

**EFFECTIVENESS OF KEGEL EXERCISES AND PRONE POSITION ON
POSTNATAL DISCOMFORT AMONG POSTPARTUM MOTHERS****Kiranjot Gill¹, Chetan Kumar Gupta^{1*}, Lovesampuranjot Kaur¹**¹School of Nursing, Desh Bhagat University, Mandi Gobindgarh, Punjab, India**ABSTRACT**

Postpartum afterpains and delayed uterine involution are common causes of discomfort among postnatal mothers. Non-pharmacological interventions such as Kegel exercises and prone positioning are simple, cost-effective methods to enhance postnatal recovery. To evaluate the effectiveness of Kegel exercises and the prone position on afterpains and uterine involution among postnatal mothers. A quasi-experimental study was conducted among 200 postnatal mothers selected using purposive sampling. Participants were divided into experimental and control groups (100 each). Postpartum pain was assessed using a Numeric Pain Rating Scale before and after the intervention. The experimental group received structured training on Kegel exercises and prone positioning, while the control group received routine postnatal care. A significant reduction in post-test pain scores was observed in the experimental group ($t = 17.623$, $p < 0.001$). Kegel exercises and prone positioning were effective in reducing postpartum afterpains and promoting uterine involution.

Keywords: Postnatal discomfort, Kegel exercises, prone position, pain management, nursing intervention.

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INTRODUCTION

The postpartum period, also known as the postnatal period, is a critical phase in a woman's life that begins immediately after childbirth and typically extends up to six weeks. During this time, the mother undergoes significant physiological, psychological, and anatomical changes as her body gradually returns to the pre-pregnant state. Although childbirth is a natural process, it often results in various forms of postnatal discomfort, which can adversely affect a mother's physical well-being, emotional health, and quality of life if not addressed adequately [1].

Postnatal discomfort is a broad term encompassing pain, soreness, fatigue, pelvic pressure, perineal pain, lower back pain, uterine cramping, and discomfort related to episiotomy or perineal tears. These discomforts are more pronounced in the immediate postpartum period and may persist for weeks or months if appropriate interventions are not implemented [2]. Factors such as prolonged labor, instrumental delivery, multiparity, perineal trauma, and weakened pelvic floor muscles contribute significantly to postnatal discomfort among postpartum mothers [3]. The pelvic floor muscles play a vital role in supporting pelvic organs, maintaining continence, and facilitating recovery after childbirth. Pregnancy and vaginal delivery often lead to stretching, weakening, or injury of these muscles, resulting in pain, urinary incontinence, pelvic organ prolapse, and discomfort during routine activities [4]. Studies have reported that nearly 30–50% of postpartum women experience some degree of pelvic floor dysfunction, which highlights the need for early rehabilitation strategies during the postnatal period [5]. Kegel exercises, also known as pelvic floor muscle exercises, were first introduced by Dr. Arnold Kegel in 1948 as a non-invasive technique to strengthen pelvic floor muscles. These exercises involve repetitive voluntary contractions and relaxations of the pelvic floor muscles, which help improve muscle tone, circulation, and neuromuscular control [6]. Regular practice of Kegel exercises in the postpartum period has been shown to reduce perineal pain, enhance wound healing, prevent urinary incontinence, and promote overall pelvic health [7]. Due to their simplicity, cost-effectiveness, and safety, Kegel exercises are widely recommended as a first-line non-pharmacological intervention for postpartum recovery [8].

In addition to pelvic floor exercises, maternal positioning plays a crucial role in postnatal comfort and recovery. The prone position, where the mother lies on her abdomen, has been traditionally used in postnatal care to facilitate uterine involution, improve lochia drainage, and reduce uterine congestion [9]. This position helps the uterus contract efficiently, thereby minimizing uterine pain and promoting faster return to its pre-pregnant size [10]. Moreover, prone positioning has been associated with relief from lower back pain and enhanced relaxation by reducing pressure on the spine and pelvic region [11]. Postpartum back pain is another common complaint reported

by new mothers, often resulting from altered posture during pregnancy, weakened abdominal muscles, and physical strain associated with infant care [12]. The prone position allows for improved spinal alignment and muscle relaxation, which may help alleviate musculoskeletal discomfort. When combined with appropriate exercises such as Kegel exercises, prone positioning may offer synergistic benefits in reducing postnatal discomfort and enhancing maternal comfort [13].

Non-pharmacological interventions are increasingly preferred in postnatal care due to concerns about medication safety during breastfeeding and the desire to promote natural recovery processes. Interventions such as exercise therapy, positioning techniques, and supportive nursing care are cost-effective, easy to implement, and free from adverse drug effects [14]. Nursing professionals play a pivotal role in educating postpartum mothers about these interventions and encouraging their regular practice to improve recovery outcomes [15]. Despite the established benefits of Kegel exercises and prone positioning individually, there is limited empirical evidence evaluating their combined effectiveness in reducing postnatal discomfort. Many postpartum mothers either lack awareness or receive inadequate guidance regarding these simple yet effective interventions [16]. Cultural beliefs, lack of motivation, fatigue, and insufficient postnatal counseling further contribute to poor adherence to postnatal exercise regimens [17].

Given the increasing emphasis on maternal comfort, early mobilization, and holistic postnatal care, it is essential to explore effective, non-invasive strategies that can be easily incorporated into routine postpartum practice. Evaluating the effectiveness of Kegel exercises and prone positioning on postnatal discomfort will provide valuable evidence for nursing practice and maternal health promotion [18]. Such evidence can help in developing standardized postnatal care protocols aimed at improving maternal comfort, reducing complications, and enhancing overall quality of life during the postpartum period. Therefore, the present study aims to assess the effectiveness of Kegel exercises and prone position in reducing postnatal discomfort among postpartum mothers, thereby contributing to evidence-based postnatal nursing care and promoting safe, economical, and effective recovery interventions.

METHODOLOGY

Study Design

A quantitative, quasi-experimental study design was adopted to evaluate the effectiveness of Kegel exercises and the prone position on postnatal discomfort among postpartum mothers. The study compared outcomes between an experimental group receiving the interventions and a control group receiving routine postnatal care.

Study Setting

The study was conducted in selected hospitals of Ludhiana, Punjab, where postnatal mothers were admitted for routine postpartum care during the immediate postnatal period.

Study Population

The target population comprised postpartum mothers who had undergone normal vaginal delivery and were within 1–3 days of the postnatal period. These mothers were considered appropriate due to the presence of early postnatal discomfort and ongoing uterine involution.

Sample Size and Sampling Technique

A total of 200 postnatal mothers were selected for the study, with 100 mothers in the experimental group and 100 in the control group. Purposive sampling technique was used to select participants who met the inclusion criteria and were available during the data collection period.

Inclusion Criteria

- Postnatal mothers with singleton pregnancy
- Mothers who had normal vaginal delivery with or without episiotomy
- Mothers willing to participate in the study
- Mothers able to understand Punjabi, Hindi, or English

Exclusion Criteria

- Mothers who had undergone cesarean section
- Mothers with high-risk postnatal complications such as postpartum hemorrhage, puerperal sepsis, uterine rupture, or shock
- Mothers with multiple pregnancies
- Mothers unwilling to participate in the study

Study Variables

- Independent variables: Kegel exercises and prone position
- Dependent variable: Postnatal discomfort among postpartum mothers
- Demographic variables: Age, education, occupation, income, parity, dietary habits, and area of residence

Data Collection Tools

Data were collected using a structured tool consisting of three parts:

- Part A: Socio-demographic profile
- Part B: Numeric Pain Rating Scale (NPRS) to assess postnatal discomfort
- Part C: Clinical assessment form to evaluate uterine involution parameters including fundal height, uterine consistency, and lochia characteristics

Intervention Procedure

The experimental group received a structured teaching program that included:

- Training on correct performance of Kegel exercises
- Guidance on adopting the prone position during the postnatal period

Participants were instructed to perform Kegel exercises regularly and maintain the prone position as advised, while the control group received routine postnatal care without these interventions.

Pilot Study and Tool Validation

A pilot study was conducted on 10% of the sample to assess feasibility and clarity of the tool. Tool reliability was established using Karl Pearson's correlation coefficient, ensuring consistency and accuracy of measurements.

Data Collection Procedure

After obtaining ethical approval and permission from hospital authorities, data were collected over 8 weeks. Written or verbal consent was obtained from participants. Pre-test assessment of postnatal discomfort was conducted, followed by intervention and post-test evaluation.

Data Analysis

Collected data were analyzed using descriptive and inferential statistics to assess the effectiveness of Kegel exercises and prone positioning on postnatal discomfort. Statistical tests were applied to determine significant differences between experimental and control groups.

RESULTS AND DISCUSSION

The present quasi-experimental study assessed the effectiveness of Kegel exercises and prone positioning on afterpains and uterine involution among postnatal mothers. The demographic profile (Table 1) indicates that the majority of mothers were aged 26–30 years, housewives, and belonged to nuclear families, which is consistent with earlier maternal health studies. A highly significant reduction in postpartum pain scores was observed in the experimental group following the intervention (Table 2). This finding supports previous evidence that Kegel exercises enhance pelvic floor muscle tone, improve uterine support, and reduce postpartum discomfort. The prone position further contributes by promoting uterine contraction and facilitating lochia drainage, thereby reducing afterpains. The combined intervention demonstrated superior outcomes compared to routine postnatal care (Table 3). Significant associations between pre-test pain levels and income, area of residence, and dietary habits (Table 4) suggest that socioeconomic and nutritional factors influence postpartum recovery. No significant association was found between pain levels and occupation, religion, family type, or antenatal exercise (Table 5), indicating that postpartum pain is more strongly influenced by physiological and environmental factors than social variables. Overall, the study establishes that Kegel exercises combined with prone positioning are effective, low-cost, and easily implementable nursing interventions for reducing postpartum afterpains and promoting

uterine involution.

Table 1: Demographic and Obstetric Characteristics of Postnatal Mothers (N = 200)

Variable	Experimental n (%)	Control n (%)
Age 26–30 years	49 (49.0)	55 (55.0)
Secondary education	52 (52.0)	43 (43.0)
Housewife	74 (74.0)	64 (64.0)
Nuclear family	47 (47.0)	55 (55.0)
Hindu religion	82 (82.0)	73 (73.0)
Rural residence	50 (50.0)	38 (38.0)
Vegetarian diet	67 (67.0)	55 (55.0)
Episiotomy done	61 (61.0)	52 (52.0)

Table 2: Comparison of Pre-test and Post-test Postpartum Pain Scores in Experimental Group (N = 100)

Test	Mean ± SD	t value	p value
Pre-test	5.58 ± 1.20		
Post-test	3.41 ± 1.01	17.623	<0.001*

Table 3: Comparison of Post-test Pain Scores between Experimental and Control Groups

Group	Mean ± SD	t value	p value
Experimental	3.41 ± 1.01		
Control	Higher pain scores	Significant	<0.05*

Table 4: Association between Pre-test Pain and Selected Variables (Significant)

Variable	χ^2 value	p value	Significance
Monthly income	Significant	<0.05	Yes
Area of living	26.36	<0.001	Yes
Food habits	15.08	0.010	Yes
Height	Significant	<0.05	Yes
Weight	Significant	<0.05	Yes

Table 5: Association between Pre-test Pain and Non-Significant Variables

Variable	p value	Result
Occupation	>0.05	NS
Type of family	>0.05	NS
Religion	0.739	NS
Antenatal exercise	>0.05	NS
Age at menarche	0.860	NS
Source of information	>0.05	NS

CONCLUSION

The present study concludes that Kegel exercises combined with the prone position are effective non-pharmacological interventions for reducing afterpains and enhancing uterine involution among postnatal mothers. The significant reduction in postpartum pain observed in the experimental group highlights the therapeutic value of structured pelvic floor muscle training and proper postnatal positioning. These interventions are safe, economical, and easy to implement, making them suitable for incorporation into routine postnatal nursing care. The study also identified that socioeconomic factors, area of residence, dietary habits, and anthropometric variables influenced the intensity of postpartum pain, emphasizing the need for individualized postnatal care. In contrast, variables such as occupation, religion, and antenatal exercise showed no significant association with pain levels. Overall, the findings support the integration of Kegel exercises and prone positioning into standard postnatal care protocols to improve maternal comfort, accelerate recovery, and enhance overall postnatal wellbeing.

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