therapist SRM College of Physiotherapy SRM University Kattankulathur-603203

## Effect Of Exercise Program In Quality Of Life Among Postnatal Women Following Cesarean Section

In past years, women with cesarean section suffered due to the lack of advices and exercises post surgery, nowadays the outbreak in women's health physiotherapy became a boon to women's health. Physiotherapy plays an important role in obstetrics both with the ante natal and postnatal women.

Postpartum physiotherapy assessment can identify postural and structural weaknesses arising from the pregnancy, delivery, or postpartum conditions<sup>35</sup>. Post partum physiotherapy mainly aims to prevent chest complications; circulatory complications which post cesarean section women are prone for and also aim to make the postnatal women mobile as early as possible<sup>2</sup>.

Physiotherapists instruct the postnatal women in transversus abdominus, multifidus, and pelvic floor co-activation, which strengthens core muscles which are more compromised due to pregnancy and labour and is beneficial in the prevention and treatment of musculoskeletal disorders<sup>12</sup>.

Effective treatments for correct muscle activation, strengthening, and utilization of the necessary supporting structures can minimize pregnancy-adapted postures<sup>12</sup>. Ergonomic training and education are key components to the ongoing physiotherapy management of women after childbirth<sup>12</sup>.

Education regarding posture, back care, and modification of daily activities all help to ensure optimal postural alignment, which minimizes joint stress in postnatal women<sup>35</sup>. It also helps in improving the mood and sleeps in postnatal women, provides confidence to them and encourages them to become an active individual. So far only few studies had focused on the role of physiotherapy and its effects in post natal women and post natal physiotherapy is gaining its importance in India ,its awareness is far more less in India than other fields in physiotherapy, so this study aims at throwing light over the role of physiotherapy in postnatal women. Also there are almost very few studies focusing on role of physiotherapy care in postnatal Quality of life among women with cesarean delivery<sup>35</sup>. So this study aims at the role of physiotherapy in post cesarean section women.

### METHODOLOGY

Women in the postnatal period having undergone either emergency or elective cesarean section were approached, the procedure was explained and informed consent was taken to participate in the study. Applying inclusion and exclusion criteria, 100 postnatal women were selected (50 women who were undergoing exercise program and 50 women who were not undergoing any exercise program following the cesarean section). A format of Mother Generated Index (MGI), a simple questionnaire was filled up 3 weeks after the cesarean section. Instructions were given to the postnatal women according to the protocol of Mother Generated Index manual. Out of the 100 postnatal women selected for the study, 5 were dropped out due to lack of follow up. Mother Generated Index (MGI) is a questionnaire depicting the quality of life in postnatal women. It is a single sheet three step questionnaire.

In step 1, the postnatal women were given six areas of their life that had been influenced/ affected by having had a baby. In step 2, the postnatal women were asked to give themselves a score out of 10 for each of these areas. The average of these scores will gave the primary index score (PIS) (max = 10;

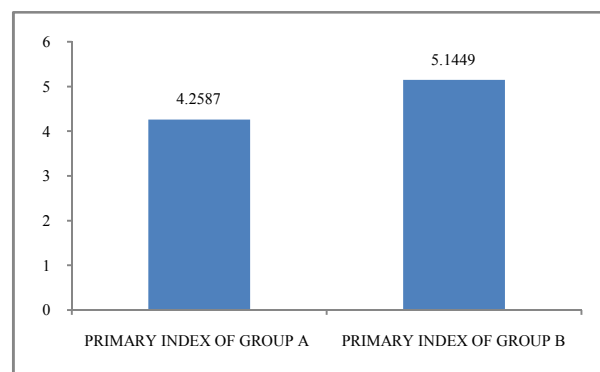
lower primary index score (PIS) ~poorer quality of life). In step 3, the postnatal women were asked to allocate 12 spending points to improve any one or more of these six areas of life. They would be asked to distribute these points in any manner they chose, but the relative importance of potential improvement in the six areas. The overall score also known as the secondary index will be calculated by taking weighted sum of each area. The scores obtained with the help of the questionnaire from postnatal women who had undergone exercise program and those who had not undergone exercise program following their cesarean sections, was compared.

### Data Analysis

To find the effectiveness of an exercise program in quality of life among postnatal women following cesarean section, independent samples 't' test was used to assess the difference in quality of life scores between postnatal women who had underwent an exercise program and postnatal women who had not underwent an exercise program following their cesarean section using SPSS software version 17.

**Table 1** Comparison of Primary Index between Group A Postnatal Women Vs Group B

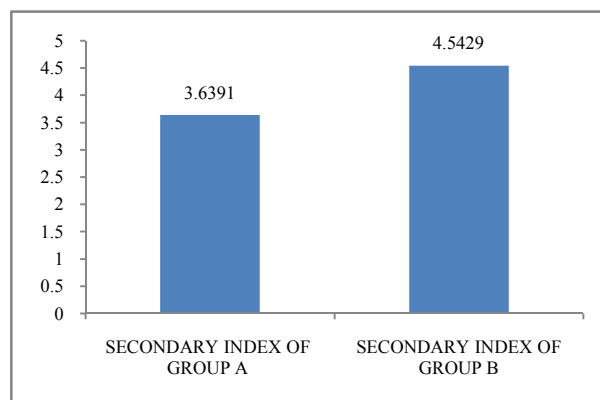
	Mean	Std deviation	Std error mean	t value	Sig
Group A	4.2587	.66117	.09748	5.131	.000
Group B	5.1449	.98045	.14006		



**Graph 1** Comparison of Primary Index between Group A Postnatal Women Vs Group B

**Table 2** Comparison of Secondary Index between Group A Postnatal Women Vs Group B

	Mean	Std deviation	Std error mean	t value	Sig
Group A	3.6391	.80842	.11920	4.395	.000
Group B	4.5429	1.15362	.16480		



**Graph 2** Comparison of Secondary Index between Group A Postnatal Women Vs Group B

## RESULTS

The primary index of quality of life was compared between Group A postnatal women who had not undergone exercise program and Group B postnatal women who had undergone exercise program post cesarean section. In this table, p is less than 0.05, which shows that there is significant difference in the primary index between Group A postnatal women and Group B postnatal women. Group B postnatal women who had undergone exercise program have better quality of life (5.1449) when compared to Group A postnatal women who had not undergone exercise program (4.2587) post cesarean section.

The secondary index of quality of life was compared between Group A postnatal women who had not undergone exercise program and Group B postnatal women who had undergone exercise program post cesarean section. In this table, p is less than 0.05, which shows that there is significant difference in the secondary index between Group A postnatal women and Group B postnatal women. Group B postnatal women who had undergone exercise program have better quality of life (4.5429) when compared with Group A postnatal women who had not undergone exercise program (3.6391) post cesarean section.

## DISCUSSION

This study aims to find the effectiveness of exercise program in quality of life among postnatal women following cesarean section. So far, so many studies had assessed the problems post vaginal delivery and cesarean section, but only a few studies had highlighted the Quality of Life (QOL) of women post delivery.

The postnatal period following cesarean section is mostly comprised of physical health problems such as difficulty in coughing due to the suture line, ankle swelling, weight gain and weak abdominal muscles leading to possible backache. Women with pendulous abdomen may have healing problems and infection of the incision might also occur. Postnatal depression or post-surgery hematomas are some of the other postnatal problems. Long term postnatal problems include dyspareunia, diastasis recti, stress and fecal incontinence<sup>2</sup>. In past, exercises post delivery was a rare concept. But with evolving field of women's health physiotherapy, exercises had gained its importance in postnatal period.

Splinted coughing and huffing techniques work towards ensuring a clear chest. Simple pelvic floor exercises such as pelvic tilting in different positions and alternative resting postures together with suggestions for good feeding, nappy changing and baby carrying habits go a long way in solving the postnatal problems<sup>2</sup>. This study had been done to add to the value of physiotherapy and to contribute to the existing literature on postnatal physiotherapy and altogether to improve Quality of Life (QOL) among postnatal women. This study included 2 categories, one group having undergone exercise program following cesarean section and other group not having undergone any exercise program. Quality of life (QOL) was assessed using the Mother Generated Index (MGI) which is a single sheet three step questionnaire. General information was collected and assessment of patient's general history was done.

In this study, assessment done during postnatal period showed significant higher quality of life among postnatal women having undergone exercise program following cesarean section as compared to those who had not undergone any exercise program.

As suggested by Kari B<sup>6</sup> postpartum Quality of Life (QOL) may be influenced by factors other than type of delivery, such as mother-related factors (for example amount of blood loss, duration of gestation, first delivery or not, presence of co-morbid conditions) and child-related factors (for example the condition of the baby such as his or her health condition, gender, and weight).

Ostgaard HC<sup>4</sup> notes that back pain is very common in pregnancy, and claims that this "lowers the Quality of Life (QOL)", as well as causing absence from work. This finding is similar to findings in this study where women not having undergone exercise program were having back pain and other symptoms which reflected in poor Quality of Life (QOL) scores.

Physiotherapists instruct postnatal women in transversus abdominus, multifidus, and pelvic floor co-activation, which strengthens core stability and is beneficial in the prevention and treatment of back pain<sup>12</sup>. In this study postnatal women undergoing exercise program were treated with strengthening of core stability muscle groups. By managing back pain and other symptoms related with delivery, which can lower the Quality of Life (QOL) in postnatal women, we tried to improve Quality of Life (QOL) in postnatal women under exercise program group. Results were statistically significant and biologically there was significant improvement in subject's postnatal problems thus improving their Quality of Life (QOL).

Postpartum physiotherapy assessment can identify postural and structural weaknesses arising from the pregnancy, delivery, or postpartum conditions. Effective treatment for correct muscle activation strengthening, and utilization of the necessary supporting structures can minimize pregnancy-adapted postures<sup>12</sup>.

Borello-France DF<sup>21</sup> described in a study that postpartum Pelvic Floor Muscle (PFM) pain, dyspareunia, episodes of urinary or fecal incontinence, abdominal diastasis, and symptoms of pelvic joint dysfunction (affecting the sacroiliac joint and symphysis pubis) are all conditions that can be treated with specific physiotherapy interventions and can help to improve physical health as well as to improve Quality of Life (QOL) related to physical health.

## CONCLUSION

The conclusion of the study is to incorporate exercise program in postnatal women to improve their quality of life.

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**How to cite this article:**

Bharathi K *et al* (2017) 'Effect Of Exercise Program In Quality Of Life Among Postnatal Women Following Cesarean Section', *International Journal of Current Advanced Research*, 06(06), pp. 4071-4075.DOI: <http://dx.doi.org/10.24327/ijcar.2017.4075.0432>

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