

Brief Review

Integrating Pelvic Floor Muscle Training During Pregnancy in Primary Health Care: A Policy Brief

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**ABSTRACT**

Women with urinary incontinence (UI) during pregnancy may have a greater of experiencing postpartum UI symptoms than women who do not. Pelvic floor muscle exercises can reduce the symptoms of urinary stress incontinence. This policy brief concisely summarizes research findings and policy recommendations to improve antenatal and postnatal pelvic floor muscle training. However, this policy does not work automatically and must be incorporated in primary health care service design and delivery. This policy brief discusses a clear recommendation based on the best evidence to improve prenatal care services. It argues that the key is high-quality prenatal care that is available, affordable, accessible, and compatible with the needs of pregnant women and health care providers.

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1. Introduction

Urinary incontinence (UI), the involuntary leakage of urine, is one of the most common manifestations of pelvic floor dysfunction and an annoying problem among women of all ages [1]. Pregnancy and childbirth are independent factors strongly associated with the onset or continuation of UI in women of reproductive age. Obesity, age, and genetic predisposition are other crucial related factors. Women with UI during pregnancy are at increased risk of developing UI after delivery and continuing this process in late life [2]. Many women experience their first symptoms of incontinence during pregnancy. Although UI symptoms often resolve in most women after giving birth or in the postpartum period, many will have persistent symptoms. The prevalence of UI ranges from 7% to 60% during pregnancy. However, the prognosis is favorable for women who suffer from UI during pregnancy, as the symptoms usually disappear spontaneously in about 70% of women with UI postpartum [3].

Exercises to strengthen the pelvic floor muscles have been suggested as part of conservative treatment and as the first line of treatment for UI [2]. Recommended pelvic floor muscle exercises during pregnancy help reduce the short-term risk of UI in women without previous incontinence, but long-term benefits have not been proven [4].

In Iran, prenatal care, childbirth, and postpartum care are provided at two levels: primary care in health centers and specialized care in hospitals. Free and public pregnancy care is available for all women living in Iran during pregnancy, delivery, and postpartum. Each midwife provides primary obstetric care to a group of women covered by a health center or comprehensive health center. They provide pre-pregnancy counseling and eight planned pregnancy and postpartum cares to pregnant women under their supervision. Therefore, the potential of providing pregnancy and childbirth care services in Iran is favorable.

A population-based study conducted in Kerman City, Iran, with a sample size of 3100 women aged 15 to 80, estimated the overall prevalence of UI to be 63%. The highest and lowest prevalence of UI was reported in older adults and teenagers (79% and 41%, respectively). Risk factors related to UI included age, high body mass index, pregnancy, diabetes, anxiety, and depression [5]. In addition, a cohort study in Tabriz City, Iran, investigated UI's incidence, severity, and risk factors during preg-

nancy and after delivery in primiparous women. The study results showed that UI is one of the most common disorders during pregnancy and postpartum, which can significantly affect the quality of life of women. The type of delivery and the weight of the mother and fetus were reported to be the critical risk factors for the increase of this disorder [6]. In addition, most women with postpartum UI symptoms do not seek help and do not perform pelvic floor muscle exercises [7].

A systematic study to determine the effect of pelvic floor muscle training showed that women who underwent pelvic floor muscle training during pregnancy were at a lower risk of UI at the end of pregnancy and in the first 3 to 6 months postpartum. Postpartum UI can be reduced by 29% or even 37% in women who trained pelvic floor muscles during pregnancy [8, 9].

Although pelvic floor exercises are affordable and easy to learn and can enhance women's self-care in Iran, this method has not been integrated into prenatal and postpartum care. Therefore, no guarantee exists that all midwives offer this service to mothers. In addition, they do not base their services on scientific evidence. The gap between scientific evidence and care performance leads to significant changes in the practice that negatively impact the effectiveness and quality of care [10]. Despite this challenge in prenatal care, the research team of Mazandaran University of Medical Sciences Sexual and Reproductive Health Research Center initiated a project to implement the best evidence to prevent UI. This project was performed to improve compliance with evidence-based international practice, increasing training of pelvic floor muscles in the Delivery Department of Razi Qaem Shahr Hospital and prenatal care clinics. This project used the JBI (formerly known as the Joanna Briggs Institute) evidence implementation framework.

The findings of this project showed that the proportion of midwives trained in pelvic floor muscle exercises has increased from 60% to 100%. Women who were assessed for risk of UI ranged from 0% to 67%. Also, women receiving pelvic floor muscle exercises increased from 0% to 50% during pregnancy. This best evidence implementation project effectively created a consensus, improved best practices of midwifery, and facilitated prenatal and postpartum pelvic floor muscle training. The project's findings showed that midwives' compliance with evidence-based criteria to promote pelvic floor muscle training improved [10].

As per the statements, this policy brief provides an opportunity to use an evidence-based implementation framework to manage, design, and implement UI prevention in pregnancy care clinics in an integrated, evidence-based manner. It is hoped that this policy brief will lead to continuous improvement in the quality of healthcare during pregnancy and the quality of life of women during pregnancy and postpartum.

2. Materials and Methods

This policy brief relied on evidence-based search engines like TRIP, ACCESSSS, and Epistemonikos. Evidence-based databases, such as JBI evidence summaries, PubMed clinical queries, Cochrane library, and BMJ best evidence, were searched, too. In addition, the findings of the best evidence implementation project in the Iranian context were used.

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The JBI evidence summary titled "Pelvic Floor Muscle Training (Prenatal and Postnatal): Prevention and Treatment of UI" was used as the best evidence [11]. Subsequently, the research team of Mazandaran University of Medical Sciences Sexual and Reproductive Health Research Center designed, implemented, and evaluated the best evidence implementation project entitled "Pelvic Floor Muscle Training for Women During Pregnancy and Postpartum in the Pregnancy and Childbirth Department". This protocol is a quality improvement activity in hospitals and prenatal care clinics.

It should be noted that the JBI evidence summary is concise and summarizes the available international evidence based on structured searches of evidence-based healthcare sources and databases on common healthcare interventions and activities as follows:

Prevention of urinary incontinence (UI)

Level of evidence: level 1

Women who received prenatal pelvic floor muscle training were exposed less to suffer from UI late pregnancy and in the middle of the postpartum period (more than 3 to 6 months postpartum).

Best evidence recommendations

Women should receive pelvic floor muscle exercises during pregnancy (Grade A=A 'strong' recommendation)

Health professionals should receive training related to pelvic floor muscle exercises Grade B=A 'weak' recommendation.

Pelvic floor muscle exercises immediately and late after delivery increase the strength of pelvic floor muscles and help prevent UI postpartum (Grade A) = A 'strong' recommendation) [11].

3. Results

Option name: Integrating pelvic floor muscle training in Primary care

According to the best-evidence recommendations, it is strongly recommended that women receive pelvic floor muscle training during pregnancy [11]. The findings of the best-evidence implementation project in the Iranian context showed that when all midwives received the updated training, the percentage of women assessed to identify the risk of UI increased from 0% to 67%. Also, the percentage of women receiving pelvic floor exercises during pregnancy increased from 0% to 50% [10]. On the other hand, midwives working in health systems are the first level of contact for pregnant mothers in Iran's primary care system; therefore, the best evidence recommends integrating pelvic floor muscle exercises in primary health care.

We have problems in Iran's health care system for training pelvic floor muscle exercises for pregnant women. Health system managers should know the value of holding pelvic floor muscle training courses for pregnant women. It is recommended to use pelvic floor physiotherapists to train midwives (Table 1) [12].

4. Discussion

According to the best evidence findings, it is necessary to provide women with high-quality prenatal pelvic floor muscle training [14]. Midwives are suitable for teaching pelvic floor muscle exercises during pregnancy [15]. Since midwives are responsible for holding birth preparation classes in Iran's healthcare centers, empowering them in this field seems necessary, affordable, and accessible.

Studies that implemented the best evidence to promote pelvic floor muscle training during pregnancy acknowledged the facilitation of training pelvic floor muscle training to pregnant mothers by teaching these exercises to midwives in healthcare centers and hospitals in a structured manner [7, 10, 12, 13].

Table 1. Option name: Integrating pelvic floor muscle training and primary care

Evaluation Aspects	Findings obtained from systematic review studies or other available research evidence
Advantages: Accelerating the training of pelvic floor exercises to pregnant women	Summary of evidence [11], two projects of implementing the best foreign evidence [7, 13], and two projects of implementing the best evidence in the Iranian context [10, 12]
Disadvantages: Midwives need to be trained by pelvic floor physiotherapists	A project to implement the best evidence in the Iranian context [12]
Costs and cost-effectiveness: low cost, high effectiveness	Two projects to implement the best foreign evidence [7, 13] and two projects to implement the best evidence in the Iranian context [10, 12]
Regarding potential advantages and disadvantages (uncertainty):	Use of pelvic floor muscle exercises as a conservative treatment for urinary incontinence in prenatal and postpartum periods Prevention of urinary incontinence: Women who received prenatal pelvic floor muscle training had a lower risk of developing urinary incontinence in late pregnancy and the mid-postpartum period (more than 3 to 6 months after delivery). Level of evidence: (Level 1) Whether pelvic floor muscle training in postpartum women with urinary incontinence reduces incontinence more than 6 to 12 months postpartum is uncertain. Level of evidence: (Level 1) Fecal incontinence: It had little effect on the prevalence of fecal incontinence. Evidence shows that prenatal structured pelvic floor muscle training is beneficial in preventing urinary incontinence. While the findings for postpartum pelvic floor muscle training were less clear. Level of evidence: (Level 1) Effectiveness of postpartum interventions to prevent urinary incontinence: Significant subjective (measured by perineometer and test pad) and objective (measured by digital vaginal touch) increase was observed in muscle strength and prevention of urinary incontinence in postpartum women. Level of evidence: (Level 2) [11].
Key elements of the option (why and how it works)	Coordination with the Vice-Chancellor for training midwives by pelvic floor physiotherapists The approval of the Health Deputy and Treatment Deputy for adding this service to the electronic health record of pregnant women
Beneficiaries' views and experiences: Agree	Two studies of promoting quality in the Iranian context [10, 12] and the agreement of policy brief writers as reproductive health and midwifery experts.

The women receiving the service of pregnant women during pregnancy and postpartum should receive their training program according to the risk factors related to UI.

Midwives working in healthcare centers and private sectors who visit pregnant mothers are service providers for teaching pelvic floor muscle exercises to pregnant women.

Universities of medical sciences as service providers in the country should integrate the provision of pelvic floor muscle training services to mothers in primary health care programs.

As a macro-level health system, the Ministry of Health and Medical Education should monitor the provision of services at all levels of related public and private sectors.

Two strategies were critical to the success of this health policy, updating the midwife training program

and incorporating evidence-based criteria into the electronic health record of pregnant women.

5. Conclusion

This policy brief emphasizes designing and implementing an effective, up-to-date training program for midwives, a simple and clear assessment tool, and multiple educational materials. Empowering midwives and integrating pelvic floor muscle training for pregnant mothers in primary healthcare can facilitate the implementation of the best evidence in clinical practice. This policy brief can successfully improve women's knowledge and skills regarding UI and pelvic floor muscle exercises. Future policy briefs should focus on continuous improvement in practice and outcomes, and audits should be conducted to monitor the performance and impact of the change if necessary.

Ethical Considerations

Compliance with ethical guidelines

This project received ethical approval code from [Mazandaran University of Medical Sciences](#), Sari, Iran (IR.MA-ZUMS.REC.1400.596). However, we took to ensure confidentiality, anonymity and right to withdraw, how this was communicated to participants, and how it was operationalized during the project.

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Authors contributions

Conceptualization and Supervision: All authors; Methodology: Zeinab Hamzehgardeshi; Investigation, Writing – original draft, and Writing – review & editing: Zeinab Hamzehgardeshi; Data collection: Zeinab Hamzehgardeshi; Data analysis: All authors.

Conflict of interest

The authors declared no conflict of interest.

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