A SURVEY ON THE AWARENESS OF PELVIC FLOOR STRENGTHENING REGIME TO AVOID SURGICAL BIRTHS IN GOVERNMENT HOSPITALS OF PAKISTAN, CROSS SECTIONAL STUDY

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***Abstract*- Objective:** A survey to check the awareness of pelvic floor strengthening regime to avoid surgical births in government hospitals of Pakistan.

Methodology: A cross sectional study was conducted in the outpatient department of Obstetrics/Gynaecology of Jammu Kashmir Welfare Hospital, Amna Hospital, Amira Medical Center, Allama Iqbal Memorial Hospital and Sardar Begum Hospital Sialkot, Pakistan from July 2022 to January 2023. A questionnaire contains information on demographics as well as questions based on awareness and knowledge about Pelvic Floor Muscles Exercises (PFMEs).

Results: A total of 400 participants were included in this research. Descriptive statistics and Chi-square test was used. Chi square value is 7.078 and p value is 0.06. The overall result of questionnaire shows that 31% women have no knowledge about awareness of pelvic floor strengthening to avoid surgical births, 25% women have minimum knowledge, 24% women have basic knowledge. Out of these women 15% have adequate and 5% have maximum knowledge.

Conclusion: The awareness of pelvic floor strengthening to avoid surgical births in government hospitals of Pakistan is very low. Education by healthcare professionals should be provided to promote the implementation of pelvic floor strengthening exercises to avoid surgical births.

Keywords: Pelvic floor muscles, strengthening regime, surgical birth, pregnant female, physiotherapy

I. INTRODUCTION

The female pelvis has a broader width and a more rounded form. The broader female pelvic inlet makes it easier for the fetus head to engage during parturition(Bharucha, 2006). Female pelvic outlets are wider, which puts women at risk for weak pelvic floor muscles as a result. For ligaments to attach, there are numerous anatomical projections in the pelvis and curves; the same is true for muscles and facial layers(Agrawal et al., 2021).

The main (or greater) pelvis and the minor (or smaller) pelvis are the two basins that make up the pelvis(Kato, Muro, Kato, Miyasaka, & Akita, 2020). The muscles that make up the pelvic floor the levator ani and coccygeus are linked to the inner surface of the pelvis minor. Two primary muscles surround the levator ani muscle from medial to lateral: Illiococcygeus as well as Pubococcygeus(Lam, 2019).

The pelvic floor is a dome shaped muscular sheath separating the pelvic cavity above from the perineal region below(Chughtai, Kashif, Aijaz, & Malik, 2022). The pelvic floor extends during pregnancy to create room for the fetus. As a result, muscles lose strength from being weighed down. Weaker muscles won't return to their ideal spot and will instead bounce back to give support. Each pregnancy requires the pelvic floor muscles to work harder than usual because they must support the weight of the developing baby. The effects of pregnancy hormones also soften them. Pelvic floor muscles will change as a result of each pregnancy(Bozkurt, Yumru, & Şahin, 2014).

Pelvic floor muscles hold reproductive organs safely in a very coordinated way while provide flexibility to body during main bodily functions. If adequate strengthening measures are used, the female pelvis' anatomical characteristics reduce the likelihood of a C-section. The urethral sphincter and vesicle neck mechanisms keep the pressure within the urethra normal(Bordoni, Sugumar, & Leslie, 2018).

Hip bones are two innominate bones that make up the bony pelvis. They are posteriorly joined to the sacrum and anteriorly to one another at the level of the pubic symphysis. Ilium, ischium, and pubis make up each innominate or hip bone(Kato et al., 2020).

C- Section is the procedure in which a woman delivers a baby under general anesthesia or a spinal block (lumber anesthesia). There are two types of C-section. One is horizontal{ lower uterine segment) incision and the other is vertical (classical) incision(Bellani).

Pelvic Floor muscles exercises(PFMEs) are used to strengthen the pelvic floor muscles. The Pelvic Floor Muscle Exercises (PFMEs) includes Pelvic Bridging, Kegel Exercises, Diaphregmatic Breathing and Ball Squeezing Exercises which strengthen the pelvic floor muscles(Marques, Stothers, & Macnab, 2010).

II. MATERIALS AND METHODS

A cross-sectional descriptive study was done to check the awareness of pelvic floor strengthening regime to avoid surgical births in Government Hospitals of Pakistan. Convenient sampling (non-probability) technique was used for this study. A total of 400 participants was selected and interviewed to check the knowledge of pelvic floor strengthening in pregnant females. Data was collected from Jammu Kashmir Welfare Hospital, Amna Hospital, Amira Medical Center, Allama Iqbal Memorial Hospital and Sardar Begum Hospital Sialkot, Pakistan. An informed consent was obtained from the pregnant females after telling them the aim and objectives of the study. A total of 25 questions was asked from pregnant women which includes demographics, educational level and no of deliveries and

pregnancies, mode of delivery and questions about knowledge and awareness of pelvic floor strengthening to avoid surgical births e.g Do you have any knowledge about flexibility that exercise increases your muscle flexibility and keeps you active? Do you have knowledge about effect of exercise on C section? Do you know strengthening exercise can prevent urine leakage after pregnancy? Do you know exercise in pregnancy shift the baby in an easy to deliver position and it can reduce the chances of surgical births. Do you know exercise in pregnancy can shifts your baby head downward and helps in normal delivery? All questions was having closed answers having 5 alternative options to choose; 1 showing no knowledge, 2 showing minimum knowledge, 3 showing basic knowledge ,4 showing adequate knowledge and 5 showing maximum knowledge. All questions asked show whether the female has knowledge about pelvic floor exercises(Ekin et al., 2018). Sample size was calculated by Epitool. The inclusion criteria included: 1) Women eligible to participate in the study was over 18 and under 40 years of age(Sobhgol, Smith, & Dahlen, 2020a). 2) Females of any trimester were included(Sobhgol et al., 2020a). 3) Nulliparous and multiparous both were included(Okeke, Ifediora, & Ogungbe, 2020). The women excluded were: 1) Women having multiple comorbidities(Conder, Zamani, & Akrami, 2019). 2) Pregnancy with threat of abortion and require a long term bed rest(Kuravska, Aravitska, Churpiy, Fedorivska, & Yaniv, 2022). 3) Women having psychological issue(Hill, McPhail, Wilson, & Berlach, 2017).

III. RESULTS:

A total of 400 participants were selected for the research purpose. The results were calculated by using SPSS. Pie charts are used to show the percentages of knowledge in pregnant females about exercise, effect of exercise on Surgical births and overall awareness of Pelvic Floor Strengthening Regime to avoid surgical births. Associations were checked between different questions and is shown in Cross Tabulations. The overall result shows that 31% women have no knowledge about awareness of pelvic floor strengthening regime to avoid surgical births, 25% women have minimum knowledge, 24% women have basic knowledge. Out of these women 15% have adequate and 5% have maximum knowledge. Chi square value is 7.078 and p value is 0.06.

Figure 1: Pie Chart of Knowledge about Effect of Exercise on C-section (Surgical Birth) During Pregnancy:

This pie chart shows the result of 400 participants having knowledge about effect of exercise on surgical births (C-section) in percentage. 56.75% participants have no knowledge about exercise. 26 % participants have minimum knowledge about exercise, 12.25% participants have basic knowledge about exercise, 3.75% participants show adequate knowledge. 1.25% participants show maximum knowledge.

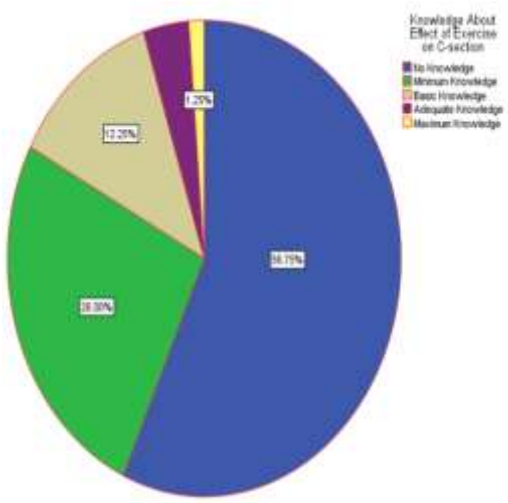

Figure 2: Pie Chart of overall awareness of Pelvic Floor Strengthening Regime to avoid surgical births:

This pie chart shows result of overall questionnaire that 31% women have no knowledge about awareness of pelvic floor strengthening regime to avoid surgical births, 25% women have minimum knowledge, 24% women have basic knowledge. Out of these women 15% have adequate and 5% have maximum knowledge.

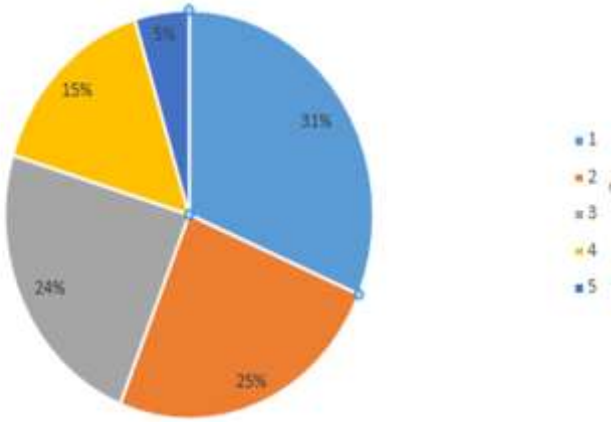

Table 1: Cross table Association between exercise can shift your baby head downward and exercise in pregnancy can reduce complication using chi-square test.

This cross table shows the association. Chi square test is used to show relationship between these two questions. As p value is less than 0.05 means there is some associations. Out of 400 participants, 181 participants have no knowledge, and only 1 participant has maximum knowledge. Thus this cross table also explains that maximum participants have no knowledge about exercise can shift baby head downward and can reduce complications.

Exercise can shift your baby head downward	Exercise in pregnancy can reduce complications					Total	P Value
	No knowledge	Minimum knowledge	Basic knowledge	Adequate knowledge	Maximum knowledge		
No knowledge	59	61	44	11	6	181	0.000
Minimum knowledge	38	66	28	10	3	145	
Basic knowledge	6	28	4	11	1	50	
Adequate knowledge	1	9	8	1	0	19	
Maximum knowledge	0	3	0	1	1	5	
Total	104	167	84	34	11	400	

Table 2: Overall awareness of Pelvic Floor Strengthening Regime to avoid surgical births:

This table shows Chi square value is 7.078 and p value is 0.06. As p-value is greater than 0.05 means the awareness of pelvic floor strengthening to avoid surgical births in government hospitals of Pakistan is very low.

Knowledge of Exercise	Awareness of Pelvic Floor Strengthening to Avoid Surgical Births			
	Total	Calculated Data	Chi Square Test	P-Value
No Knowledge	400	124	7.078	0.06
Minimum Knowledge	400	100		
Basic Knowledge	400	96		
Adequate Knowledge	400	60		
Maximum Knowledge	400	20		
Total	400	400		

IV. DISCUSSION:

The overall aim of the study was to check the awareness of pelvic floor strengthening exercises in pregnant females. Data was collected from Jammu Kashmir Welfare Hospital, Amna Hospital, Amira Medical Center, Allama Iqbal Memorial Hospital and Sardar Begum Hospital The purpose was to check their awareness, to get information about the level of knowledge, attitude, awareness, and practice towards pelvic floor strengthening exercise. To check the knowledge of pregnant females about exercise, effect of exercise on Surgical births, knowledge about urine leakage, knowledge about exercise in pregnancy reduces the labor pain, knowledge about exercise in pregnancy shifts the mode of delivery, knowledge about exercise in pregnancy keeps you active, knowledge about exercise in pregnancy shifts your pelvic bone apart and shift the baby in an easy to deliver position, knowledge about any misconception about doing exercise in pregnancy this study is conducted.

Irum Sohail, Munazza Nasir, Fehmia Nasir conducted a research in 2020 to check the awareness, knowledge, and practices of Pakistani women towards Pelvic Floor Muscle Exercises (PFMEs) during pregnancy (Habib, Sohail, Nasir, & Nasir, 2020). 169 women took part in this research. This study shows that 91% women had no knowledge about PFMEs. Only 3% females have practiced PFMEs. Another study was conducted by Hassan M. to get information about the level of knowledge, attitude, awareness, and practice towards antenatal exercise amongst pregnant females in Lahore, Pakistan in 2019 (Hasan et al., 2019). This study shows that 87% females had no knowledge about PFMEs and also had negative attitude about antenatal exercises.The majority of pregnant women in Lahore,Pakistan had inadequate knowledge about exercises during pregnancy. A study was conducted by Eimothy J. Bungum and Dian L. Paslee on 28 july, which shows that regular participation in physical activity during the first two trimesters of pregnancy may be associated with reduced risk of surgical births in nulliparous women. A research by Margie H Davenport and Casey E Gray was conducted in Canada on 6 January, 2017 which shows that there is no relationship between knowledge of PFMEs and surgical births. Prenatal exercises reduced the odds of instrumental delivery in the general obstetrical population but do not have any relationship with surgical births and induction of labor(Davenport et al., 2018). The systemic review conducted by Caroline A.smith and Hannah grace in 2020 to check the effectiveness of PFMEs on childbirth outcome by undertaking a meta-analysis ,He used Cochrane collaboration tools, after evaluating he concluded that antenatal PFMEs may be useful in reducing perineal trauma and length of second stage of Labour. No real impact on lowering C-section birth rates. This study goes in contrast with our study(Sobhgol, Smith, & Dahlen, 2020b).

V. LIMITATIONS:

Causes and Risk factors of pelvic floor muscles weakening were not the part of study. Unawareness of the target group regarding the importance of pelvic floor strengthening made them non serious about this study.

VI. RECOMMENDATIONS:

Future researchers can elaborate the research by spreading awareness about causes and risk factors associated with increased risk of surgical births and can provide guidance about pelvic floor muscle strengthening exercises.

VII. CONCLUSION:

The awareness of pelvic floor strengthening to avoid surgical births in government hospitals of Pakistan is very low. Education by healthcare professionals should be provided to promote the implementation of pelvic floor strengthening exercises to avoid surgical births.

VIII- Conflict Of Interest: There was no conflict of interest.

IX- Financial Statement: No fundings were given by any

authorities; it was a project thesis of Doctor of Physical Therapy Undergraduate program.

X- Data Availability: Data will be provided on the demand by corresponding author.

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