

Awareness Of Importance Of Pelvic Floor Exercises In Postnatal Women In Rural Population

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ABSTRACT

BACKGROUND - Postnatal pelvic floor dysfunctions are significant yet often unaddressed health concern among rural women. Pregnancy and childbirth causes various alterations in the structure and functions of the pelvic floor that increases the risk of pelvic floor disorders. Pelvic floor exercises are safe and non-invasive exercises which are effective in improving a woman's pelvic floor health in both prenatal and postnatal phase without any medication.

OBJECTIVE-

1. To evaluate the awareness of importance of pelvic floor exercises among postnatal women in rural population and to promote healthy life style choices regarding their pelvic floor health.

MATERIAL AND METHODOLGY-institutional protocol and ethical committee approval, vide their letter no. KVV/IEC/01/2025 dated January 23, 2025. This observational study was conducted in rural areas of Karad using a survey method over a duration of six months. The sample size was calculated using the formula $n = z^2 \times p \times q / L^2$, resulting in 100 participants, where z represents the confidence level, p the prevalence, $q = 100 - p$, and L the allowable error. Data collection involved a consent form and a validated questionnaire, Participants included postnatal rural women within 6 to 12 months of postpartum period aged between 21 to 40 years residing in rural areas of Karad, women with a history of recent Pelvic floor surgeries, Orthopedic or Neurological surgeries were excluded from the study.

• **RESULT**- the findings showed that out of 100 postnatal rural women (43%) of women had awareness about the importance of pelvic floor exercises, while (57%)lacked awareness. Kegel's exercises were the most commonly known about (40%). (72%) had lack of knowledge about benefits of exercises. Primary barrier was limited health care access. Interestingly (100%) of women had positive response towards knowing more about pelvic floor exercises.

CONCLUSION-This research found that there was a significant gap in awareness and practice of pelvic floor exercises among postnatal women in rural areas. Providing education on pelvic floor health, pelvic floor disorders and pelvic floor exercise practice into antenatal and postnatal care which will enhance the pelvic floor health and prevent the secondary complications regarding pelvic floor health also help in improving pelvic floor health, enhancing overall well-being and preventing the risks related to pelvic floor disorders in postnatal rural women.

KEYWORDS-Pelvic floor exercises(PFEs), Postnatal women, Importance, Knowledge and Awareness (IKA), Rural women, women health Awareness, pelvic floor dysfunction, postpartum care, kegel's exercises.

INTRODUCTION:

Pelvic floor exercises are secure and non-invasive exercises which are effective in improving a woman's pelvic floor health in both prenatal and postnatal phase without any medication. It is beneficial for women to regain normal pelvic floor function following childbirth, which can lower the chances of pelvic organ prolapse and sexual dysfunction by enhancing bladder and bowel control.

These exercises are designed to preserve normal pelvic floor health, alleviate symptoms, and enhance the quality of life for women experiencing pelvic floor dysfunction. Pregnancy causes significant hormonal and physical transformations in a woman's body, which can lead to increased muscle fatigue, making women more susceptible to pelvic floor issues such as bowel and bladder incontinence, constipation, sexual dysfunction, pelvic pain, and pelvic organ prolapse during the postpartum period.

However, most of the rural women are unaware of pelvic floor disorders. Only a small number of women reach out for assistance, as many consider these issues as natural result of pregnancy, childbirth, or a natural outcome of aging process. lack of education, transportation, low socioeconomic standing, and inadequate cleanliness and hygiene. Consequently, many rural women endure terrible symptoms of urinary incontinence, pelvic organ prolapse, and persistent pelvic pain in silence.

The study also discovered that rural women are more prone to experience pelvic floor disorders after pregnancy which have significant effect on their pelvic floor. The current study also discovered that there was no link between education level and knowledge of pelvic floor rehabilitation.

It is important to raise the awareness of pelvic floor disorders among rural women. Women can take control of their pelvic floor recovery and care through informed choices regarding their pelvic floor health by increasing knowledge, education, and access to healthcare resources. These exercises are helpful for rural women as they can be performed at home without the need for specialized equipment or frequent clinic visits, providing a long-term approach to postnatal care in underserved communities. Providing knowledge and educating rural women about the significance and techniques of pelvic floor exercises are crucial for enabling women in rural areas to manage their health and healing.

The benefits of pelvic floor exercise are as follows.

- 1) Prevents urinary incontinence: This is the most typical advantage since weakened pelvic floor structures can cause unintentional urine leakage while coughing or sneezing.
- 2) Enhances bowel control: Frequent pelvic floor exercises helps in bowel movements and prevent fecal incontinence.
- 3) Improves sexual performance: Stronger pelvic floor muscles helps to improve sexual pleasure and satisfaction.
- 4) Faster postpartum recovery: Pelvic floor exercises can help with healing and minimize discomfort after childbirth by boosting blood flow to the pelvic region.
- 5) Minimizes pelvic organ prolapse: The pelvic floor's strong muscles can help support the pelvic organs, preventing prolapse in which the organs could prolapse into the vagina.
- 6) Beneficial for secondary pregnancy: strengthens and tightens the pelvic floor, which is helpful for future conceiving .

Common pelvic floor exercises which are simple to execute and beneficial following childbirth:

- 1) Deep Belly Breathing Exercises : Promotes relaxation and improves breath control by connecting breathing with pelvic floor muscles activation and holding
- 2) Kegel's Exercises : Enhances pelvic health, improves bladder control, and strengthens the muscles supporting pelvic region.
- 3) Pelvic bridging : Effective in strengthening the gluteus and muscles supporting pelvic region.
- 4) Squats : Strengthens the lower limbs and activates the muscles of pelvic region.
- 5) Pelvic Tilts: Strengthen the muscles of pelvic floor and lower abdomen which reduces the pelvic pain
- 6) Leg Lifts : Improves the strength of the core muscles and pelvic muscles.
- 7) Butterfly Stretch : Strengthen the muscles of pelvic region and stretching and relaxing the pelvic floor.
- 8) Deep Belly Breathing: Benefit - It promotes relaxation and improves breath control by connecting breathing with pelvic floor muscles activation and holding.

Practicing these exercises in postnatal period contribute in enhancing the overall pelvic floor health and improves the strength of pelvic floor structure and contributes in promoting healthy lifestyle choices in rural women population.

AIM: To find the awareness of importance of pelvic floor exercises in postnatal women in rural population.

OBJECTIVE:

1. To evaluate the awareness of importance of pelvic floor exercises among postnatal women in rural population and to promote healthy life style choices regarding their pelvic floor health.

MATERIAL AND METHODOLOGY: This observational study was conducted in rural areas of Karad over a six-month period using a survey-based approach. The sample size was calculated with the formula $n = z^2 \times p \times q / L^2$, resulting in 100 participants, where z denotes the confidence level, p the estimated prevalence, $q = 100 - p$, and L the allowable error. Participants were selected from rural areas of Karad postnatal women of 21 to 40 years of age within 1 year of postnatal period. Data collection involved a validated questionnaire for demographic, occupation, obstetric history, knowledge of pelvic floor disorders and awareness of importance of pelvic floor exercises in postnatal period. Exclusion criteria included recent Pelvic floor surgeries, orthopedic or Neurological surgeries. Ethical clearance was obtained, and all participants were informed of the study's purpose, procedures, and potential risks before enrollment.

4. RESULT:

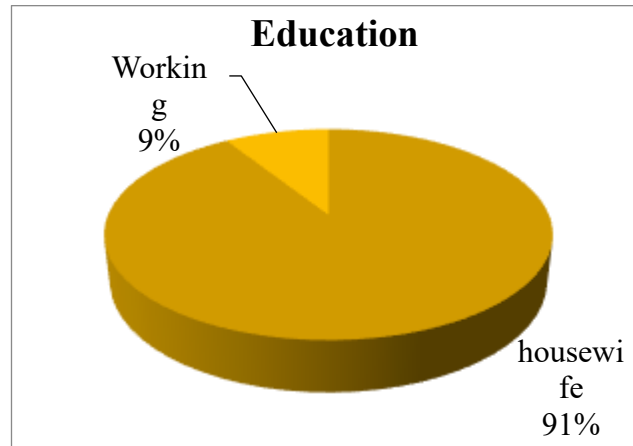
1) Demographic information:

1. Education:

Category	Frequency	Percentage
Secondary school	12	12%

High school	82	82%
Graduate	6	6%

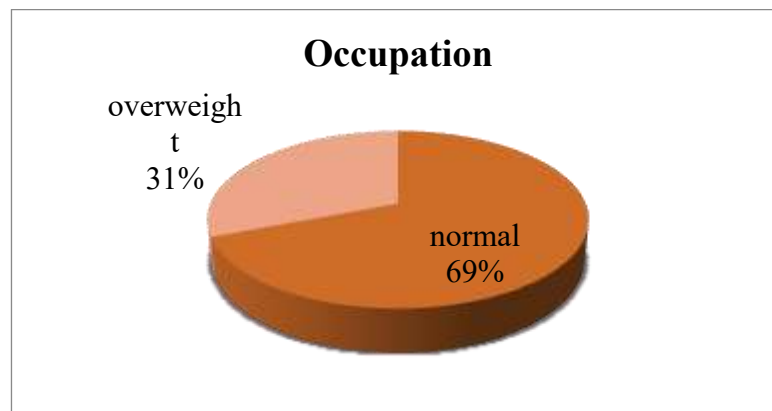
Interpretation: This result shows that 12% women have educated till secondary school,82% have educated till high school and 6% have graduated.



2. Occupation:

Category	Frequency	Percentage
House wife	91	91%
Working	9	9%

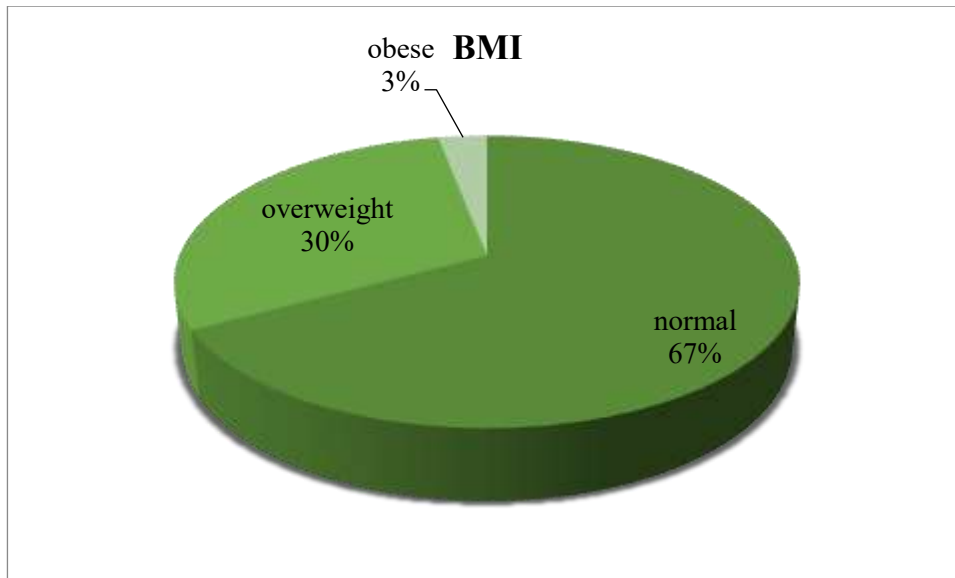
Interpretation: this result shows that out of 100 women,91% are housewife and remaining 9% are working.



3. BMI:

category	Frequency	Percentage
Normal	67	67%
Overweight	30	30%
Obese	3	3%

Interpretation: this result shows that 67% women have normal bmi,30% are overweight while 3% are obese.

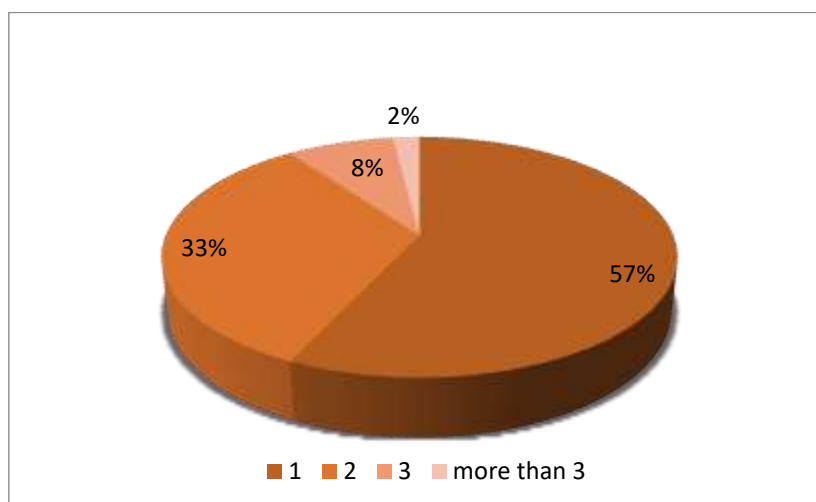


Obstetric history:

1. Number of pregnancies:

Response	Frequency	Percentage
1	57	57%
2	33	33%
3	8	8%
More than 3	2	2%

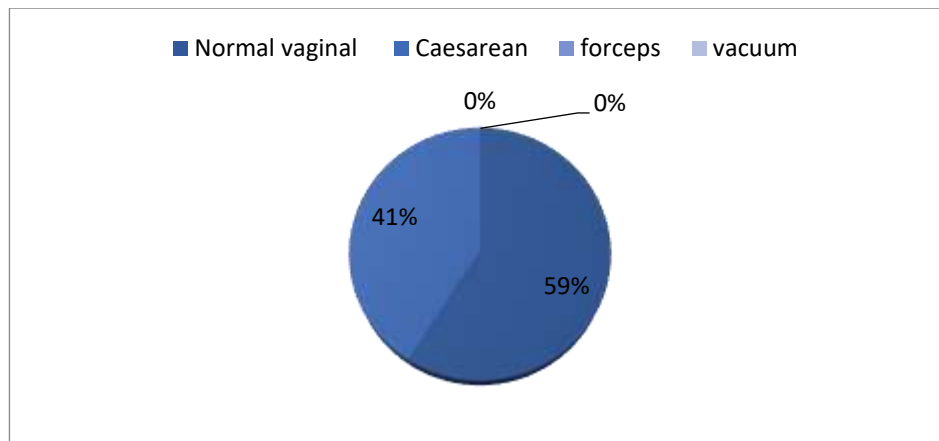
Interpretation: this result shows that 57% women got pregnant for 1 time, 33% got pregnant 2 times, 8% have got pregnant for 3 times and 2% have got pregnant for more than 3 times.



2. Type of delivery?

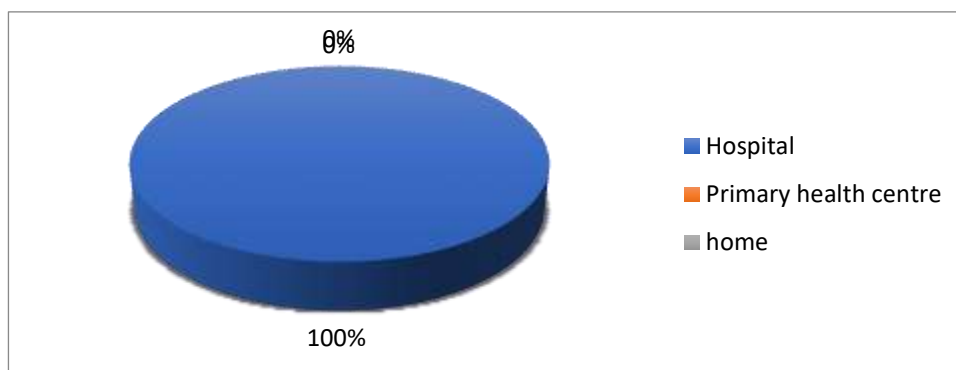
Response	Frequency	Percentage
Normal vaginal	59	59%
Caesarean	41	41%
forceps	0	0%
vacuum	0	0%

Interpretation: this result shows that 59 women have normal vaginal delivery while 41 have caesarean type of delivery.



3. Place of delivery?

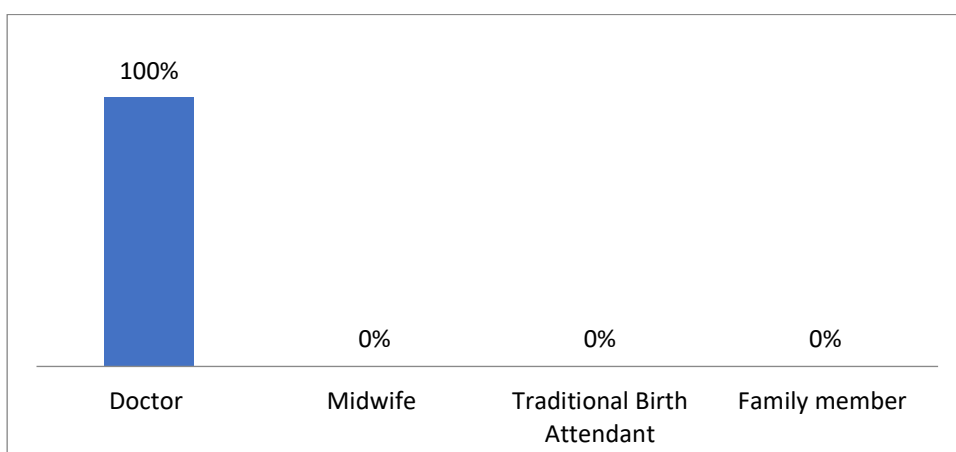
Response	Frequency	Percentage
Hospital	100%	100%
Primary health centre	0	0%
Home	0	0%



4. Delivery done by?

Response	Frequency	Percentage
Doctor	100%	100%
Midwife	0	0%
Traditional Birth Attendant	0	0%
Family member	0	0%

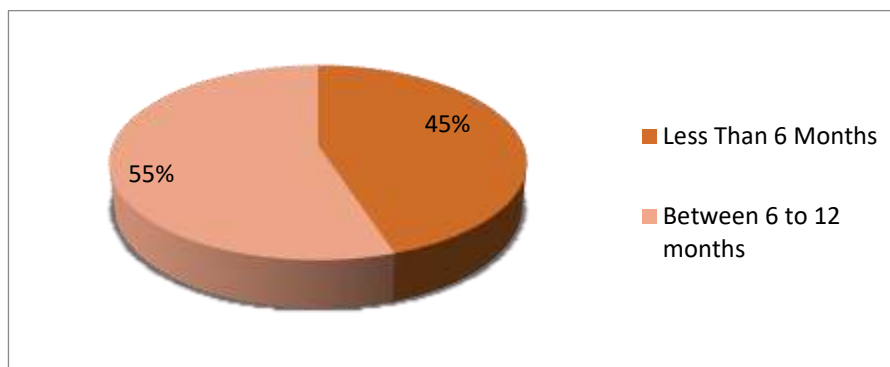
Interpretation: this result shows that 10 women’s delivery was done by doctor.



5. Postnatal duration:

Response	Frequency	Percentage
Less Than 6 Months	45	45%
Between 6 to 12 months	55	55%

Interpretation: this result shows that out of 100 women, 45 women have less than 6 months of postnatal duration while 55% are between 6 to 12 months of postnatal duration.



6. Experienced complications during pregnancy?

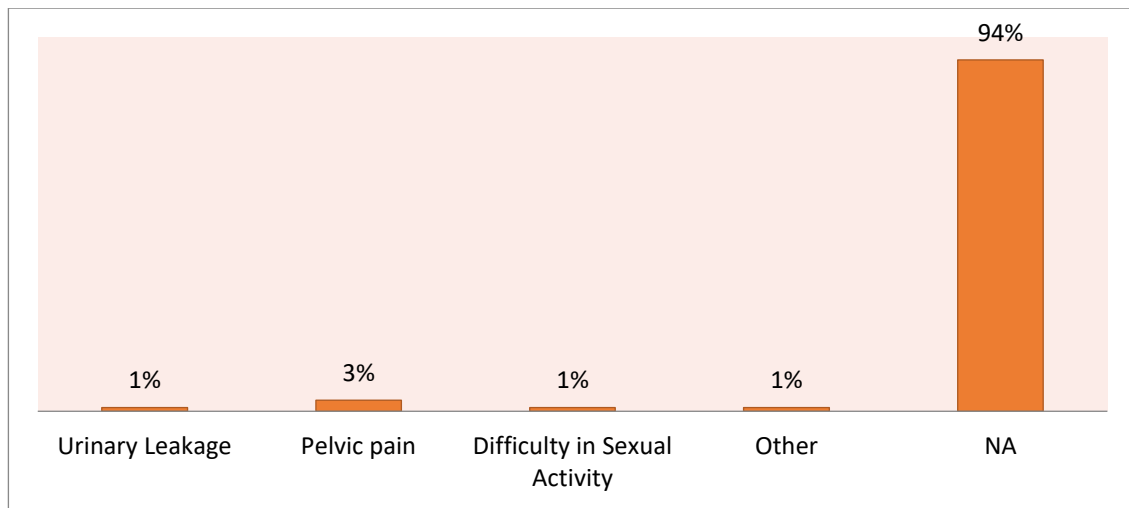
Response	Frequency	Percentage
Prolonged Labor	31	31%
Excessive Bleeding	4	4%
Injury to Perineum	5	5%
Uterine Rupture	5	5%
NA	45	45%

Interpretation: This result shows that 31% women have experienced prolonged labor, 4% experienced excessive bleeding, 5% experienced perineum injury, 5% experienced uterine rupture while 45% have not experienced any complication during pregnancy.

7. ced after delivery?

Response	Frequency	Percentage
Urinary Leakage	1	1%
Pelvic pain	3	3%
Difficulty in Sexual Activity	1	1%
Other	1	1%
NA	94	94%

Interpretation: this result shows that 1 women have experienced urinary leakage after delivery, 3 women have experienced pelvic pain, 1 have experienced difficulty during sexual activity while 94% women don't have experienced any complication after delivery.

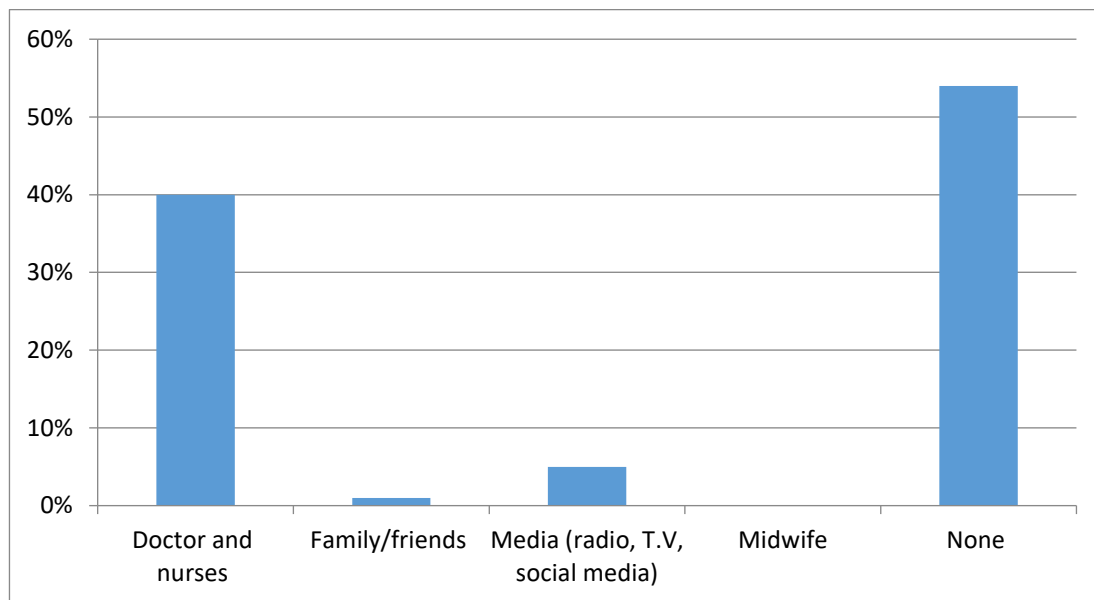


Knowledge about pelvic floor exercises:

1. Heard about pelvic floor exercises from:

Response	Frequency	Percentage
Doctor and nurses	40	40%
Family/friends	1	1%
Media (radio, T.V, social media)	5	5%
Midwife	0	0%
None	54	54%

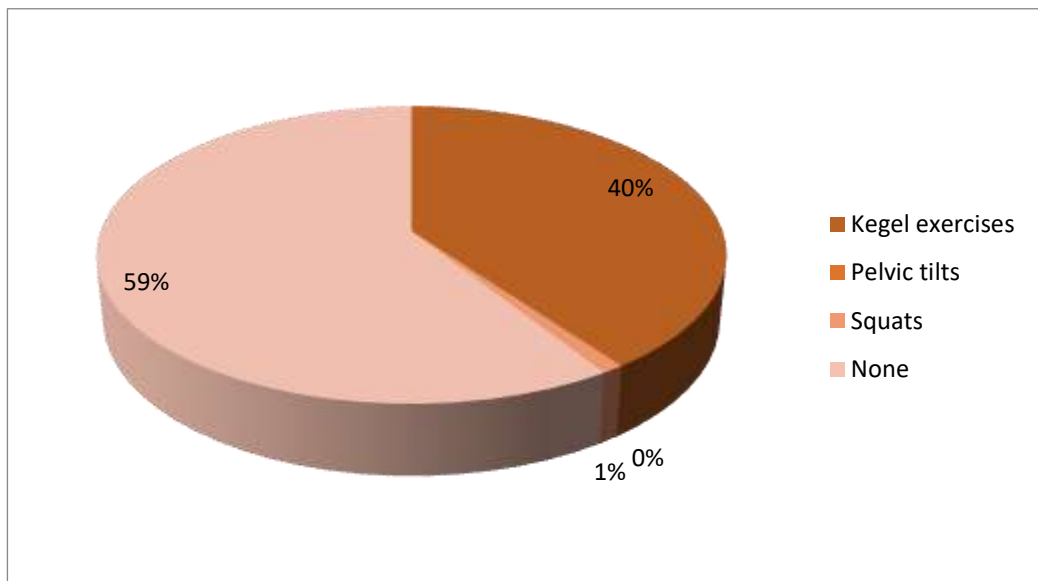
Interpretation: this result shows that 40 women have heard about pelvic floor exercises from doctor and nurses, 1 have heard from friends while 54 women don't know anything about pelvic floor exercises.



2. Tried pelvic floor exercise of type:

Response	Frequency	Percentage
Kegel exercises	40	40%
Pelvic tilts	0	0%
Squats	1	1%
None	59	59%

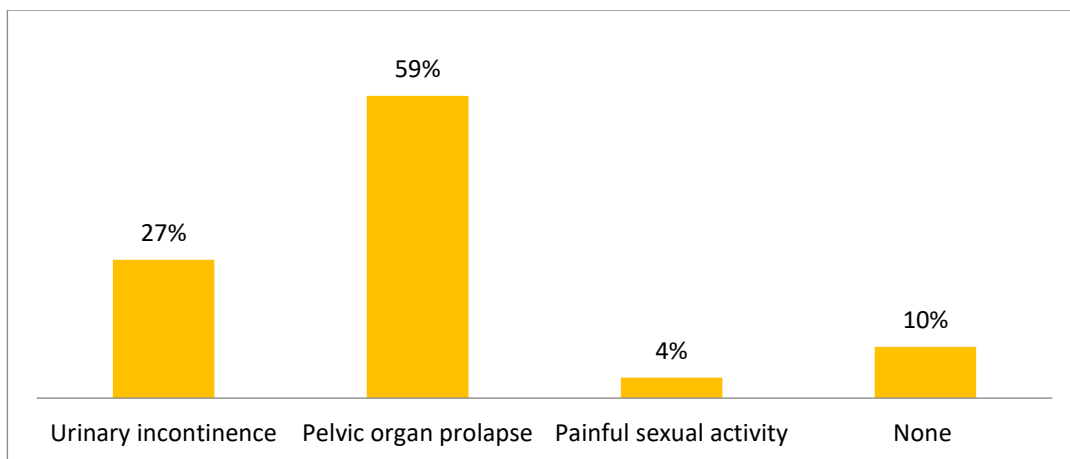
Interpretation: this result shows that 40 women tried kegel exercise, 1 women tried squats while other 59 women have not tried any pelvic floor exercise.



3. Aware of type pelvic floor disorders :

Response	Frequency	Percentage
Urinary incontinence	27	27%
Pelvic organ prolapse	59	59%
Painful sexual activity	4	4%
None	10	10%

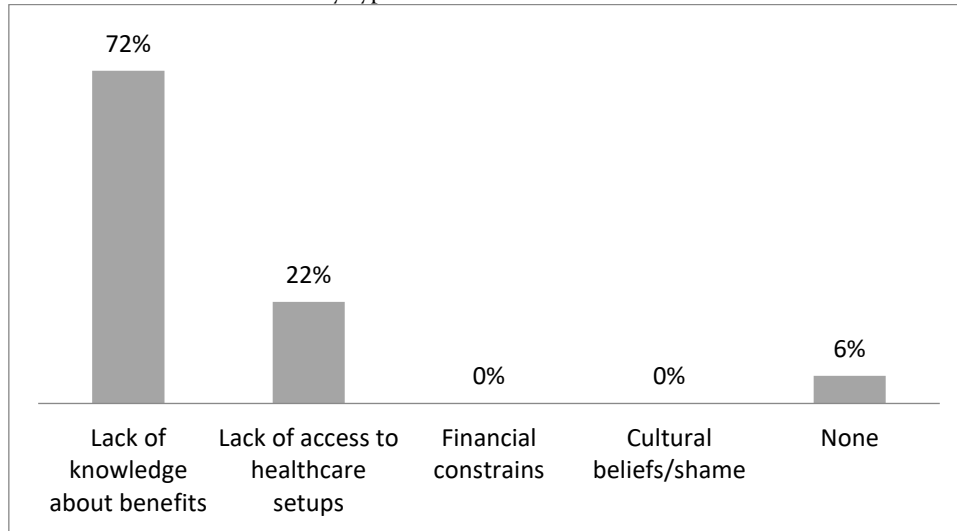
Interpretation: this result shows that 27% have aware of urinary incontinence disorder, 59 % know about pelvic organ prolapse disorder, 4% know about painful sexual activity disorder, and 10% dont aware about any type of disorder.



4. Barriers faced while performing pelvic floor exercises:

Response	Frequency	Percentage
Lack of knowledge about benefits	72	72%
Lack of access to healthcare setups	22	22%
Financial constrains	0	0%
Cultural beliefs/shame	0	0%
None	6	6%

Interpretation: this result shows that 72% women have lack of knowledge about benefits, 22% have lack of access to healthcare and 6% women don't have any type of barrier.



3) Awareness about importance of pelvic floor exercises:

Q.1 Do you know anything about pelvic floor exercises?

Response	Frequency	Percentage
Yes	45	45
No	55	55

Interpretation-

Among 100 women 45% women know about pelvic floor exercises and 55% women don't know.

Q.2 Do you know what is meant by pelvic floor exercises?

Response	Frequency	Percentage
Yes	43	43
No	57	57

Interpretation-

Among 100 women 43% know what is meant by pelvic floor exercises and 57% women don't know.

Q.3 Have you ever practiced any pelvic floor exercise?

Response	Frequency	Percentage
Yes	40	40
No	60	60

Interpretation-

From above result 40% women have practiced pelvic floor exercise and 60% women have not practiced.

Q.4 Do you know that pelvic floor exercises are important and useful after delivery?

Response	Frequency	Percentage
Yes	43	43
No	57	57

Interpretation-

From above results 43% women know that pelvic floor exercises are important after delivery and 57% women don't know about it.

Q.5 Do you know that pelvic floor exercises helps in strengthening the pelvic floor muscles after delivery?

Response	Frequency	Percentage
Yes	43	57
No	57	57

Interpretation-

Among 100 women 43% know that pelvic floor exercises helps in strengthening of pelvic floor muscles after delivery and 57% women don't know.

Q.6 Do you know that pelvic floor exercises helps the pelvic organs to return to their normal structure?

Response	Frequency	Percentage
Yes	43	57
No	57	57

Interpretation-

Among 100 women 43% know that pelvic floor exercise helps the pelvic organ to return to their normal structure and 57% are unaware of it.

Q.7 Do you know that pelvic floor exercises improve bladder and bowel control?

Response	Frequency	Percentage
Yes	43	57
No	57	57

Interpretation-

From above result 43% women know that pelvic floor exercises improves bladder and bowel control and 57% women are unaware of it.

Q.8 Do you know that pelvic floor exercises helps to prevent complications during pregnancy ?

Response	Frequency	Percentage
Yes	43	57
No	57	57

Interpretation-

From above result 43% know that pelvic floor exercises helps to prevent the complications during pregnancy floor and 57% have don't know about it.

Q.9 Do you know that pelvic floor exercises reduces the risk of pelvic floor disorders?

Response	Frequency	Percentage
Yes	43	43
No	57	57

Interpretation -

From the above result 90% women know that pelvic floor exercises reduce the risk of pelvic floor disorders and 10% are unaware of it.

Q.10 Do you know about pelvic floor disorders?

Response	Frequency	Percentage
Yes	90	90
No	10	10

Interpretation -

Out of 100 women 45%women are aware of pelvic floor disorders before filing the form and 55% are unaware of it.

Q.11 Did you know about pelvic floor exercises before filling the form?

Response	Frequency	Percentage
Yes	45	45

No	55	55
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Interpretation- From above result 45% women are aware of importance of pelvic floor exercises before filling the form and 55% have don't know.

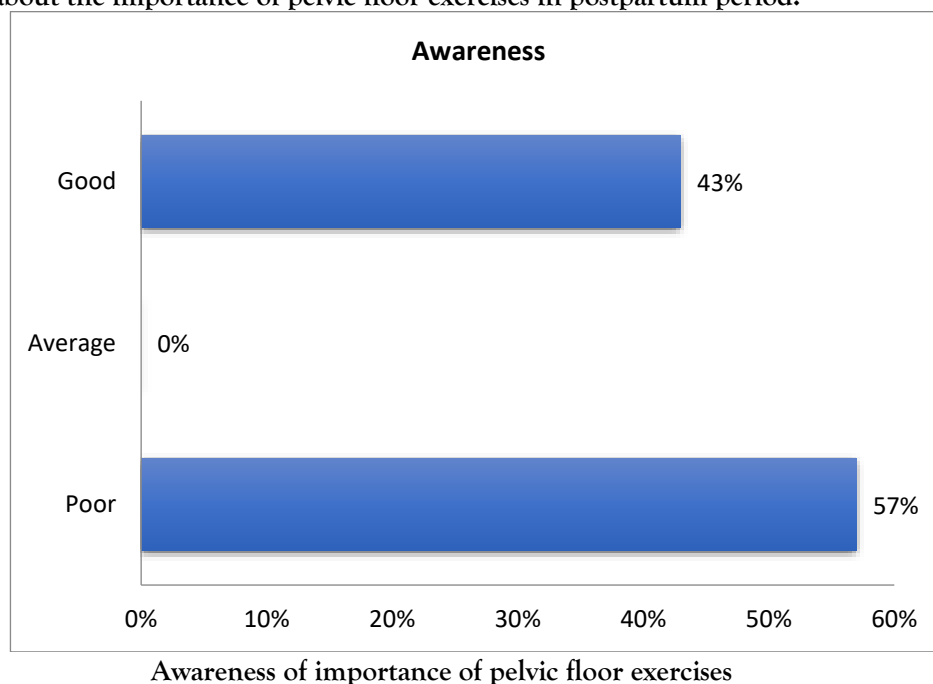
12. Would you be willing to learn more about pelvic floor exercises?

Response	Frequency	Percentage
Yes	100	100
No	0	0

Interpretation-

From above result 100 women out of 100 are willing to learn more about pelvic floor exercises.

According to survey 43% women are aware of importance of pelvic floor exercises and 57% women have lack of awareness about the importance of pelvic floor exercises in postpartum period.



5. DISSCUSSION: This was an observational study aimed to find awareness of importance of pelvic floor exercises. In this study we were aimed to find awareness of pelvic floor exercise For these we collected information from 100 postnatal rural women residing in rural areas of Karad, Maharashtra through a survey that used a structured questionnaire and had a 100% response rate 25 questions covering demographic information, obstetric history, knowledge of pelvic floor disorders and awareness of importance of pelvic floor exercises in postnatal period included in the survey. There was awareness of importance of pelvic floor exercises in 43% women and 57 % women had not aware of benefits of pelvic floor exercises. According to the results, among 100 participants 43 women had awareness and 57 women had lack of awareness about the importance of pelvic floor exercises and 100% women are willing to know more about pelvic floor exercises. Women can prevent the complications by knowing and practicing pelvic floor exercises and choosing healthy life in early age. This can help to resolve and prevent arising problems in later age regarding their pelvic floor health. Practicing pelvic floor exercises such as kegel's exercises, deep belly breathing exercises, pelvic tilts, bridging exercises, squats during postnatal period helps to restore the normal pelvic floor structure and maintains the strength of pelvic floor muscles, ligaments, connective tissues. Pelvic floor exercises help to prevent the risk and occurrence of pelvic floor disorders.

6.CONCLUSION: The study was carried out with a group of 100 postnatal rural women residing in rural areas of Karad district and it was aimed to find awareness of importance of pelvic floor exercises in postnatal women of rural areas. The findings indicated that 43% had adequate knowledge of importance of pelvic floor exercises

and pelvic floor conditions. While, many postnatal rural women still had lack of knowledge of importance of pelvic floor exercises and knowledge of pelvic floor disorders. On a positive note, 100% women had positive attitude and willingness towards knowing more about pelvic floor exercises.

The findings indicated that there is a significant gap in awareness about pelvic floor health and practice of pelvic floor exercises in postnatal period. This indicates the necessity of integration of pelvic floor health education and practicing pelvic floor exercises in pre and postnatal period which will enhance the pelvic floor health and prevent the secondary complications regarding pelvic floor health. It is important to increase the awareness by antenatal and postnatal counseling by involving healthcare workers and educating pelvic floor exercise training in regular maternal routine can help in improving pelvic floor health among rural postnatal women.

7.LIMITATION: Since it was a observational study, the study duration is short with a large sample size The sample was limited to women from one rural area, so the findings may not apply to all rural populations. Data were self-reported, which can be affected by memory or the tendency to give socially acceptable answers. Cultural beliefs, language translation, and the comfort level of participants while answering sensitive questions could also have influenced their responses. Finally, the study focused only on awareness and self-reported practice of pelvic floor exercises and did not objectively assess whether the exercises were performed correctly or whether they led to improvement in symptoms. Future research with a larger and more diverse sample, women health camps, validated tools, and follow-up assessments could provide a more detailed understanding of awareness and actual practice.

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