Original Article

# Effect of an In Instructional Program on Mothers Knowledge Regarding Prevention of Uterine Prolapse

Mothers Knowledge Regarding Prevention of Uterine Prolapse

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## ABSTRACT

**Objective:** To assess effect of the program on mothers' knowledge of uterine prolapse preventive measures and determine the relationship between knowledge of and specific obstetrical and demographic factors.
**Study Design:** A quasi-experimental study
**Place and Duration of Study:** This study was conducted at the Bint Al-Huda Teaching Hospital, Iraq from 1st October 2024 to 31st March 2025.
**Methods:** 70 mothers who were enrolled. The demographic and reproductive information, as well as areas of knowledge related to prolapse were recorded. This was implemented through structured instructional sessions, followed by a post-test.
**Results:** Level of knowledge was weak before implementing the program in all areas, while they improved significantly after the intervention, as the overall scores increased from a weak level to a good level of knowledge. A association also found between occupation, family history of prolapse and the level of knowledge, while most other demographic and obstetrical characteristics did not show any significant relationships only previous pelvic surgery.
**Conclusions:** Health instructional programs can increase mothers' awareness and knowledge of uterine prolapse prevention.

**Key Words:** Effect, Knowledge, Prevention, Uterine prolapse

**Citation of article: Naeem FK, Ameen WA. Effect of an In Instructional Program on Mothers Knowledge Regarding Prevention of Uterine Prolapse. Med Forum 2026;37(6):120-125. doi:10.60110/medforum.370623.**

## INTRODUCTION

When the supporting ligaments and muscles that keep the uterus in its proper place become too weak, the uterus may prolapsed.[1] According to reports, the prevalence of UP is approximately 9% worldwide. However, estimates range greatly (3.4-56.4%) and are close to 20% in w- and middle-income nations. According to symptoms, the prevalence is 3-6%, and according to vaginal examinations, it can reach 50%.[2] The cause of uterine prolapse is likely to be multi factorial; attributable to a combination of risk factors, varying from patient to patient. The most reliable risk factors for prolapse are vaginal childbirth, young age at first childbirth, frequent childbirths, insufficient rest and nutrition during the prenatal and postnatal periods, aging, and rising body mass index.[3]

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Received: December, 2025
Reviewed: January -February, 2026
Accepted: March, 2026

## METHODS

A quasi-experimental study was carried out at Bint Al-Huda Teaching Hospital, Iraq from 1st October 2024 to 31st March 2025 vide letter No. 3434/QM/Approval/EFEF3 dated September 15, 2024 and 70 mothers who were enrolled. Inclusion criteria are who are married and become pregnant. Unmarried women and refused to cooperate were excluded. Sociodemographic tool and obstetrical variables were noted. The semi-structured questionnaire has 31 multiple choice questions on knowledge. Tool validated by list of experts the split-half approach was used to test the tool's dependability on seven moms, and the results showed that it was dependable (r=0.81). The 45-minute program on UP prevention was done. The data was entered and analyzed through SPSS-25. To determine the relationship between particular variables and knowledge scores, analysis of variance (ANOVA) was employed.

## RESULTS

Almost half of the sample were between the ages of 31 and 40, one-third have completed a secondary school, more than half was unemployed, three-quarters were married, rather than two-third of mothers reside in urban, rather than two-thirds reside in a nuclear family and nearly half reported having an income that was sufficient to some extent (Table 1).

Nearly half of the participants (48.6%) were married between the ages of 21–25 years. More than half of the women, all of whom were sampled (65.7%), had their first pregnancy between the ages of 20-25 years, over three-quarters of the participants (71.4%) had a one- to two-year interval between their first and second pregnancies, more than half of the participants (58.6%) delivered in hospitals, 65.7%) had a vaginal delivery of history, one-third of the participants (31.4%) had only one child, whereas more than one-third but less than one-half (40%) had between two and five children, and approximately one-quarter (28.6%) had more than five children and less than one-fifth of participants (17.1%) had a history of pelvic surgery, while more than three-quarters, 82.9% reported no such history (Tables 2-3).

**Table No. 1: Distribution according to sociodemographics (n=70)**

| Variable | No. | % |
|---|---|---|
| **Age (years)** | | |
| <20 | 6 | 8.6 |
| 20-30 | 13 | 18.6 |
| 31-40 | 51 | 72.9 |
| **Educational level** | | |
| Read and write | 10 | 14.3 |
| Primary graduate | 15 | 21.4 |
| Secondary graduate | 24 | 34.3 |
| Diploma or college or above | 21 | 30 |
| **Occupation** | | |
| Employed | 30 | 42.94 |
| Unemployed | 40 | 57.1 |
| **Social status** | | |
| Married | 52 | 74.3 |
| Widow | 12 | 17.1 |
| Divorced | 6 | 8.6 |
| **Family type** | | |
| Nuclear | 50 | 71.4 |
| Extended | 20 | 28.6 |
| **Residence** | | |
| Urban | 47 | 67.1 |
| Rural | 23 | 32.9 |
| **Economic status** | | |
| Sufficient | 21 | 30.0 |
| Sufficient to some extent | 25 | 35.7 |
| Insufficient | 24 | 34.3 |
| **Uterine prolapse history** | | |
| Yes | 23 | 32.9 |
| No | 47 | 67.1 |

Table 4 demonstrates that the level of knowledge following the implementation of the program and their overall knowledge following the intervention were not impacted by the socio-demographic ($p>0.05$ for all).

There is a statistically association between occupation, family history and knowledge after the program, as women with a family history showed a higher level of knowledge (Table 5). Table 6 showed the knowledge after implementing program was not related to any of their obstetric characteristics. There is no association between knowledge of mothers after the training program and the place or type of birth while there are highly association with previous pelvic surgeries [$p>0.05$] (Table 7).

**Table No. 2: Distribution of sample by obstetric history**

| Variable | No. | % |
|---|---|---|
| **Age of marriage** | | |
| <20 | 18 | 25.7 |
| 21-25 | 34 | 48.6 |
| 26-30 | 15 | 21.4 |
| 31-40 | 3 | 4.3 |
| **Age of first pregnancy** | | |
| <20 | 4 | 5.7 |
| 20-25 | 46 | 65.7 |
| 26-30 | 17 | 24.3 |
| 31-40 | 3 | 4.3 |
| **Period between 1st and 2nd pregnancy** | | |
| Less than a year | 8 | 11.4 |
| One year - two years | 50 | 71.4 |
| Three years or more | 12 | 17.1 |
| **Place of delivery** | | |
| House | 29 | 41.4 |
| Hospital | 41 | 58.6 |
| **Type of delivery** | | |
| Cesarean section | 24 | 34.3 |
| Normal vaginal delivery | 46 | 65.7 |
| **Number of child** | | |
| 1 | 22 | 31.4 |
| 2-5 | 28 | 40 |
| <5 | 20 | 28.6 |
| **Previous pelvic surgery** | | |
| Yes | 12 | 17.1 |
| No | 58 | 82.9 |

**Table No. 3: Mean differences between the overall assessment of the knowledge**

| Questions | | Pre-test | | | | Post-test | | | | T value | P value |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | No. | % | Mean±SD | Ass. | No. | % | Mean±SD | Ass. | | |
| General information | Poor | 55 | 78.6 | 1.60±0.40 | Incorrect | 12 | 17.1 | 2.31±0.36 | Uncertain | -11.451 | 0.000 |
| | Good | 15 | 21.4 | | | 58 | 82.9 | | | | |
| Cause & Risk factors | Poor | 63 | 90 | 1.51±0.31 | Incorrect | 8 | 11.4 | 2.33±0.35 | Correct | -13.725 | 0.000 |
| | Good | 7 | 10 | | | 62 | 88.6 | | | | |
| Symptoms | Poor | 60 | 85.7 | 1.53±0.35 | Incorrect | 8 | 11.4 | 2.31±0.36 | Uncertain | - | 0.000 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Good | 10 | 14.3 | | | 62 | 88.6 | | | 13.913 | |
| Complications | Poor | 40 | 57.1 | 1.66±0.61 | Incorrect | 13 | 18.6 | 2.27±0.58 | Uncertain | -5.650 | 0.000 |
| | Good | 30 | 42.9 | | | 57 | 81.4 | | | | |
| Prevention | Poor | 59 | 84.3 | 1.62±0.38 | Incorrect | 15 | 21.4 | 2.16±0.46 | Uncertain | -7.708 | 0.000 |
| | Good | 11 | 15.7 | | | 55 | 78.6 | | | | |
| Management & treatment | Poor | 38 | 54.3 | 1.70±0.63 | Incorrect | 11 | 15.7 | 2.43±0.64 | Correct | -7.172 | 0.000 |
| | Good | 32 | 45.7 | | | 59 | 84.3 | | | | |
| Over all mean score | Poor | 66 | 94.3 | 1.58±0.19 | Incorrect | 7 | 10.0 | 2.26±0.18 | Uncertain | -21.049 | 0.000 |
| | Good | 4 | 5.7 | | | 63 | 90.0 | | | | |

**Table No. 4: Mean differences between the overall assessment knowledge demographic data**

| Variable | | Square | df. | Mean square | F value | P value |
|---|---|---|---|---|---|---|
| Age | Between Groups | 0.054 | 2 | 0.027 | 0.601 | 0.551 N.S |
| | Within Groups | 3.003 | 67 | 0.045 | | |
| Education | Between Groups | 0.077 | 3 | 0.026 | 0.566 | 0.639 N.S |
| | Within Groups | 2.980 | 66 | 0.045 | | |
| Marital status | Between Groups | 0.013 | 2 | 0.007 | 0.143 | 0.867 N.S |
| | Within Groups | 3.044 | 67 | 0.045 | | |
| Income | Between Groups | 0.003 | 2 | .001 | 0.030 | 0.970 N.S |
| | Within Groups | 3.054 | 67 | .046 | | |

**Table No. 5: Mean differences between the overall assessment of the knowledge according to their some demographic data**

| Variables | Group | Mean | Sd. | T value | P value |
|---|---|---|---|---|---|
| Occupation | Employed | 2.3143 | 0.18796 | 2.604 | 0.011 |
| | Unemployed | 2.2023 | 0.16349 | | |
| Family type | Nuclear | 2.2624 | 0.19630 | 0.276 | 0.784 |
| | Extended | 2.2760 | 0.15843 | | |
| Residence | Urban | 2.2545 | 0.18323 | 0.761 | 0.449 |
| | Rural | 2.2904 | 0.19108 | | |
| Family history | Yes | 2.3314 | 0.15574 | 2.571 | 0.012 |
| | No | 2.2202 | 0.19227 | | |

**Table No. 6: Mean differences between the overall assessment of knowledge according to their obstetrical data**

| Variables | | Square | Df. | Mean square | F value | P value |
|---|---|---|---|---|---|---|
| First marriage | Between Groups | 0.276 | 3 | 0.092 | 2.182 | 0.098 |
| | Within Groups | 2.781 | 66 | 0.042 | | |
| First pregnancy | Between Groups | 0.260 | 3 | 0.087 | 2.045 | 0.116 N |
| | Within Groups | 2.797 | 66 | 0.042 | | |
| Period between first & second pregnancy | Between Groups | 0.040 | 2 | .020 | 0.447 | 0.641 |
| | Within Groups | 3.017 | 67 | .045 | | |
| Number of children | Between Groups | 0.107 | 2 | 0.054 | 1.215 | 0.303 |
| | Within Groups | 2.950 | 67 | 0.044 | | |

**Table No. 7: Mean differences between the overall assessment of knowledge at according to obstetrical data**

| Variables | Group | Mean | Sd. | T value | P value |
|---|---|---|---|---|---|
| Place of delivery | House | 2.3069 | 0.18270 | 1.559 | 0.124 N.S |
| | Hospital | 2.2376 | 0.18380 | | |
| Type of delivery | C/S | 2.2542 | 0.18870 | 0.393 | 0.696 N.S |
| | NVD | 2.2726 | 0.18519 | | |
| Previous pelvic surgery | Yes | 2.4258 | 0.14951 | 3.541 | 0.001 H.S |
| | No | 2.2333 | 0.17537 | | |

# DISCUSSION

In the present study, fewer than half of the participants fell into the age group (31-40) years, with corresponding mean study groups. Near to one-third of participants have completed a secondary school, more than half of mothers was unemployed, reveals more than two-third of participants reside in urban areas, three-quarters of the sample were married women. Rather than two-thirds of the samples live in nuclear family and income was sufficient to some extent, one-third of the participants reported having a history of uterine prolapse. The study congruent with Elsayed et al[4], who found that a total 300 participants 36.5% of the mothers were more than 30 years of age. Shrestha et al[5] also reported 51.7% of the 110 sample had finished secondary school. EidAbd El-hamid et al[6] at Benha University Hospital supports this finding. They found that out of 60 women, most were housewives.

The result is consistent with Sansthan[7] which found that all 60 women in the sample were married. This finding contradicts a study by Nathan et al[8] which found that 67.5% from sample lived in rural areas. This high percentage draws attention to the participants' preponderance of urban dwellers, which may indicate the impact of urban environments on health awareness and knowledge in comparison to those who live in rural areas. Mohammed et al[9] also supports this finding. Of the 90 sample, the majority of responders (72.7%) came from nuclear families. A household's health education dynamics, family roles, and health awareness levels may all be impacted by this pattern.

This result in line with study conducted by Maharjan et al.[10] One-third of the ninety participants in their study were classified as having a somewhat adequate income.

The current study's findings showed that over half of the women had their first pregnancy between the ages of 20 and 25, and over half of the mothers were married between the ages of 21 and 25, over three-quarters of the participants (71.4%) had a one- to two-year interval between their first and second pregnancies, slightly more than half of the participants delivered in hospitals, more than two-thirds of the total sample and clearly exceeding half had a of vaginal delivery history, about one-third of the participants had only one child and approximately one-quarter had more than five children. About half of the participants were married between the ages of 21 and 25, depending on the study's findings about the obstetrical features, relation to previous pelvic surgery the study showed that less than one-fifth of mothers (17.1%) had a history of previous pelvic surgery (Table 2). The preventive strategies have been demonstrated to be effective in reducing the risk of prolapse, study conducted by Mohamed & Ezz El Din[9] improved knowledge, and prevented any cases of uterine prolapse in the intervention group. Lucente et al[11], advanced age at first delivery is linked to morphological and functional reductions in pelvic floor structures, including pelvic muscle dysfunction, levatorani abnormalities, and genital hiatus ballooning. This relatively short interval may contribute to inadequate pelvic floor healing, posing a greater risk for uterine prolapse, as supported by existing literature on optimal birth spacing conducted by Wassihun et al.[12] Badacho et al[2] reported that women who delivered their first child at home had 3.33 times higher odds of developing UP compared to those who delivered in health institutions. Recent research indicates that women who give birth vaginally have a four to eleven times higher chance of having POP than women who have never given birth vaginally.[13] This aligns with previous studies emphasizing that family planning, birth spacing, and limiting parity are key preventive strategies for POP.[5] These findings suggest that most participants in the current study had an advantage in terms of prolapse prevention, as they were not exposed to surgical trauma to the pelvic floor. This is consistent with earlier research highlighting the increased risk of developing POP associated with a history of pelvic surgery. POP can be brought on by gynecological procedures such radical pelvic organ resection, pelvic mass removal, and total hysterectomy, which can harm the muscles, ligaments, and connective tissue that support the pelvic floor.[14]

Table 3 shows knowledge was weak before the program, as the averages ranged between (1.5876), while after the program (2.266). The T-test showed highly differences between the pre-post-measurements, indicating the effectiveness of the program in improving knowledge. (66 out of 70) moved from a poor level to a good level after the intervention, which reflects the clear impact of program in enhancing awareness. These findings are consistent with Muñiz et al[15] who report improvement in knowledge, with an increase in total PIKQ scores and prolapse-specific knowledge, with effects sustained after four weeks. These findings are line with Mohammed et al[9] who found knowledge improved statistically after the intervention. highlighting that most participants initially had inadequate knowledge.

The results of tables 4-5 showed that the demographic characteristics of mother's, such as age, educational level, marital status, and economic status, did not have a significant effect on the knowledge after implementing program and their overall knowledge after the intervention ($p > 0.05$), While there is association with occupation and history of UP. This indicates that the program was effective across all subgroups. These finding are consistent with study conducted by Rashad et al[3], reported that married women who were illiterate, housewives aged 36–50 years, and women with limited household income had inadequate knowledge of pelvic organ prolapse. The results align with Ameen & Kheleel[16], which

discovered a correlation between lack of POP proficiency and advanced age, high education, and moderate family income. These traits can be important indicators of mother's knowledge in our underdeveloped countries, but even in wealthy, highly educated countries, there is a lack of awareness about POP because it is a neglected topic in maternity care.

Knowledge after the implementation of the program was unrelated to any of their obstetric characteristics, as all differences were not statistically significant ($p>0.05$). [Table 6] This finding suggests that all mothers, regardless of their reproductive experience, benefit similarly from instructional intervention in terms of knowledge gains. These results are consistent with Kara[17] dealt with the concept of "healthy reading" was the factor that most influenced the well-being of pregnant women, while social or obstetric factors had no significant impact. Rawat[18] also found no relationship between knowledge score and other reproductive variables, such as age in year at first delivery, number of children, and last delivery mode, which were not significant at the (0.05) significance level.

There is no relationship between knowledge and the place or type of birth ($p>0.05$) only previous pelvic surgery (Table 7). This finding supports by study conducted by Muñiz et al[15] who reported lack of knowledge about disorders of pelvic floor is widespread between pregnant mothers, and that educational programs represent the most prominent factor in raising awareness.

# CONCLUSION

Post-test understanding of prevention strategies had significantly improved. Women's understanding of uterine prolapse was inadequate, with the great majority lacking any knowledge at all. There were no statistically significant correlations found between most obstetric and demographic variables and mother's knowledge.

**Recommendations**

1. Implementing a campaign to educate expectant moms about uterine prolapse and how to avoid it.
2. Putting in place an educational program to raise maternity nurses' knowledge preventative strategies.
3. The curriculum for basic nursing education should change to include pelvic organ prolapse guidelines that provide sufficient information.

**Author's Contribution:**

| | |
|---|---|
| Concept & Design or acquisition of analysis or interpretation of data: | Fatima Kareem Naeem, Wafaa Ahmed Ameen |
| Drafting or Revising Critically: | Fatima Kareem Naeem, Wafaa Ahmed Ameen |
| Final Approval of version: | All the above authors |
| Agreement to accountable for all aspects of work: | All the above authors |

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

**Source of Funding:** None

**Ethical Approval:** No. 3434/QM/Approval/EFEF3 Dated 15.09.2024

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