

## AWARENESS OF KEGAL EXERCISES FOR PREVENTING URINARY INCONTINENCE IN RURAL AREA.

Snehali dilip thorat<sup>1\*</sup>, Dhairyasheel Patil<sup>2</sup>

<sup>1</sup>Final year student, Krishna college of physiotherapy, Krishna Vishwa Vidyapeeth, Karad.

<sup>2\*</sup>Assistant Professor, Department of Oncology Physiotherapy, Krishna College of Physiotherapy Krishna Vishwa Vidyapeeth, Karad

### Corresponding Author

[snehalithorat25@gmail.com](mailto:snehalithorat25@gmail.com)

---

### Abstract

**Background:** Urinary incontinence (UI) is more commonly observed in women and has a profound impact on their physical, psychological, social, and sexual quality of life. In India, especially in rural regions, many women quietly endure urinary problems, even when the symptoms cause significant discomfort and interfere with daily activities. This silent suffering is often driven by cultural norms and stigma, which discourage open discussion and timely medical intervention.

**Methods:** This was an observational study which included 130 participants under the inclusion criteria. The data was collected using a validated questionnaire which included question based on knowledge, awareness and experience related to urinary incontinence. The case sheet included name, age and occupation and random sampling method was used and studied of awareness level of Kegel exercises in rural area.

**Results:** Among 130 rural women surveyed near Karad, most were aged 18–30 or 41–50 years (32.3% each), with housewives forming the largest occupational group (51.53%), followed by employed women (29.23%) and students (19.23%). Awareness of urinary incontinence (35.38%) and Kegel exercises (18.46%) was low, and over half lacked information on their benefits or how to perform them. The main barrier to practice was limited knowledge (56.15%). Encouragingly, many participants expressed interest in learning (46.15%) and practicing Kegels (49.23%), with 52.30% suggesting health education as the best way to raise awareness.

**Conclusion:** The study reveals low awareness of urinary incontinence (35.38%) and Kegel exercises (18.46%) among rural women, with most never practicing due to lack of knowledge. Nearly half were willing to learn, favouring health education, local camps, and informational materials—highlighting the need for accessible community-based training.

**Keywords:** Awareness, Community education, Kegel exercises, Prevention, Rural women, Urinary incontinen

**How to cite this article:** Thorat SD, Patil D. Awareness of Kegel Exercises for Preventing Urinary Incontinence in Rural Area. *Int J Drug Deliv Technol.* 2026;16(13s): 916-921. DOI: 10.25258/ijddt.16.13s.103

### INTRODUCTION

Urinary incontinence (UI) refers to the unintentional loss of urine, a condition that can significantly affect a person's quality of life. Studies indicate that it occurs in about 13.1% of women and 5.4% of men. Although UI can develop at any age, it is most frequently seen in individuals aged sixty years and older. While the causes of UI vary widely across different age groups, this review will specifically address non-neurogenic urinary incontinence in adult populations <sup>[1]</sup>.

It is a condition that significantly affects women, making them one of the most impacted groups after the elderly. It takes a noticeable toll on various aspects of health-related quality of life, including physical well-being, emotional stability, social interactions, and sexual health. Recognizing its widespread impact, the World Health Organization (WHO) has identified urinary incontinence as a social disease, as it affects over 5% of the general population. Research indicates that between 30% to 60% of women going through perimenopause or

post-menopause experience urinary incontinence at some point. Additionally, around half of the women in their 50s to 80s are likely to face symptoms of this condition during their lifetime <sup>[2]</sup>.

Pelvic floor muscle training (PFMT) is considered an effective first-line approach for managing stress urinary incontinence (SUI), as it focuses on improving the strength and function of the pelvic floor muscles (PFM). Research shows that women with SUI who consistently perform pelvic floor muscle exercises (PFME) are up to eight times more likely to become symptom-free compared to those who receive no treatment or only inactive interventions. Consistent exercise is essential for enhancing PFM function and is one of the strongest predictors of long-term success. However, maintaining high adherence to these exercises is complex, requiring the patient's active engagement and cooperation. Adherence can also be shaped by external factors such as support from family members, guidance from healthcare providers, accessibility of healthcare services, as well as socio-economic and cultural influences.

---

\*Author for Correspondence: [snehalithorat25@gmail.com](mailto:snehalithorat25@gmail.com)

Although various theories and strategies have been explored to improve adherence, following PFME programs as prescribed remains a common challenge. Clinical studies have tested different methods, including educational programs, mobile applications, and vaginal devices, but the results regarding adherence levels and symptom improvement have often been less promising than expected [3].

While surgical treatment remains the most effective option for managing stress urinary incontinence (SUI), conservative approaches are now considered the preferred first-line treatment, particularly for elderly women or those with milder symptoms. These non-surgical methods focus on lifestyle changes, bladder training, pelvic floor muscle strengthening, biofeedback techniques, and electrical stimulation of pelvic muscles. Among these, Kegel exercises are the most widely recommended and commonly practiced. Introduced in 1948 by American gynaecologist Dr. Arnold Kegel, these exercises aim to strengthen the pelvic floor muscles without the need for invasive procedures like inserting vaginal weights or cones. They are cost-effective, easy to perform, and can be incorporated into daily routines—whether sitting, walking, or doing household tasks—eliminating the need for frequent hospital visits. The key lies in properly learning how to contract the correct pelvic muscles. Research has consistently shown that Kegel exercises can gradually improve pelvic floor strength. However, the effectiveness of these exercises can vary greatly among individuals. Success often depends on factors such as correctly identifying the muscles, the consistency and sincerity with which the exercises are performed, and the individual's confidence in their benefits. Therefore, while clinical studies support the use of Kegel exercises, their real-world outcomes must be carefully interpreted in light of these practical considerations [4].

Reported success rates for reducing stress urinary incontinence (SUI) through Kegel exercises vary widely, ranging from 27% to 75%. The pelvic floor muscles (PFMs) play a crucial role in supporting pelvic structures and maintaining continence, as weakness or poor positioning of these muscles can lead to urine leakage. While evidence supports the effectiveness of Kegel exercises, this benefit is only achieved when the exercises are performed correctly. This is particularly important given that 25–50% of women are unable to properly activate their pelvic floor muscles. Studies show that half of the women attempting Kegel exercises using only a pamphlet make errors—often engaging the gluteal, hip, or abdominal muscles—which reduces the effectiveness of the training. This highlights that simple verbal or written instructions are insufficient to prepare someone for an effective pelvic floor muscle program. The role of biofeedback training (BT) as an aid to Kegel exercises remains debated in the literature. Some studies report no significant difference, while others note measurable improvements in pelvic floor muscle strength

over time, with notable gains seen after a 12-week program. In one study, nearly 60% of participants required no further treatment due to the success achieved when BT was used alongside Kegel exercises [5].

Rural health disparities significantly limit women's access to adequate healthcare services, including specialized pelvic health care. Although little research has specifically examined barriers to seeking pelvic healthcare, studies on postpartum mental health in rural settings highlight several challenges. These include fewer specialized women's healthcare providers, lower socioeconomic status, limited educational opportunities, reduced health insurance coverage, lack of childcare, and inadequate transportation. Social factors also play a role—such as the absence of privacy and the stigma surrounding pelvic health concerns. In many rural communities, especially during the postpartum period, cultural expectations often emphasize self-reliance and resilience, which can discourage women from seeking help. More targeted research is needed to understand the unique needs of postpartum women in rural areas and to identify effective ways to support their self-care and management of pelvic health, thereby helping to prevent and treat pelvic floor disorders (PFDs) during this critical stage [6].

#### Materials and method:

This was an observational study which included 130 participants and was conducted in Karad, Maharashtra. The study was approved by the Ethical Committee and Protocol Committee. The sampling method used was simple random sampling. The inclusion criteria were age group 18 to 60 years old female, able to communicate verbally, could understand and comply with study procedure and Subjects willing to participate. participants with current urinary tract infection at screening or a positive history of frequent, recurrent urinary tract infection, Current pregnancy or a history of delivery within 12 weeks prior to enrollment and Neurological or significant psychiatric disease were excluded. To find out the questionnaire was used to determine the awareness of Kegel exercises for preventing urinary incontinence in rural area. There were 15 questions and response were obtained by asking questions. The observational study was carried out among 130 rural women. The study was carried out by Self-made questionnaire was used to determine the awareness of Kegel exercises for preventing urinary incontinence in rural area. A case sheet was made which included name, age and occupation and random sampling method was used. The collected data were analyzed by a statistician.

#### Result:

Age distribution was analyzed among 130 women in rural area near Karad who participated in this study. The data was analyzed and calculated in which frequency of

female participants in 18-30 age group was 42, in 31-40 age group was 24, 41-50 age group was 42, and 51-60 age group was 22. The highest proportion of respondents fell within the 18–30 and 41–50 age groups, each contributing 32.30% of the total sample. The 31–40 age group accounted for 18.40%, while the smallest group, aged 51–60, comprised 16.92% of participants as shown in Table 1 and Figure 1.

Table 1. Age distribution

Age group	Frequency	Percentage
18-30	42	32.30%
31-40	24	18.40%
41-50	42	32.30%
51- 60	22	16.92%

Figure 1. Age distribution

The data shows that 51.53% of participants were housewives, making them the largest group in the sample. This was followed by 29.23% who were employed and 19.23% who were students. The figures highlight a diverse participant pool, with a majority involved in household duties and a notable portion engaged in work or studies. As shown in Figure 2.

and Figure 2.

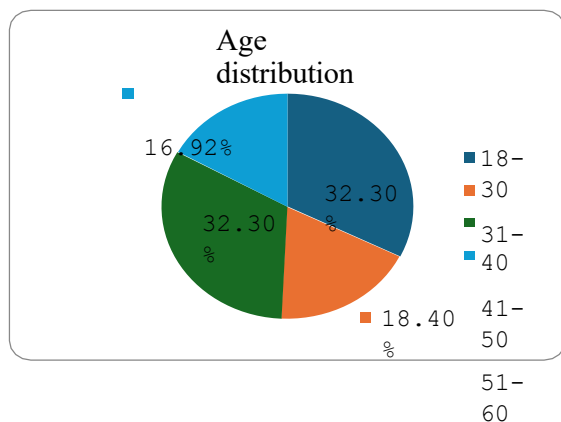


Table 2. Occupation distribution

Occupation	Frequency	percentage
Housewife	25	19.23%
Students	67	51.53%
job	38	29.23%

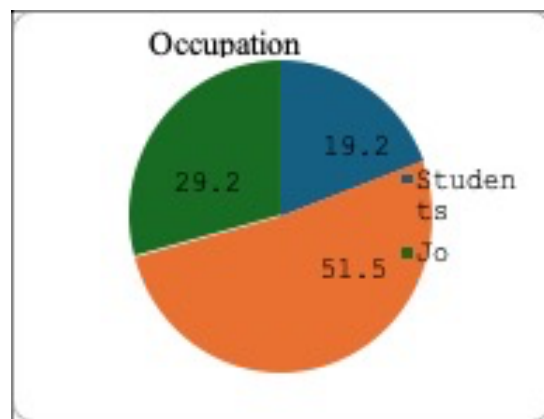


Figure 2. Occupation distribution

The survey revealed low awareness of urinary incontinence (UI) and Kegel exercises among participants. Only 35.38% had heard of UI, and 30.76% reported experiencing symptoms, yet just 23.84% were aware that physiotherapy could help. Knowledge of UI causes (30%) and Kegel exercises (18.46%) was limited, with the main barrier to practicing Kegels being a lack of understanding (56.15%). Over half felt their community lacked information on Kegels, and 52.30% suggested health education as a solution. Encouragingly, 46.15% showed interest in learning, 49.23% were willing to practice, and 67.69% offered suggestions to raise awareness—highlighting a strong need and opportunity for targeted community education. As shown in

Table 3.

Table 3. Questionnaire

Q. No	Question	Option	Number	Percentage
1	Have you ever heard of the term urinary incontinence?	Yes	46	35.38%
		No	57	43.84%
		Not sure	27	20.76%
2	Do you know anyone in your community who	Yes	28	21.53%
		No	67	51.53%

	experiences urinary incontinence?	Not sure	35	26.92%
3	Do you experience difficulty in holding your	Yes	40	30.76%
		No	56	43.07%
		Not sure	34	26.15%

AWARENESS OF KEGAL EXERCISES FOR PREVENTING URINARY INCONTINENCE IN RURAL AREA.

	urine or leakage of urine?			
4	Are you aware that physiotherapy can help manage/prevent UI?	Yes	31	23.84%
		No	57	51.53%
		Not sure	34	24.61%
5	Do you know the causes of urinary incontinence?	Yes	39	30.00%
		No	57	43.84%
		Not sure	34	26.15%
6	Have you ever heard of Kegel exercises?	Yes	24	18.46%
		No	78	60.00%
		Not sure	28	21.53%
7	Do you know the benefits of Kegel exercises?	Yes	23	17.69%
		No	76	58.46%
		Not sure	31	23.84%
8	If not tried Kegel exercises, what's the reason?	Not aware how to do them	73	56.15%
		Lack of knowledge	34	26.15%
		Lack of time	23	17.69%
9	Is there enough information on Kegels in your community?	Yes	23	17.69%
		No	69	53.07%
		Not sure	38	29.23%
10	What could increase awareness about Kegels in your community?	Health education programs	68	52.30%
		Local camps	30	23.07%
		Posters/pamphlets	32	24.61%
11	Would you be interested in learning about Kegels and UI prevention?	Yes	60	46.15%
		No	36	27.69%
		Maybe	34	26.15%
12	Do you think Kegels help prevent urinary incontinence?	Yes	53	40.76%
		No	40	30.76%
		Not sure	37	28.46%
13	How important is it to practice Kegels regularly?	Very important	43	33.07%
		Important	51	39.23%
		Slightly important	36	27.69%

		o r t a n t		
14	Would you be willing to learn about and practice Kegel exercises?	Yes	64	49.23%
		No	16	12.30%
		Not sure	50	38.46%
15	Suggestions to improve Kegel practice awareness in rural areas	Yes	88	67.69%
		No	11	8.46%
		Not sure	31	23.84%

**Discussion:**

This study aimed to find out the Awareness of Kegel exercises for preventing urinary incontinence in rural area. The study included 130 rural women who responded to a structured 15-question survey designed to assess their awareness and understanding of Kegel exercises for preventing urinary incontinence. The data collection sheet included name, age, occupation, Address, marital status, Socioeconomics status. The observational study was carried out among 130 rural women. The study was carried out by Self-made questionnaire was used to determine the awareness of Kegel exercises for preventing urinary incontinence in rural area. Participants were selected based on inclusion criteria that required age group 18 to 60 years old female, able to communicate verbally, could understand and comply with study procedure and Subjects willing to participate. participants with current urinary tract infection at screening or a positive history of frequent, recurrent urinary tract infection, Current pregnancy or a history of delivery within 12 weeks prior to enrollment and Neurological or significant psychiatric disease were excluded. The survey revealed low awareness of urinary incontinence (UI) and Kegel exercises among participants.

The previous study found that most women have limited knowledge about pelvic floor dysfunctions, including urinary incontinence, pelvic organ prolapse, and faecal incontinence. Factors like low education, poor access to information, socioeconomic disadvantage, and certain racial backgrounds were linked to poorer awareness. Many women misunderstood causes, underestimated treatment options, and often accepted symptoms as part of aging, leading to low rates of help-seeking. The authors stress the need for targeted educational programs to improve awareness, prevention, and management of these conditions [7].

Another study highlighted that pelvic floor dysfunction

affects 40% of rural women surveyed, with urinary incontinence being the most common issue. While 60% had some awareness of PFD, only 35% knew about medical treatments and none were aware of physiotherapy options. Cultural norms, limited health access, and lack of education contribute to low treatment-seeking behaviour. The authors stress the need for targeted community education, ergonomic modifications in farm work, and promotion of pelvic floor exercises to aid prevention and early intervention<sup>[8]</sup>.

Another documented study showed that pelvic floor muscle training (PFMT) alone with assisted PFMT using the Kegel master device for women with stress or mixed urinary incontinence. Both methods significantly improved pelvic floor strength, quality of life, and reduced incontinence episodes after 12 weeks, with benefits persisting up to three months post-intervention. However, no significant difference was found between the two approaches, and the assisted method had more side effects such as vaginal discharge and spotting. The findings reinforce PFMT as an effective, safe, and first-line conservative treatment, while highlighting that device-assisted training may not offer additional benefit over standard exercises<sup>[9]</sup>.

The present study concludes that very low awareness of Kegel exercises among rural women, with only 18.46% knowing about them and 23.84% aware that physiotherapy could help urinary incontinence. Most had never practiced the exercises, mainly due to lack of knowledge (26.15%) or not knowing the correct method (56.15%). Despite this, 72.30% showed interest after learning about their benefits, and nearly half (49.23%) were willing to start if properly guided. These findings highlight the urgent need for accessible, community-based education to promote prevention and early management of urinary incontinence.

**Conclusion:**

The study shows a considerable lack of awareness about Kegel exercises and urinary incontinence among rural women. Only 35.38% had heard of urinary incontinence, and just 18.46% knew about Kegel exercises, while 23.84% were aware of physiotherapy as a management option. Most had never practiced Kegels, mainly due to not knowing how to perform them (56.15%) or lacking knowledge (26.15%). Encouragingly, 46.15% expressed interest in learning, and 49.23% were willing to practice if properly guided. Health education programs (52.30%), local camps (23.07%), and posters/pamphlets (24.61%) were suggested as effective awareness strategies. Overall, the findings highlight the urgent need for accessible, community-based education and training to improve knowledge, prevention, and practice of Kegel exercises in rural areas.

**Strengths, Limitations, Future recommendations:**

This study’s strength lies in its ability to provide valuable insights into the awareness and attitudes of rural women toward urinary incontinence and Kegel exercises, using a detailed questionnaire and covering a wide age range, which enhances the applicability of the findings for rural health initiatives. However, its relatively small sample size, focus on a single rural area, and reliance on self-reported data may limit the generalizability and accuracy of results. Future efforts should include larger, multi-regional studies to capture broader variations, along with implementing community-based education programs, hands-on workshops, and visual aids to improve knowledge and skills. Training local health workers to provide continuous guidance could further ensure sustained awareness and regular practice of Kegel exercises for the prevention of urinary incontinence.

**References:**

1. O’Connor, Eabhann, et al. “Diagnosis and non-surgical management of urinary incontinence – a literature review with recommendations for practice.” *Int J Gen Med*, vol. Volume 14, no. 1, Aug. 2021, pp. 4555–4565, <https://doi.org/10.2147/ijgm.s289314>.
2. Ganapathy, Thilagavathy. “Impact of urinary incontinence on quality of life among rural women.” *Muller J Med Sci Res*, vol. 9, no. 2, 2018, p. 71, [https://doi.org/10.4103/mjmsr.mjmsr\\_10\\_18](https://doi.org/10.4103/mjmsr.mjmsr_10_18).
3. Sawettikamporn, Wilai, et al. “Attitudes and barriers to pelvic floor muscle exercises of women with stress urinary incontinence.” *BMC Womens Health*, vol. 22, no. 1, 26 Nov. 2022, <https://doi.org/10.1186/s12905-022-02067-4>.
4. Park, Seong-Hi, and Chang-Bum Kang. “Effect of kegel exercises on the management of female stress urinary incontinence: a systematic review of randomized controlled trials.” *Adv Nurs*, vol. 2014, 2014, pp. 1–10, <https://doi.org/10.1155/2014/640262>.
5. Cross, Donelle, et al. “Effectiveness of supervised kegel exercises using bio-feedback versus unsupervised kegel exercises on stress urinary incontinence: a quasi-experimental study.” *Int Urogynecol J*, 8 July 2022, <https://doi.org/10.1007/s00192-022-05281-8>.
6. Snyder, Kailey, et al. ““We don’t talk about it enough”: perceptions of pelvic health among postpartum women in rural communities.” *Womens Health (Lond Engl)*, vol. 18, 2022, p. 17455057221122584, [pubmed.ncbi.nlm.nih.gov/36148940/](https://pubmed.ncbi.nlm.nih.gov/36148940/),

- <https://doi.org/10.1177/17455057221122584>.
7. Fante, Júlia Ferreira, et al. "Do women have adequate knowledge about pelvic floor dysfunctions? a systematic review." *Rev Bras Ginecol Obstet*, vol. 41, no. 08, Aug. 2019, pp. 508–519, <https://doi.org/10.1055/s-0039-1695002>.
  8. Rathod, Divya, and Dipali Suvarna. "Prevalence of pelvic floor dysfunction in women residing in rural areas - a cross-sectional study." *Int J Health Sci Res*, vol. 14, no. 4, 9 Apr. 2024, pp. 44–48, <https://doi.org/10.52403/ijhsr.20240407>.
  9. Kashanian, Maryam, et al. "Evaluation of the effect of pelvic floor muscle training (pfmt or kegel exercise) and assisted pelvic floor muscle training (apfnt) by a resistance device (kegelmaster device) on the urinary incontinence in women "comparison between them: a randomized trial."" *Eur J Obstet Gynecol Reprod Biol*vol. 159, no. 1, Nov. 2011, pp. 218–223, <https://doi.org/10.1016/j.ejogrb.2011.06.037>