

# Awareness and Experience of Physiotherapy Role in Urinary Incontinence

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## Abstract

**Introduction:** Urinary incontinence (UI) is a common condition among women, significantly impacting their quality of life across psychological, social, and physical dimensions. Despite its prevalence, UI often goes untreated due to social stigma and limited awareness of available management strategies, including physiotherapy. This study *aimed* to evaluate the awareness levels among pregnant women regarding UI and the role of physiotherapy in its prevention and management, with a focus on populations in Sudan and Egypt. **Methods:** A quantitative, cross-sectional descriptive study was conducted with 75 pregnant women in Sudan and Egypt aged 15–49 years, selected using simple random sampling. Participants completed structured questionnaires covering demographic data, obstetric history, and knowledge about UI and physiotherapy. Data were analyzed manually using descriptive statistics. All necessary ethical approvals were obtained. **Results:** Findings showed that 56% of participants were aware of UI, however, only 5% had consulted a physiotherapist as noted by Parlas and Bilgic (2024), higher levels of UI knowledge are positively associated with attitudes toward management and help seeking, indicating that structured, evidence-based health education especially during antenatal care can bridge the gap between awareness and action. **Conclusion:** The study highlights a significant gap in awareness of physiotherapy as a preventive tool for UI among pregnant women. These results emphasize the need for targeted educational interventions and the integration of physiotherapy education into antenatal care programs.

**Keywords:** Urinary Incontinence (UI), Pregnancy, Physiotherapy, Pelvic Floor Muscle Training (PFMT), Awareness, Sudan, Egypt.

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## 1. INTRODUCTION

Urinary incontinence (UI) is a common and often distressing condition among women, particularly during pregnancy. It is defined as the involuntary leakage of urine and significantly affects quality of life by interfering with physical, emotional, and social well-being. Despite being highly prevalent, UI is often overlooked and undertreated due to stigma, embarrassment, and a lack of awareness about effective management strategies (Gyhagen, 2019).

Epidemiological data indicates that the prevalence of UI ranges from 5% to 70%, depending on age, health condition, and region. Most studies report a prevalence rate of 25–45%, with rates increasing in elderly populations and pregnant women. In women aged 70 years and above, more than 40% are affected (Milsom & Gyhagen, 2019). The condition can manifest in

different forms, including stress, urge, mixed, overflow, and functional incontinence (Tran & Puckett, 2024).

The prevalence of Urinary Incontinence (UI) among women varies across regions and populations. In Egypt, a large-scale community-based study conducted in Assiut reported a prevalence of 54.8% among 1,652 women aged 20 years and above (El-Azab *et al.*, 2007).

Although physiotherapy especially Pelvic Floor Muscle Training (PFMT)—is a recognized non-invasive method for managing and preventing UI, it remains underutilized. This is mainly due to the lack of awareness among women regarding physiotherapy's role, especially during pregnancy. UI affects an estimated 200 million people globally, yet many women are unaware of available treatment options. Cultural beliefs and privacy concerns further discourage women from seeking help.

During our women's health placement in Sudan (November–December 2022), we encountered multiple pregnant women who experienced UI, yet were unfamiliar with pelvic floor exercises or physiotherapy. This field observation highlighted a notable gap in maternal health education, emphasizing the need to integrate physiotherapy awareness into antenatal care.

In Sudan, UI remains significantly under-reported and inadequately managed. Cultural stigma, lack of physiotherapy services, and limited health education are key contributing factors (Abdelnour *et al*, 2025; Almalty *et al*, 2024; Abdalmagid *et al*, 2023). Furthermore, conservative management options such as PFMT are rarely accessible, and midwives often lack training in non-surgical UI interventions. On the other hand, physiotherapy treatment in such conditions are growing slowly (Abdelnour *et al*, 2025).

In contrast, Egypt has implemented structured PFMT programs with proven effectiveness. At Talkha Maternal and Child Health (TMCH) Center, a controlled study involving 140 women with neglected UI demonstrated statistically significant improvement in symptoms and quality of life following PFMT (Hussein *et al.*, 2015). These results reflect a relatively higher level of integration of physiotherapy into maternal care in Egypt. However, social stigma continues to limit open discussions about UI, particularly in rural and conservative regions.

This contrast between Sudan and Egypt underscores the urgent need for culturally sensitive health education and improved access to physiotherapy in managing UI during pregnancy and postpartum care.

Al-Mawani Hospital serve as essential providers of maternal and general healthcare in the Red Sea State, Sudan. The hospital manages over 1,000 births per month, a figure that has risen significantly following the 2023 displacement from Khartoum (UNFPA, 2023).<sup>1</sup> Lately, the hospital opened a physiotherapy department in 2024, focusing on post-operative, trauma, and Intensive Care Unit (ICU) patients (Red Sea State

Ministry of Health, 2024). This is aligned to the growing focus on physiotherapy services in Sudan (Abdelnour *et al*, 2023). Health Insurance Clinic in Nasr City, Cairo is one of the largest public-sector health institutions in Egypt, operated by the Ministry of Health. It offers a wide range of services including obstetrics, gynecology, physiotherapy, laboratory diagnostics, and radiology.

Finally, this study aims to assess the level of awareness among pregnant women in Sudan and Egypt regarding urinary incontinence and the role of physiotherapy in its prevention and management. It helps to determine the attitude and practice of communities towards physiotherapy rehabilitation (Osman *et al*, 2024).

## 2. METHODOLOGY

This study adopted a quantitative, cross-sectional, descriptive, hospital-based design. It was conducted in two locations: Port Sudan State (Sudan) and Cairo (Egypt), specifically in Al Mawani Hospital in Port Sudan, and the Health Insurance Clinic in Nasr City, Cairo. A total sample of 75 pregnant women who consented to participate was included in the study. The inclusion criteria were: pregnant women between (15-49) years old complain of UI attending the selected hospitals and clinics during the study period who voluntarily agreed to participate. Data were collected using a structured questionnaire. The questionnaire consisted of 18 questions, covering the following sections: Demographic information, knowledge of urinary incontinence, Obstetric history, and awareness of the role of physiotherapy in its prevention. The collected data were analyzed manually using descriptive statistics, such as frequencies and percentages, and the results were presented in tables and charts to enhance clarity. All necessary ethical approvals were obtained. To ensure anonymity and confidentiality, no personal identifiers were collected, and only the researchers had access to the data.

## 3. RESULTS

**Table 3.1: Distribution of participant by marital Status**

Marital Status	Frequency	Percent
Single	0	0%
Married	74	98.7%
Divorced	1	1.3%
Widowed	0	0%
Missing	0	0%
<b>Total</b>	<b>75</b>	<b>100</b>

Table 3.1 shows that the majority (98.7%) of them participants are married. However, only one (1.30%) is divorced from the gathered data.

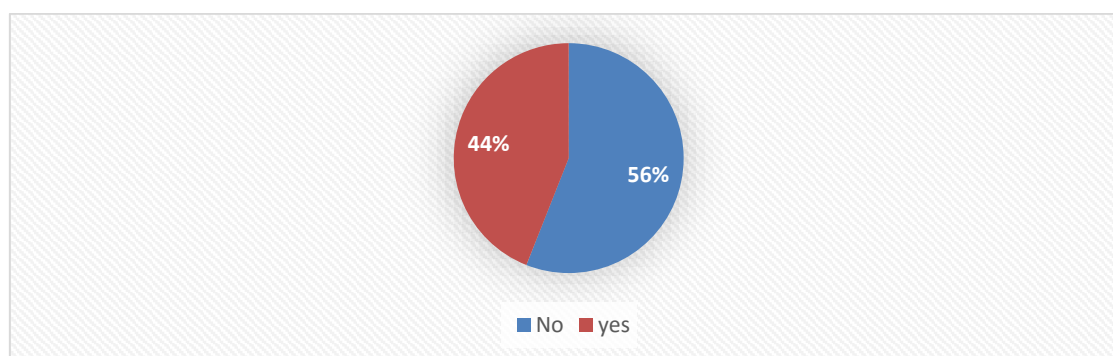
**Table 3.2: Distribution of participant by the age**

Age	Frequency	Percent
15-25	26	35%

26-36	38	51%
37-47	0	0%_
47-above	0	0%_
Missing	11	14%
<b>Total</b>	<b>75</b>	<b>100</b>

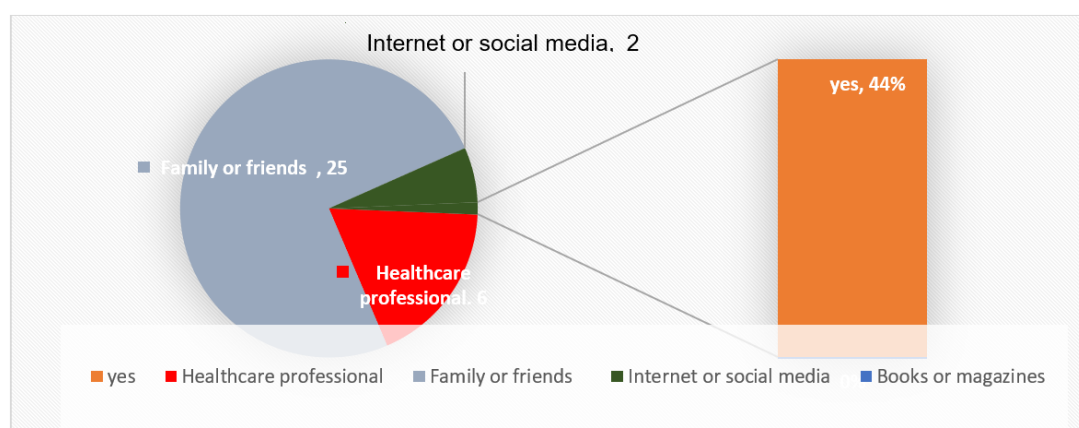
Table 3.2 shows that the majority of participants, 51%, are in age 26-36 and the least are in Age 37-47.

**Figure 3.1. Awareness:**



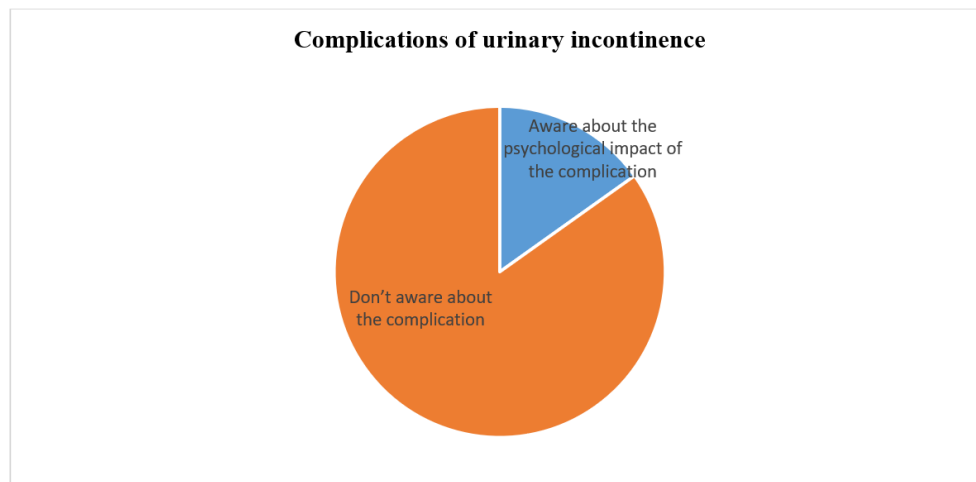
**Figure 3.1: Illustrates participants' awareness of urinary incontinence (UI), with 56% reporting awareness of the UI and 44% indicating a lack of awareness**

**Figure 3.2. The resource knowledge of urinary incontinence:**



**Figure 3.2: Presents the sources through which participants learned about UI were 75.25% reported hearing about it from family and friends, 18.6% from healthcare professionals, and 18.6% from internal or social media.**

**Figure 3.3. Awareness about complication of UI:**



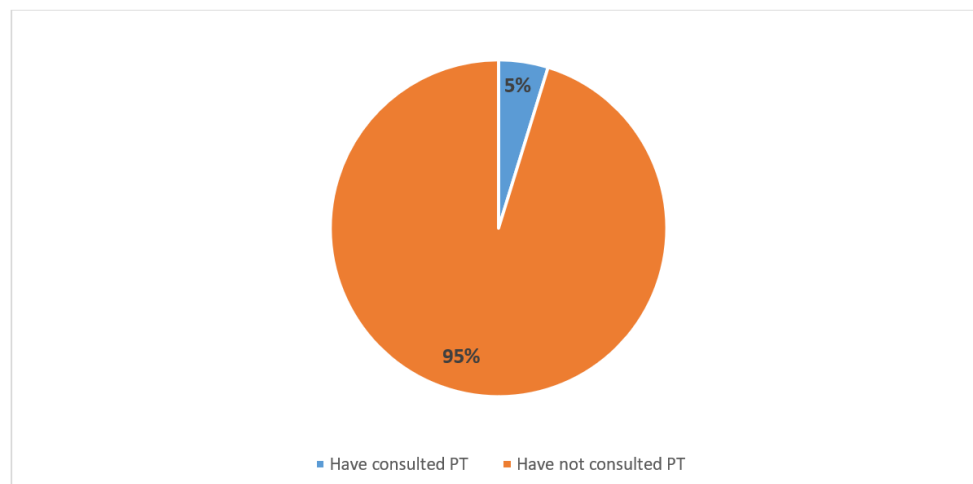
**Figure 3.3:** Shows that 85% of participants were not aware of the complications associated with urinary incontinence, while 15% were aware

**Table 3.3. Presence of UI:**

Presence	Frequency	Percent
Having UI During pregnancy	60	80%
Don't having UI During pregnancy	12	16%
Missing	3	4%
<b>Total</b>	<b>75</b>	<b>100%</b>

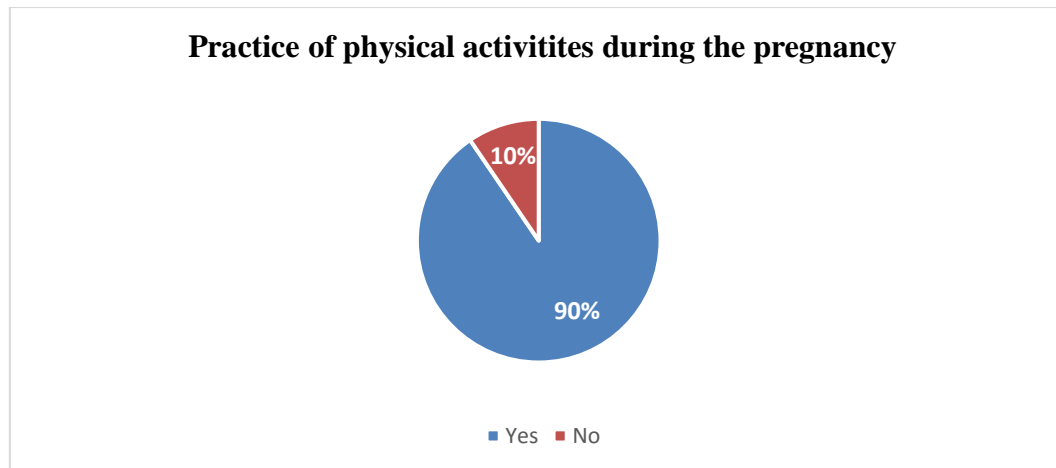
Table 3.3. Shows that 80% of participants seek has urinary incontinence during pregnancy, while 16% of participants has not.

**Figure 3.4. Physiotherapy Consultation:**



**Figure 3.4:** Demonstrates that 95% of participants had not consulted PT for UI, while 5% had sought physiotherapy consultation.

**Figure 3.5. The practice of PT during pregnancy:**



**Figure 3.5: Indicates that 90% of participants engaged in physical activity during pregnancy, while 10% did not engaged in physical activity**

#### 4. DISCUSSION

In this study, the vast majority of participants (98.7%) were married, while only 1.3% were divorced. This marked disparity reflects prevailing cultural and religious norms in Sudan and Egypt, where pregnancy and antenatal care are strongly associated with marriage. The low percentage of divorced women may also reflect limited healthcare access, social stigma, or underrepresentation in maternal health research.

Interestingly, in a study conducted in Al-Madina Al-Munawara, Saudi Arabia, marital status distribution was notably different: only 39.2% of the participants were married, and 3.3% were divorced (Alonezy *et al.*, 2024). These differences may be attributed to variations in study settings, population demographics, or the inclusion of a broader cross-section of women in the Saudi study.

The high proportion of married women in our sample suggests that physiotherapy education and pelvic floor awareness campaigns in Sudan and Egypt should primarily target married women, who are more likely to attend antenatal care. However, it is equally important to ensure inclusion of other groups, including single and divorced women, who may have specific needs but remain underserved due to societal barriers.

In this study, the majority of participants (51%) were between 26 and 36 years, representing the typical childbearing age group. A comparable trend was observed in a recent study by Garg *et al.*, (2024), where 52.1% of participants were between 30 and 45 years, highlighting this age group as a key demographic for the onset and screening of urinary incontinence (UI). The findings further showed that younger and middle-aged women had relatively lower rates of SUI (5.3%) and MUI (7.7%), whereas women over 45 years of age showed a higher prevalence, with SUI at 16.6% and MUI at 14%. These differences suggest a progressive increase in UI with advancing age, emphasizing the importance of early physiotherapeutic interventions and awareness campaigns targeted at women in their late twenties and

thirties, before the condition becomes more severe and impactful on quality of life.

The study demonstrates that 56% of participants reported awareness of urinary incontinence (UI), while 44% indicated a lack of awareness. These findings are consistent with the results of Parlas and Bilgic (2024), who assessed UI awareness among 255 pregnant women and found that the level of knowledge was poor, with nearly half of the participants requiring more information on UI. Despite 51% of their respondents experiencing UI during pregnancy, many were unaware of the condition's clinical significance or available treatment options. Parlas and Bilgic (2024) reported a positive correlation between UI knowledge and attitude, suggesting that increasing educational exposure may improve not only awareness but also behavioral intent to seek help or perform preventive measures such as pelvic floor muscle exercises. These findings emphasize the need for structured health education programs during antenatal care visits to bridge the gap between general awareness and practical understanding. Merely knowing about UI does not translate into appropriate action unless accompanied by targeted, evidence-based education.

In this study, the majority of participants (75.25%) reported learning about urinary incontinence (UI) from informal sources such as family and friends. Only 18.6% of participants received information from healthcare professionals, and 18.6% also mentioned internal or social media as their source of knowledge. This heavy reliance on non-medical sources raises concern, as such channels may provide incomplete or inaccurate information, potentially affecting the women's awareness, perception, and management of UI. These findings are consistent with data on pelvic floor muscle exercises (PFME), where only 37.2% of women had heard about PFME. Among those ( $n = 95$ ) 46.3% reported learning about PFME from the internet, 40% from healthcare professionals, 8.4% from television, and 5.3% from friends (Parlas & Bilgic, 2024). This indicates that digital media and healthcare providers are crucial in



disseminating PFME-related information yet still not reaching the majority. The limited engagement of healthcare professionals, despite their trustworthiness and expertise, underscores the urgent need to integrate structured health education into antenatal care. As Parlas and Bilgic (2024) suggested, reinforcing health education during pregnancy can help correct misinformation and enhance women's understanding of UI and preventive strategies like PFMT. Bridging this knowledge gap is vital to improve early intervention, reduce complications, and promote positive health-seeking behavior.

In this study the majority (85%) of participants in this study were unaware of the complications associated with urinary incontinence (UI) reflects a substantial deficiency in maternal health education during pregnancy. This is particularly concerning, as untreated UI can result in physical, emotional, and social complications, including recurrent urinary tract infections, skin irritation, decreased mobility, and depression (Leslie, Tran, & Puckett, 2024). Interestingly, this lack of awareness regarding complications coexists with relatively high belief in the treat ability as of UI, as reported by Parlas and Bilgic (2024). In their study, 85.9% of pregnant women believed that UI is a curable condition, yet a large proportion demonstrated poor understanding of its causes, diagnostic methods, and health consequences. This discrepancy highlights a gap between general perception and comprehensive knowledge of the condition. Addressing this issue requires a more integrative approach to antenatal education, particularly the inclusion of physiotherapy counseling focused on prevention and management. As noted by Leslie, Tran, and Puckett (2024), PFMT is a safe and effective intervention for reducing the incidence and severity of UI. Educating women early in pregnancy about both the complications and the available preventive strategies can promote timely intervention and improve overall maternal health outcomes.

In this study the majority (80%) of the participating women reported experiencing urinary incontinence (UI) during pregnancy, while only 16% reported no such symptoms. This relatively high prevalence underscores the importance of recognizing UI as a significant antenatal health issue. These results are consistent with those reported by Karunananda (2022), who found that 24% of women experienced UI during pregnancy, with a substantial proportion (11%) continuing to exhibit symptoms even two years postpartum. Such persistence highlights the potential of antenatal UI to serve as a predictor for long-term urinary dysfunction. Karunananda further observed that stress urinary incontinence (SUI) was the most prevalent type both during pregnancy and in the follow-up period, with 70% of affected women exhibiting stress-related symptoms at two years post-delivery. This suggests that the physiological and hormonal changes associated with pregnancy may have lasting effects on pelvic floor

function, especially in the absence of early preventive interventions. The high incidence of UI observed in the present study, compared to previous findings, may be attributed to differences in demographic characteristics, awareness levels, and the absence of PFMT programs during pregnancy. Importantly, the findings reinforce the need for routine screening, patient education, and integration of physiotherapy-led interventions during antenatal care to minimize the onset and chronicity of UI.

In this study the majority (95%) of participants had not consulted a physiotherapist regarding UI, while only 5% had sought physiotherapy consultation. This remarkably low utilization of physiotherapy services may be directly linked to participants' limited knowledge about available treatment options. In a related study, Masood *et al.* (2024) reported that 78.4% of participants were unaware of physiotherapy as a management approach for UI. Additionally, 56.8% did not know that medical treatment for UI exists, and 48.4% had never even heard of the condition. These findings indicate that the low physiotherapy consultation rate is not simply a matter of access or preference, but rather a consequence of poor awareness. When women are unaware that physiotherapy is an evidence-based, non-invasive, and accessible treatment—particularly through pelvic floor muscle training—they are unlikely to seek it. This highlights the need for structured awareness programs that educate women, especially during reproductive years, about UI and the role of physiotherapy in its prevention and management (Masood *et al.*, 2024).

This study shows that 90% of participants reported engaging in Physical Activity (PA) during pregnancy, while only 10% did not engage in any form of PA. This high engagement rate is a positive indicator, suggesting that the majority of pregnant women are aware of the importance of staying active during gestation. Similar trends were reported by Cavero *et al.* (2025), where 84.4% of pregnant women participated in some type of physical activity, and 73.7% met the World Health Organization (WHO) recommendations for PA. While the proportion in the present study appears slightly higher, it is important to note that adherence to WHO guidelines was not specifically measured. Therefore, although engagement levels are promising, further evaluation is needed to determine whether pregnant women are meeting the recommended intensity and duration of PA for maternal and fetal health. These findings reinforce the value of structured antenatal programs that provide clear guidance on safe and effective physical activity during pregnancy (Cavero *et al.*, 2025).

Finally, this paper effectively utilizes the binational setting (Sudan and Egypt) to highlight contrasting levels of service integration (e.g., Sudan's limited services vs. Egypt's established Pelvic Floor Muscle Training (PFMT) programs). This strengthens the rationale for regional intervention.

## 5. CONCLUSION

The study addresses a highly prevalent and undertreated health issue (Urinary Incontinence - UI) that severely impacts women's quality of life, especially during pregnancy. The study highlights a significant gap in awareness of physiotherapy as a preventive tool for UI among pregnant women. These results emphasize the need for targeted educational interventions and the integration of physiotherapy education into antenatal care programs.

## 6. RECOMMENDATION'S

Limitation was the small sample size (N=75) and its impact on the generalizability of the findings to the broader populations of Sudan and Egypt. Future research should prioritize a large, multisite, multi-country sample.

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