

## A study to assess the effectiveness of Kegel exercise and prone position on afterpains and involution of uterus among post-natal mothers: A review article

Somya Ajaykumar Gautam <sup>1,\*</sup>, Abhishek Shivanand Lachyan <sup>2</sup>, Shalini Prakash Chandra Sharma <sup>3</sup>, Salman Khan <sup>4</sup>, Shikha Ved Prakash Gupta <sup>1</sup> and Prajakta Santosh Kulkarni <sup>5</sup>

<sup>1</sup> School of Nursing and Health Sciences, Noida International University, Delhi NCR, India.

<sup>2</sup> Department of Social and Preventive Medicine, Faculty of Medicine, University Malaya, Kuala Lumpur, Malaysia.

<sup>3</sup> All India Institute of Medical Sciences, New Delhi, India.

<sup>4</sup> School of Allied Health Sciences, Noida International University, Delhi NCR, India.

<sup>5</sup> Occupational Therapy School and Center, Seth G.S. Medical College, King Edward Memorial Hospital, Mumbai-400012, Maharashtra, India.

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### Abstract

Childbirth is the most decisive event in a women's life. It is the most wonderful and joyful journey which a women experiences after childbirth. Mothers go through a lot of physiological and psychological changes after giving birth. After pains plagued the majority of the postpartum ladies. As a result, it was determined that reducing the aftereffects and hastening the uterine involution process were critical. In India, after pains are still a big problem for moms after delivery. Nurses have an important role in the prevention, treatment, and rehabilitation of patients. Nursing staff should educate mothers in order to improve their quality of life. The technique was found to be quite successful in preventing maternal discomfort and uterine involution.

**Keywords:** Effectiveness; Kegel Exercise; Prone Position; After pains Uterus; Post Natal Mothers

### 1. Introduction

Childbirth is the most decisive event in a women's life. It is the most wonderful and joyful journey which a women experiences after childbirth. Even if she was born later in life, a mother feels an experience. It causes significant changes in her everyday life and exposes her to a new position inside herself. Each stage of childbirth has its own set of crucial events, and the mother plays a distinctive role in each of them. The various phases are divided into three categories: prenatal, intranatal, and postnatal periods. The mother and the newborn infant are most susceptible during the second postnatal phase. During this time, many women go through physiological, psychological, and social changes. There are certain postnatal disorders and discomforts that a mother faces after the delivery like pains, irregular vaginal bleeding, leucorrhoea, cervical ectopy (erosion), backache, retroversion of the uterus, anaemia, breast issues, and episiotomy. The postpartum phase, also known as puerperium, lasts about six weeks after the baby is born. Mothers go through a lot of physiological and psychological changes during this period. Involution of the uterus and descent of the fundus are the two main changes that occur in the uterus. Involution starts right after the placenta is delivered. The uterine muscles constrict forcefully around the maternal blood arteries at the point where the placenta is connected during involution. When the placenta is split, this contraction helps to keep the region from bleeding [1].

\* Corresponding author: Somya Gautam  
School of Nursing and Health Sciences, Noida International University, Delhi NCR, India.

The sub involution of the uterus is caused by various factors like insufficient breastfeeding and a lack of maternal care throughout pregnancy and puerperium. There are some other problems also of puerperium as early postpartum hemorrhage, hypovolemic shock, thromboembolism, and puerperal infections. Certain issues may be lethal, so they'd be detected early and treated quickly. The risk of women dying from puerperal causes is measured by maternal mortality and morbidity rates. After the baby is born, the placenta separates from the uterine wall and is evacuated. The uterus contracts quickly to close any open blood vessels on the uterine wall at the placental location. These uterine contractions are referred to as pains in the uterus after pains are a kind of spasmodic pain that occurs in the lower abdomen after birth and lasts anywhere from 2-4 days [2]. Postpartum contractions of the uterus as it shrinks back to its pre-pregnancy size and location generate these abdominal pains. The uterus contracts hypertonically to evacuate the blood clots or fragments of the afterbirth. Due to its contraction-relaxation cycle, the uterus loses muscle tone throughout consecutive pregnancies, causing after pains and severe pain in multiparous women. With a rise in the number of pregnancies, uterine muscle tone declines, which may lead to more severe cramping. The pituitary gland increases the synthesis of the hormone oxytocin when a new born is breastfed. Oxytocin induces the uterus to contract even more and activates the let-down reflex, which releases milk from the breasts. This has the side effect of causing extra stomach pain. The first day following birth will be the most severe in terms of cramping, and the third day should be the least extreme. If the womb stays securely constricted, the after pain will be eased. When the bladder is full, the uterus is unable to contract and instead relaxes, preventing relief from afterpains [3].

Labor is one of the biggest life experiences that a woman will go through in her life. It has a great impact on the mind of the women and evil thought perception or discomfort may cause psychological problem for her and her whole family. There are a variety of non-pharmacological pain treatment options that are beneficial during the postpartum period. The options are massage, counter pressure, hydrotherapy, breathing patterns, heat and cold packs, position modifications, relaxation methods, music, aromatherapy, delivery doulas, and acupressure points. The most effective non-pharmacological techniques are position adjustment, stomach muscle exercise, and uterine massage.

The postnatal phase is characterized by both retrogressive (uterine and vaginal involution) and progressive maternal alterations (production of milk for lactation, restoration of the normal menstrual cycle, and beginning of a parenting role).

To ensure the reproductive health of the women while these changes take place and the women is physically capable of welcoming her new kid into her family. The care which a woman gets during her postpartum period has a long-term impact on her health. During the postpartum period, the majority of women feel some level of pain and discomfort the causes are, uterine contractions, perineal lacerations, episiotomy, hemorrhoids, painful nipples, and breast engorgement. The majority of women anticipate and suffer postpartum discomfort, the intensity of agony varies from one woman to the next. following factors such as the frequency, length, and strength of uterine contractions, the women's emotional behaviour, and her reaction to after pains, are controlled in different ways. The issue of postpartum health requires immediate attention. Around 58 percent of women report fatigue, 23 percent have perineal problems, 42 percent have backaches, 24 percent have hemorrhoids, 13 percent have bowel problems, 23 percent have sexual problems, 20 percent have vaginal bleeding, 46 percent have urinary incontinence, and 43.5 percent have after pains. There is a well-established link between postpartum discomfort and nursing. Women feel after pain regardless of their parity whether they are breastfeeding or not. The discomfort has been compared to mild labor pains by women who have experienced it [4]. According to a poll of women's birthing experiences, 71% of women had trouble feeding their babies. Cramping discomfort while breastfeeding was the most prevalent explanation they mentioned. Cramping severity varies by parity; multipara women are more likely than primi mothers to have severe after pains. Postpartum contractions of the uterus as it shrinks back to its pre-pregnancy size and position create stomach cramps known as after pains. In a nutshell, after pains indicate the onset of involution. The uterus starts the process of involution, or shrinkage, shortly after birth. The greatest way for a woman to assist her abdominal wall to regain tone is to use excellent body mechanics and posture, get enough rest, and exercise [5]. Deep breathing exercises can help you feel better physically and emotionally; alternate leg raising exercises, Kegel exercises, and early ambulation can help you feel better physically and emotionally by encouraging uterine contractions, restoring muscle strength, and conditioning your abdominal muscles. Exercises that strengthen the abdominal and pelvic muscles and, as a result, speed the involution process. Several postnatal moms suffered after pains, which caused tremendous agony and made it difficult for them to adjust to their new parental role, according to the investigator's clinical experience. If the after pains are severe or last more than a week, it's a good idea to see a nurse to rule out any issues that might be producing contractions, such as unexcelled tissue that the uterus is attempting to get rid of. As a result, a nurse's job is to figure out how to effectively relieve pain and make the mother's postnatal time the happiest of her life [6]. The investigator was inspired to conduct experimental research to depict the efficiency of Kegel exercise and prone position on reducing after pains and involution of the uterus among postnatal moms since the pain of uterine contractions (after pains) is a good indicator of pleasure [7].

## 2. Methodology

Dr. Dobbin recommended the expeditious review by guiding the five steps of the Evidence-informed decision-making (EIDM) approach. The steps for conducting a rapid review: Health Evidence Tool was utilized for:

- For searching and accessing relevant research evidence;
- For evaluating the quality of the research evidence and its methodology incorporating the research evidence.

### 2.1. Search Strategies

KEGEL EXERCISE AND PRONE POSITION ON AFTERPAINS and INVOLUTION OF UTERUS AMONG POSTNATAL MOTHERS: The above headed following terms were defined based on their different domains and rapid review research questions.

The final search string is as below ("Kegal Exercise" OR "Prone position on afterpains" OR "Uterus ")

There were various databases but here only Four databases were adopted for systematic search of the publication which are as : Scopus, Google Scholar, PubMed, and Cochrane library , while Scopus, PubMed, and Cochrane library offered a good coverage of peer-reviewed articles, while Google Scholar has been included to minimize the scarcity and have a broader coverage of the grey literature of the publication in KEGEL EXERCISE AND PRONE POSITION ON AFTERPAINS and INVOLUTION OF UTERUS AMONG POSTNATAL MOTHERS. In order to pursue references of reference involving the review papers the literature search was also complimented with snowball search.

### 2.2. Eligibility criteria

The Literature consists of all the review paper published before April 2021, including all the areas such as Emotional Labour Articles and Thesis and the studies which were conducted on World Bank Checklist in the developing countries which were restricted to English Language Publications. This review includes scantiness in this field [8].

### 2.3. Data Extraction

To improvise the article and to ensure the non- bias of the selection two independent reviewers from public health fraternity have been involved in reviewing the article and both have reached eighty percent in agreement on the finalized list of articles for further data extraction. [9].

### 2.4. PRISMA Flow Diagram

**Table 1** List studies and gaps/highlighted issues the studies published and authors have stressed upon.

Sr. No.	Author	Finding
1	Hisu RC(2010)	To minimize the risk of the chronic diseases among 60 postnatal moms during postpartum period by doing postpartum exercises efficiently research was conducted in Ontario, London. Random Sampling technique was the method applied. The study's findings revealed that women were randomly allocated to a diet and low-intensity postpartum exercise (30%) and moderate-intensity postpartum exercise (70%), with a control group of 20 inactive postpartum women receiving no intervention. When compared to the control group (-0.13.3kg, P0.01), the low and moderate-intensity groups shed greater body mass (-4.24.0kg and -5.02.9kg, respectively). The result concluded that the postpartum fitness program aids in maintaining healthy body weight and decreases the risk of chronic illness [10].
2	Massimo F, Antonella C. (2009)	A Randomized Control Experiment was conducted in order to attain the efficacy of the postnatal workouts treatments and minimizing the discomfort during puerperium. In the experiment the trail includes 60 women who had undergone episiotomy or perineal laceration after vaginal birth. They were divided into two groups * randomly randomized to postnatal exercise (n=30) or standard treatment (n=30). Women who have undergone randomized treatment with postnatal exercise had less discomfort than those who had got standard treatment (1.7 +2.4 vs 3.9+2.4; p=0.0002) [11].

3	Bernandes NO, Santos AM, Oliveira MR (2008)	In Betin a research was conducted to find out the outcome and assess the level of comfort of the women who received the physical therapy to treat the postpartum discomfort in public maternity home .A total number of 215 multiparous women were included for conducting the research .out of which : 43 percent complained of breast discomfort , 62.3 percent had normal diaphragm kinetics, 85.1 percent had tympanic sound at abdominal percussion, 85.1 percent had normal uterine involution with moderate pain (VAS-6 to 7 at different intervals), 87.9 percent had pelvic floor muscle contractions, and 30.3 percent had lower limb edema . The diameters of the abdominal muscles were measured supra and infra umbilical 2+1 and 1+1. There were certain techniques which were used to treat the women’s which were: Diaphragm breathing techniques, abdominal isometric workouts, pelvic floor muscle contractions, lower limb circulation exercises, flatus elimination procedures, ambulation and guidance [12].
4	Hay SJ, Morkued S, Fairbrothers KA. (2009)	In New Zealand, a quasi-randomized trial was done to see whether pelvic floor muscle training (PFMT) may help prevent and cure urine and fecal incontinence in 6181 (3040 PFMT, 3141 controls) prenatal and postnatal women. The study found that pregnant women without prior urinary incontinence who underwent PFMT were less likely to report urinary incontinence in late pregnancy (about 56 percent less; RR 0.44, 95 percent CI 0.30 to0.65) and up to six months postpartum (about 30 percent less; RR 0.71, 95 percent CI 0.52 to0.97) than those who did not. Postnatal women with persistent urinary incontinence who received PFMT were about 20% less likely to report urinary incontinence three months after delivery (RR0.79, 95 percent CI0.70to0.90), and were about half as likely to report faecal incontinence (RR 0.52, 95 percent CI 0.31to0.87) than those who did not receive PFMT. According to the findings, PFMT is an effective therapy for urine and faecal incontinence in late pregnancy and postpartum.[13].
5	Ericson & Grove	The goal of this research was to look at the literature on emotional labour and health care in order to better understand how emotional labour occurs in health care settings. According to the findings, it is critical to understand the emotional demands that healthcare workers encounter in order to promote their health and well-being while offering the greatest level of patient care [14].

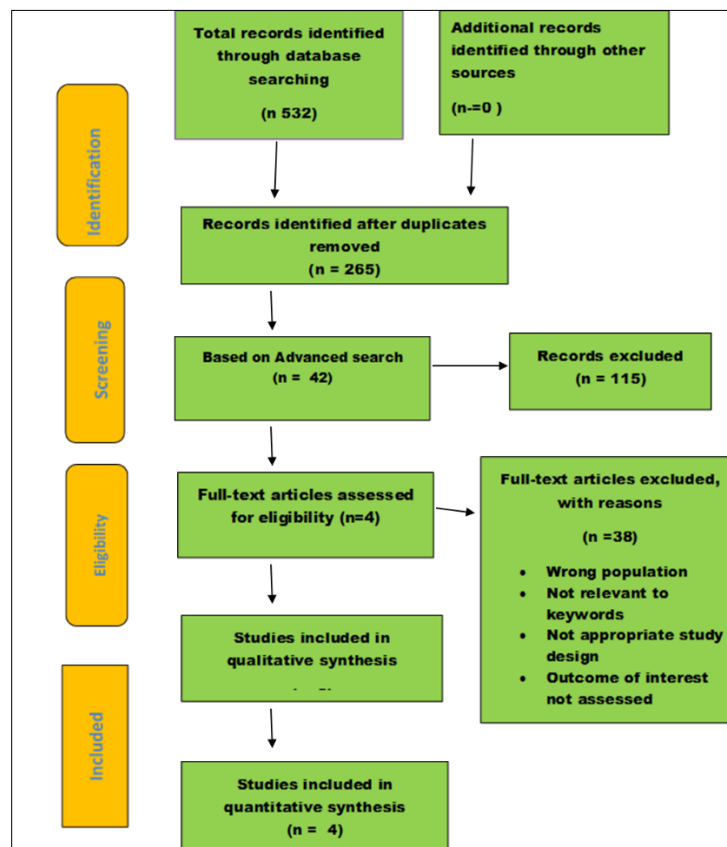


Figure 1 PRISMA diagram for literature search review

### 3. Conclusion

In India, after pains are still a big concern for moms after delivery. Nurses have an important role in the prevention, treatment, and rehabilitation of patients. Nursing staff should educate moms in order to enhance their quality of life. The technique was shown to be quite successful in preventing maternal discomfort and uterine involution.

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### Compliance with ethical standards

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#### *Disclosure of conflict of interest*

There are no potential conflicts of interest.

#### *Statement of ethical approval*

There's no need for ethical approval for this systematic review since no patient data will be collected.

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