



## Original Artical

# Prevalence of Knee Pain in Post-Partum Females

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### Abstract

**Background:** There is not much data present on prevalence of knee pain in postpartum females in Pakistan, more studies are needed. The purpose of this study is to identify the prevalence of knee pain in postpartum females. **OBJECTIVE:** The objective of the study is to determine the Prevalence of knee pain in postpartum females. **Methods:** This cross-sectional study will include 79 participants from different hospitals of Lahore fulfilling the eligibility criteria of knee pain in postpartum women. Each participant will attend a single visit which, after general information and signing of informed consent form, manually fills the compiled self-assessment questionnaire. The pre-structured valid and reliable questionnaires (NS, VAS and BMI) will be used in this study. **Result:** The result shows that 79 postpartum females with mean age  $27.45 \pm 2.363$  years. The minimum age was 25 and maximum age was 35 years. In this study prevalence of knee pain in postpartum females are assessed. The mean 55.70 prevalence are present in our population. Out of 79 patients 44 % developed knee pain while 35 % patient does not develop any pain. BMI of patients are higher in overweight with 24 frequencies. In further examination of a patient in table 4 the result show that patient rarely straighten their knee fully. In table 5 mostly patients often bend their knee fully. In table 6 patients shows moderate knee joint stiffness in the morning. In table 7 patient demonstrate that she had experience weekly pain in her knee. In table 8 knee pain is moderate while walking on a flat surface. In table 9 knee pain is moderate when patient going up or down stairs. **Conclusion:** Knee pain is common in postpartum females.

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Postpartum women are more likely to develop knee pain. Based on the result the prevalence of knee pain is 44% in postpartum women.

**Key words:** Prevalence, postpartum, knee pain

## INTRODUCTION

Childbirth is the maximum vital occurrence for mother bodily scenario. The postpartum length is the planning stage in which some transitions are skilled for females. During this time, in which emotional and sociological changes are experience collectively with physiological transition, mother or her own circle of relatives participants can face pretty some problems that might be badly disturb the physical scenario of mom or infant.<sup>[1]</sup>

After birth of infant this phase is very essential for female health that she experience many difficulties before and after child birth.<sup>[2]</sup>

Female suffers from pain and faces many difficulties throughout the pregnancy. Knee pain is usually occurring in mother in childbearing age.<sup>[3]</sup> Pregnant and postpartum women have more possibilities to develop lower extremity pain than non-childbearing women. The time of this condition, onset is mid to late pregnancy may imply that biomechanical factors play a important role than hormonal influences.<sup>[4]</sup>

Throughout the pregnancy a number of physical transitions occur in the female body to fulfill the additional dietary needs of embryo and newborn. Throughout the pregnancy, working of intestinal calcium absorption doubles. High calcium required throughout pregnancy makes female more pron to bone loss and sometimes develop osteoporosis. On the other hand, while hormonal

changes is a reason for the deficiency of calcium or its outcome cause the more bone loss, bone loss sometimes turned back after delivery. Pregnancy can have several cause on bone.<sup>[5]</sup>

After delivery period in a mother life is filled with some changes, that is physical, hormonal, changes in sleep habits, and she have to learn how to best care for a newborn.<sup>[6]</sup>

Knee pain including patellofemoral disorder is not uncommon in pregnancy. Changes in posture, gain weight and increase laxity of ligaments can produce pain in knee. There is marked improvement in the symptoms of knee pain by 4 months after delivery. Patellofemoral disease produce pain in the back of or across the patella, particularly while going up and down stairs or with extended sitting..<sup>[9]</sup> The structures are involved in musculoskeletal pain throughout pregnancy, pain can put in to the overall load of pregnancy.<sup>[9]</sup>

There is a evidence of permanent changes in musculoskeletal in post-partum. Knee joint laxity increases throughout pregnancy, and differences in ligament laxity may persist in post-partum. Joint laxity well-known as a risk factor for knee osteoarthritis. As compared to the 1st trimester, at 4th months post-partum one study found that in the anteriorly laxity increased, although in the frontal plane and posterior direction it decreased. There are some changes in foot structure post-partum, including decreases in the arch height and rigidity index, along with increases in foot length and arch drop. Together, changes in foot structure with knee ligament can contribute to changed lower extremity mechanics and increased risk for OA.<sup>[12]</sup>

Hormonal changes have also been implicat-

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ed as a contributor to musculoskeletal complaints, with increases in ligament laxity occurring during pregnancy. While necessary for delivery, this can have effect on joint function when coupled with ongoing structural and biomechanical changes. In particular, the hormone relaxin has been associated with decreased collagen expression and has been associated with non-pregnancy related knee injuries as well. However, the exact mechanism and timing in which hormonal changes influence knee symptoms during pregnancy remains unclear.<sup>[13]</sup>

Biomechanical factors related with pregnancy and the post pregnancy time frame that could add to bring down further point outer muscle broken some changes on the focal point of gravity, changes in step design, weight gain, an increase in how much time spent in the side lying position, and expanded lower limit request linked with infant child care. Since the net impact of the hormonal and physical changes of pregnancy show up biomechanically disadvantageous to the lower limit, we theorized that there is a higher occurrence of lower extreme point pain in pregnant and as of late pregnant ladies than in non-pregnant controls. This study described the area and disturbing and mitigating variables of lower furthest point pain and inspected potential and impacting elements, for example, history of past joint pain, standard weight, change in weight, number of steps in the home, and recurrence and force of activity.<sup>[4]</sup>

However, much of the knee pain reported in population surveys may be moderate and have impact on the patient activities<sup>[15]</sup>

One body part most affected by pain is the knee, which is exposed to great shear forces in daily motor activities.<sup>[16]</sup> Since there is lack of evidence related to prevalence of knee pain in post-partum females in Pakistan, more studies are needed.

## Methodology

This cross-sectional study will include 79 participants from different hospitals of Lahore fulfilling the eligibility criteria of knee pain in post-partum women. Each participant will attend a single visit which, after general information and signing of informed consent form, manually fills the compiled self-assessment questionnaire. The pre-structured valid and reliable questionnaires (NS, VAS and BMI) was used in this study.

## Results:

The result shows that 79 postpartum females with mean age  $27.45 \pm 2.363$  years. The minimum age was 25 and maximum age was 35 years. In this study prevalence of knee pain in postpartum females are assessed. The mean 55.70 prevalence are present in our population. Out of 79 patients 44 % developed knee pain while 35 % patient does not develop any pain. BMI of patients are higher in overweight with 24 frequencies. In further examination of a patient in table 4 the result show that patient rarely straighten their knee fully. In table 5 mostly patients often bend their knee fully. In table 5 patients shows moderate knee joint stiffness in the morning. In table 6 patient demonstrate that she had experience weekly pain in her knee. In table 7 knee pain is moderate while walking on a flat surface. In table 8 knee pain is moderate when patient going up or down stairs.

Age of patient				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	25	18	22.2	22.8
	26	13	16.0	39.2
	27	15	18.5	58.2
	28	13	16.0	74.7
	29	9	11.1	86.1
	30	5	6.2	92.4
	32	1	1.2	93.7
	33	2	2.5	96.2
	34	1	1.2	97.5
	35	2	2.5	100.0
	Total	79	97.5	100.0
Missing System	2	2.5		
Total	81	100.0		

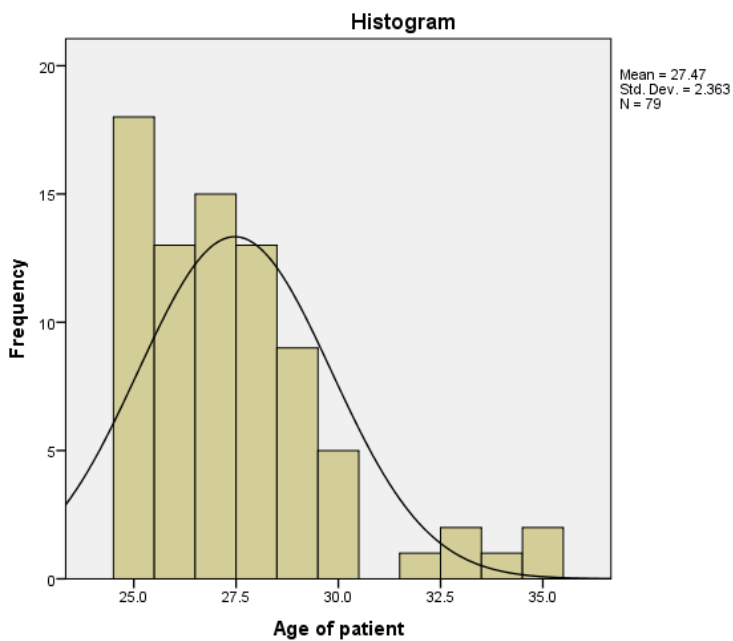
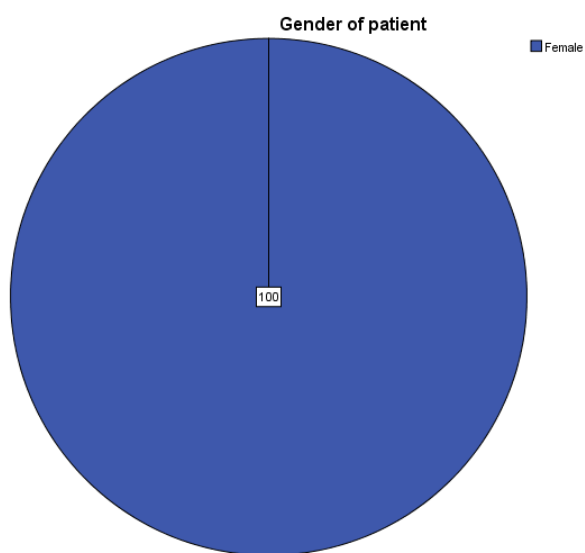


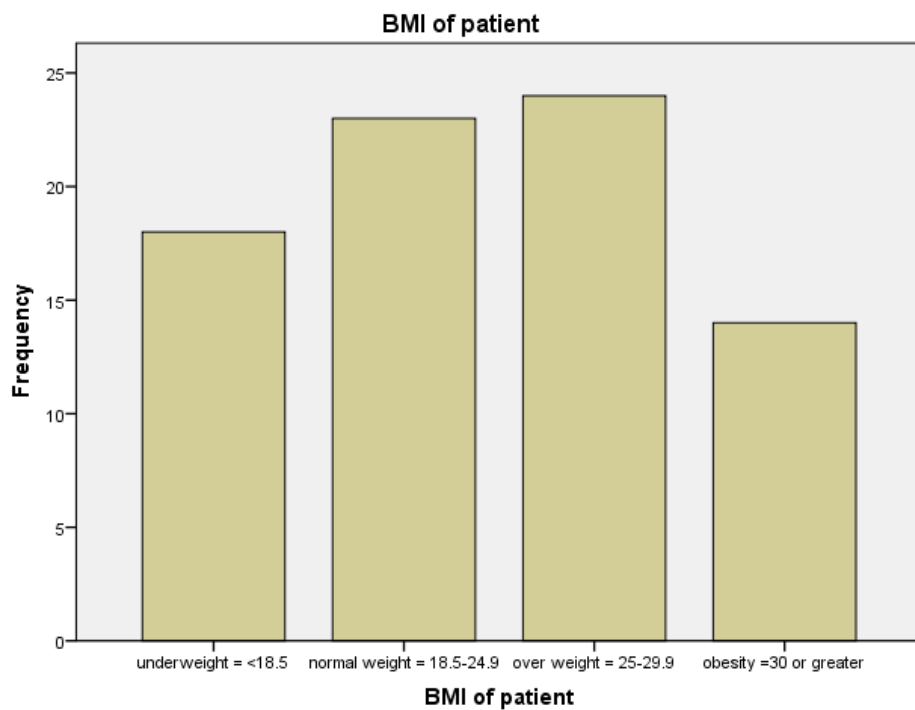
Figure 1: Histogram show the age of the patient

Gender of patient		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	79	97.5	100.0	100.0
Missing	System	2	2.5		
Total		81	100.0		

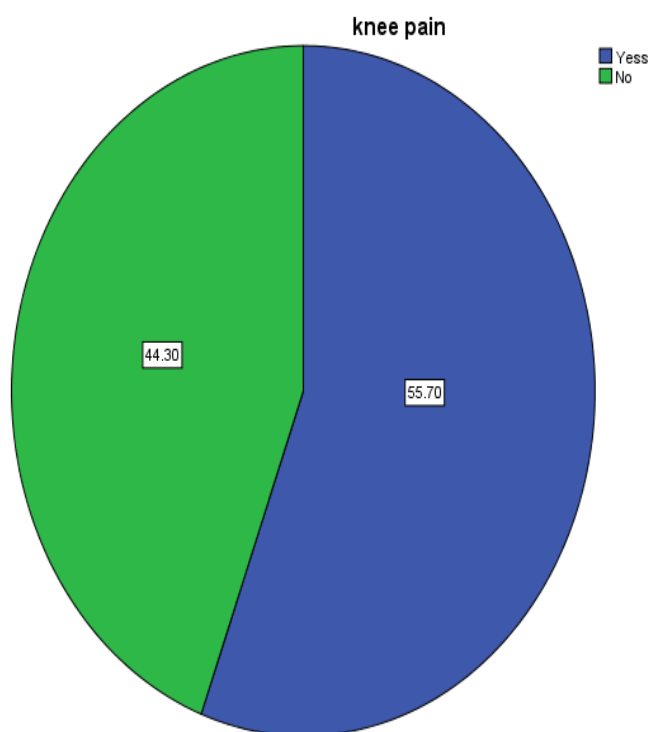
Table 2: Gender of patient



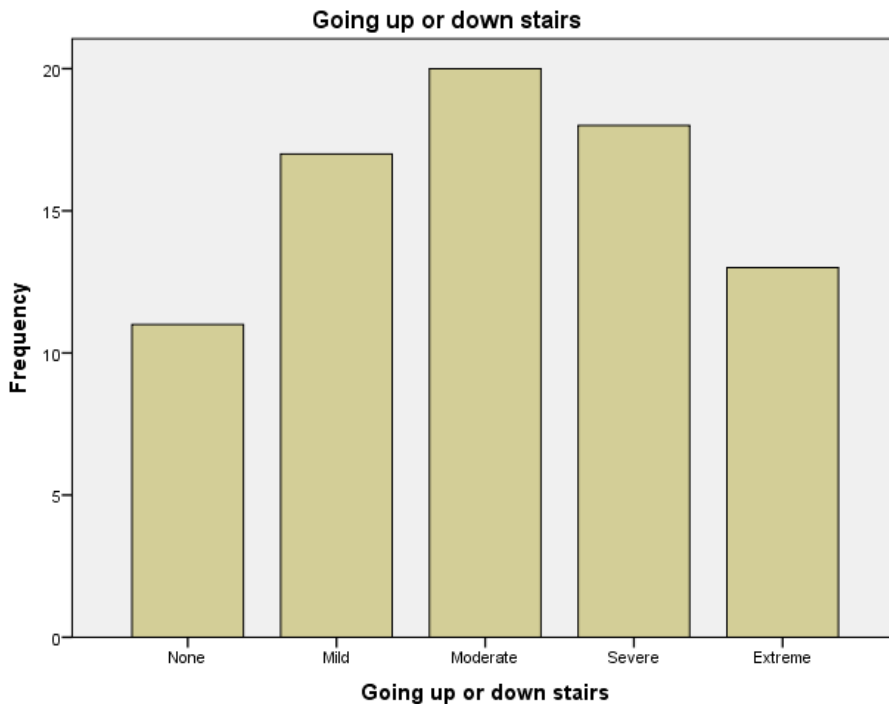
BMI of patient		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	underweight = <18.5	18	22.8	22.8	22.8
	normal weight = 18.5-24.9	23	29.1	29.1	51.9
	over weight = 25-29.9	24	30.4	30.4	82.3
	obesity =30 or greater	14	17.7	17.7	100.0
	Total	79	100.0	100.0	



knee pain					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	44	54.3	55.7	55.7
	No	35	43.2	44.3	100.0
	Total	79	97.5	100.0	
Missing	System	2	2.5		
Total		81	100.0		



Going up or down stairs					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	11	13.9	13.9	13.9
	Mild	17	21.5	21.5	35.4
	Moderate	20	25.3	25.3	60.8
	Severe	18	22.8	22.8	83.5
	Extreme	13	16.5	16.5	100.0
	Total	79	100.0	100.0	



## Discussion:

is research aimed to assess the prevalence of knee pain in postpartum females. Knee pain is common in postpartum females. Postpartum women are more likely to develop knee pain. The patients were picked through the non-probability sampling methodology. Based on the research the knee pain prevalence is 44% in postpartum females. The result of our study is on 79 postpartum females with mean age  $27.45 \pm 2.363$  years. The minimum age was 25 and maximum age was 35 years. The mean 55.70 prevalence are present in our population. Out of 79 patients 44 % developed knee pain while 35 % patient does not develop any pain. BMI of patients are higher in overweight with 24 frequency. In further examination of a patient in table 4 the result show that patient rarely straighten their knee fully. In table 5 mostly patients often bend their knee fully. In table 5 patients shows moderate

knee joint stiffness in the morning. In table 6 patient demonstrate that she had experience weekly pain in her knee. In table 7 knee pain is moderate while walking on a flat surface. In table 8 knee pain is moderate when patient going up or down stairs. The result of this study was supported by another previously conducted research which also states that the prevalence of knee pain in postpartum female are 22(24) postpartum subjects women had a significantly higher prevalence of knee pain prior to this study ( $P=.03$ ). The average age of the recently pregnant women was 29.2 (standard deviation [SD] 5.7), with a range of 17 to 42. The prevalence of knee pain between cases and controls once prior history of knee pain was taken into account.<sup>[4]</sup> In another research was directed that the prevalence of knee pain in postpartum female total 11 patients and maximum age 33.4 difference of  $\pm 5.3$  years, BMI  $76.1 \pm 13.5$  kg) and 20% of developed pain.<sup>[26]</sup> In another research was directed that



the prevalence of knee pain in postpartum female Total participant 283 and age 31 with distinction 4year.179 have been taken into consideration and have ache depth three months postpartum.<sup>[27]</sup> In another research the study is there's excessive prevalence of musculoskeletal ache syndrome in postpartum females.<sup>[18]</sup> So, based on all previous evidences and results of this study it is concluded that the prevalence of knee pain in postpartum female are present in postpartum females.

Limitation of this study are Lack of ratio of patients, The study was only conducted within a limited age difference and Due to the shortage of time, the collected data may be less than the expected sample size.

## Conclusion:

Knee pain is common in postpartum females. Postpartum women are more likely to develop knee pain. Based on the result the prevalence of knee pain is 44% in postpartum women.

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