

# PREVALENCE OF LUMBO-PELVIC PAIN AMONG PREGNANT WOMEN IN THIRD TRIMESTER

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## ABSTRACT

**Background:** Pregnancy is linked with great biomechanical changes having tendencies to create musculoskeletal adaptations. Lumbo-pelvic pain (LPP) is the most intrusive of all these complications, which adversely affects mobility and quality of life in the third trimester.

**Purpose:** To assess the frequency of lumbo-pelvic pains and their functional effects on third trimester pregnant women.

**Methodology:** Cross-sectional study was done on 150 third trimester pregnant women. Convenient sampling was used to select participants from Civil Hospital, Blood Bank Hospital, Red Crescent Hospital, and Al Faisal Hospital, Sukkur. The Oswestry Low Back Pain Disability Questionnaire was used in measuring functional disability.

**Results:** The prevalence of LPP was found to be 88% (n=132). Among these, 42% of participants reported experiencing pain for 1–3 months, 26% for 4–7 months, and 20% for more than 7 months, even after delivery. Pain intensity was predominantly moderate (74%), with mild (8.7%) and severe (5.3%) cases also reported. According to the Oswestry Disability Index, 48% of participants had moderate disability, 37.3% had severe disability, and 1.4% were categorized as crippled.

**Conclusion:** It is concluded that lumbo-pelvic pain is very common during the third trimester and causes a lot of functional impairments. The moderate-to-severe disability rates are high, and this fact calls in the necessity of specific physical therapy programs to enhance maternal health.

**Keywords:** Lumbo-pelvic pain, Pregnancy, Third Trimester, Prevalence, Oswestry Disability Index.

## Chapter 1

### Introduction

#### 1.1 Background

Pregnancy is associated with significant biological and biomechanical changes in the body of a woman. These transformations are characterized by slow addition of weight, changes in body position and expansion of lumbar area to support the growing fetus. Meanwhile, hormonal changes, especially more secretion of progesterone and relaxin, increase the ligament laxity and lead to musculoskeletal

adaptations. <sup>(1)</sup> given the fact that an excess of 130 million births are experienced across the globe every year, maternal health has assumed the center stage in the agenda of the public health programs. Even though the birth of a child is a good expectation, most expectant mothers are usually faced with the same problems, including nausea, pelvic pain, fatigue, and most significantly, backache. Of these, the most common and disruptive one is the lumbopelvic pain (LPP); this complication

negatively impacts mobility, day-to-day functions, and the general quality of life especially later in pregnancy.<sup>(2)</sup>

Lumbopelvic pain (LPP) is an umbrella term encompassing lower back pain (LBP), pelvic girdle pain (PGP), and discomfort in the sacroiliac joints. While LBP is localized to the lumbar spine, PGP is typically felt in the region of the pubic symphysis and sacroiliac joints.<sup>(3)</sup> These conditions often overlap, producing a more severe combination of symptoms that significantly affect maternal comfort. Rapid fetal growth, heightened endocrine activity, increasing body mass, and mechanical strain on the pelvis and spine all heighten the risk and intensity of persistent pelvic pain, making it one of the more serious health issues linked with pregnancy. As such, the third trimester represents a particularly critical phase for managing and mitigating these discomforts.<sup>(4)</sup>

## 1.2. Physiological and biomechanical changes in pregnancy

Pregnancy has a significant effect on static stability in the third trimester, as seen by the longer center of pressure (cop) path length in pregnant women compared to non-pregnant women. Pregnancy related alterations in the musculoskeletal system and posture can cause pelvic girdle and low back pain, among other adverse effect. Pelvic girdle pain, which is felt between the posterior iliac crest and the gluteal fold, particularly in the vicinity of the sacroiliac joint, is a pain that travels from the posterior thigh to the knees. Discomfort in the pubic symphysis may be related to it. Pregnancy related pelvic girdle pain (PPGP) is most likely caused by changes in center of mass (COM), increased load from weight gain, and reduced pelvic stability from hormonal changes, while the precise cause is unknown. Pregnant women had PPGP in 22.5% of cases, with 10% having mild symptoms and 2.5% having severe symptoms. Usually appearing between weeks 24 and 36. High workloads, pelvic trauma and a history of pelvic girdle and low back discomfort from a previous pregnancy are risk factors for PPGP.<sup>(5)</sup>

## 1.3 Prevalence of Lumbopelvic Pain

Global prevalence rates for lumbar pelvic pain (LPP) fluctuate between 45% to 70%, which makes it one of the most prevalent associated

with pregnancy signs and symptoms. The third and final trimester, when psychological and biomechanical alterations are most prominent, is when prevalence rises, according to multiple research studies. Studies performed in regions that are developing, such as parts of the African continent and Southeast Asia, regularly reveal greater than average rates, on occasion surpassing 70%, almost certainly as a result of demanding physical lifestyles and lack of opportunities for pregnant women's healthcare.<sup>(6)</sup> In contrast, literature from developed countries, such as the Nordic nations of Sweden, Norway, and the UK, reports frequency rates of 50 to 60% .<sup>(7)</sup>

## 1.4 Risk Factors

Maternal factors, including age, gender, and mass index, as well as social and economic factors that influence access to healthcare, also affect variation. In addition, estimates of prevalence may be influenced by social perspectives on pain and notification customs, since some women might not report problems. The above variables demonstrate the complicated relationships affecting the worldwide burden of LPP.<sup>(8)</sup>

During pregnancy, it is estimated that around 50% of expectant mothers are impacted, with 25% experiencing significant pain and 8% facing severe disability. In contrast, this occurs in only 6.3% of women in the same age group who are not pregnant.<sup>(9)</sup>

About 30% of pregnant women experience low back discomfort, which negatively affects their quality of life by necessitating regular bed rest and missing work.<sup>(10)</sup>

Many risk factors impact the frequency of lumbar-pelvic discomfort during pregnancy. Physiological variables of biological origin, such as past experiences of pain in the lower back and fluctuations in hormones, particularly elevated relaxin, significantly improve the chance of developing it. Social and economic factors, including disparity in income, profession, degree of physical activity, prolonged pregnancy age, and a body mass index that is elevated, also have an important influence.<sup>(11)</sup> A prolonged period of restlessness, incorrect positioning, and a growing regular burden represent a few of the habits that might cause lower back and spinal disorders. In addition, psychological

conditions like anxiousness, feelings of unease, tension, and anxiety may heighten pain perception and cognitive problems. While it can become worse by underpinning muscular conditions like elongation or lumbar region joint issues, frequent urination is a problematic pregnancy-specific problem.<sup>(12)</sup>

### 1.5 Clinical implications and consequences of LPP

Lower pelvic discomfort throughout pregnancy may result in severe clinical implications, particularly during the final few weeks of the pregnancy. Occasionally, it relates to less physical activity, resulting in regular activities being more difficult and worsening trouble sleeping and severe weariness. Mothers' healthcare may be affected by LPP's severe mental effects as well as its bodily consequences, which involve mood swings, increasing stress, and nervousness.<sup>(13)</sup> Chronic discomfort can have a direct effect on maternal surgical procedures because women can choose to go through an emergency cesarean delivery rather than normal labor, because they are afraid that their health would improve. Further, a significant number of women deal with prolonged pelvic pain, especially during the post-delivery phase, which could potentially influence rehabilitation, lasting physical well-being, and baby care. This underlines how essential it is to recognize and treat LPP throughout pregnancy as swiftly as possible.<sup>(14)</sup>

### 1.6 Healthcare burden of LPP

There is a high cost of healthcare to women who experience lumbar pelvic pain during their pregnancy. Female employees who have to work despite extreme pain will be forced to visit physicians more frequently, which causes the need in pregnancy and physical recovery services. The key treatment modalities are rehabilitation, medications, aids in the form of technology, and behavior changes, which increase the overall cost of admission. LPP leads to increased healthcare costs, decreased productivity and sick days especially among working women in terms of economic growth. Though the signs and symptoms may be attributed to be a normal part of pregnancy, LPP continues to be misdiagnosed and mistreated even in most locations, even though it is very

common. This lack of medical attention worsens maternal pain, making it a factor that implies the need to increase clinical awareness and preventive treatment.<sup>(15)</sup>

### 1.7. Rationale focusing on the third trimester

The third trimester of pregnancy is an essential period for evaluating lumbopelvic pain (LPP) because it is during this period that both the severity and frequency of complaints are at their greatest. This phase raises pain by placing an enormous strain on the muscles and joints due to alterations in hormones, fetal development, and maternal weight gain. Maternal movement is also important at this point to prepare for the delivery, but difficulty can result in impairment of function, disrupt sleep, and decrease the quality of life. Clinicians can offer timely treatments, enhance maternal well-being, and enhance pregnancy outcomes by having a thorough knowledge of associated developments in LPP.<sup>(16)</sup>

### 1.8 Study Objective

To assess the rates and functional effects of lumbo-pelvic pain in third-trimester pregnant women.

### 1.9 Rationale

Third trimester is the time when the biomechanical strain is at its highest point; it is vital to determine the prevalence of pain to enhance maternal functional quality.

### 1.10 Hypothesis

**H1:** More than three-fourths of third-trimester women will report the presence of lumbo-pelvic pain symptoms.

**H2:** The most common functional outcome of the symptomatic participants will be moderate disability.

**H3:** The intensity of pain will be significantly correlated with the restriction of daily physical activities.

## Chapter 2 Literature Review

**Fulya bakilan et al**, conducted a cross sectional study in 2020 in turkey to identify the most common musculoskeletal problems. 120 pregnant women older than 18 evaluated in this study. The most experienced musculoskeletal

problems were low back pain (26.3), carpal tunnel syndrome (26.3), and pelvic girdle pain (26.3). The most frequent problem in the second trimester was low back pain (43.6), followed by cramps (32.7) and pelvic girdle pain (30.9). Finally, in the third trimester, low back pain (34.8), cramps (32.6) and pedal edema (32.6).<sup>(17)</sup>

**Farah Hameed et al (2020)**, conducted a cross-sectional study in United states to determine proportion of pregnancy lumopelvic pain PLPP through the pregnancy mobility Index PMI, pelvic girdle pain questionnaire PGPQ and the questionnaire for urinary incontinence diagnosis QUID. They found 63%-point prevalence rate for pregnancy lumbopelvic pain.<sup>(18)</sup>

**Hacer Erten et al (2023)**, conducted across-sectional study in Istanbul, Turkey to examine the frequency of lumbopelvic pain in pregnant women, the level of disability associated with it. The study includes 381 pregnant women. A visual pain diagram was used to determine the pain area, and the Roland Morris disability questionnaire RMDQ 86.35%(n=329) of the participants had the lumbopelvic pain and were mild disabled according to RMDQ total score (12.0+7.3).<sup>(19)</sup>

A cross-sectional study by **(Syed Muhammad Ali Murtajiz Naqvi 2024)** to assess the prevalence of lumbo-pelvic pain in pregnant women in third trimester in Panjab Pakistan. This study was carried out in CMH Lahore Medical College and Institute of Dentistry included 210 participants. The results indicated a significant incident of LPP as 50% of women said they felt this kind of discomfort. Additionally, the study found that highest prevalence of LPP in third trimester is 69.5%.<sup>(20)</sup>

A cross sectional investigation by **shad et al. (2018)** sought to assess the prevalence of LPP among pregnant women in their third trimester in Lahore, Pakistan. The research, carried out at lady Aitcheson and lady Willington hospitals, included 560 participants. The results indicated a significant occurrence of LPP, as 40.6% of the women reported experiencing this type of discomfort. Additionally, the study found that lumbar pain was the most common aspect of LPP among the subjects. The point prevalence of LPP was determined to be 62.1% highlighting

the importance of this issue during pregnancy.<sup>(21)</sup>

Lumbo pelvic pain (PLPP) associated with lower back and pelvic pain adversely impacts the health of pregnant women and is a significant factor in lowering their well-being. **Kizito et al (2023)** cross sectional study investigated the prevalence and contributory factors of PLPP in expectant women in the third trimester in kawempe national referral hospital in Uganda. The study was conducted on 419 individuals who did not have any back problems. The rate of prevalence of PLPP was defined to be 46%. The research established that the HIV positive and low monthly income status of individuals were relevant independent variables that had relationship with the PLPP. These findings highlight the significant role that PLPP plays and the importance of considering socioeconomic and health variables when tackling the problem.<sup>(22)</sup>

In a cross sectional study, **No onyemaechi et al (2020)**, included 317 participants in total. 93.1% had one or more musculoskeletal disorders, in which low back pain and muscle cramps were the most prevalent meds with prevalence rates of 56.8% and 54.8% respectively. Additionally, 32.4% of participants had both LBP and PGP, and majority the subjects were in the third trimester of pregnancy.<sup>(23)</sup>

A cross-sectional study was conducted by **Chloe J. leung et al in 2025** in USA, which examined the etiology, treatments and outcomes of pregnancy related musculoskeletal Hip and Pelvis conditions, 600 women in pregnancy found that there was more intensity of pelvic and low back pain during the third trimester.<sup>(24)</sup>

A cross-sectional study by **(Tiara Fatmarizka 2018)** to assess the prevalence lumbo-pelvic pain in pregnant women in third trimester in gatak. This study was carried out in 14 villages under the Puskesmas Gatak's auspices, Included 194 participants. The results indicated a significant incident of LPP, as 21.1% of Women said they felt this kind of discomfort. Additionally, the study found that highest prevalence of low back pain in pregnant women the point of prevalence is 61.3%.<sup>(25)</sup>

A cross-sectional study by **(Lene Annette Hagen Haakstad 2018)** to assess the prevalence lumbo-pelvic pain in pregnant women in third trimester



in Italy and Norway. The study was conducted at two public hospitals in Rome and four antenatal clinics in Modena (Italy), and at Oslo University Hospital (Norway) included 916 participants. The findings revealed a high prevalence of PLPP in both countries, with 39% of Italian and 57% of Norwegian women reporting pain between gestational weeks 32 and 36. Severe pain was reported by 11% of Italian and 25% of Norwegian participants. Additionally, the study found that highest prevalence of low back pain in pregnant women the point of prevalence is 47.6%.<sup>(26)</sup>

**Razia Rizwan et al 2018**, conducted a cross-sectional study in which 200 pregnant females participated out of which (140) 70% were in 2<sup>nd</sup> and 3<sup>rd</sup> trimester of pregnancy and (102) 51% reported Posterior Pelvic pain. Research indicates that Posterior Pelvic pain affects pregnant women more in 2<sup>nd</sup> and 3<sup>rd</sup> trimester of pregnancy.<sup>(27)</sup>

A cross sectional study by (**Dragana Cernja et al**) to assess the prevalence of lumbo-pelvic pain in pregnant women in third trimester in **Australia – 2020**. This study was carried out in Tertiary referral hospital Sydney included 780 participants. The results indicated a significant incident of LPP, as 44.4% of Women said they felt this kind of discomfort. Additionally, the study found that highest prevalence of low back pain in pregnant women the point of prevalence is 50%.<sup>(28)</sup>

A cross-sectional study by (**Moges Gashaw 2019**) to assess the prevalence of lumbo-pelvic pain in pregnant women in third trimester in **North West Ethiopia**. This study was carried out in University of Gondar Comprehensive Specialized Hospital included 424 participants. The results indicated a significant incident of LPP, as 24.3% of Women said they felt this kind of discomfort. Additionally, the study found that highest prevalence of low back pain in pregnant women the point of prevalence is 28.8%.<sup>(29)</sup>

A cross sectional study by (**Moges Gashaw Melisew Mekie Yitayal in Ethiopia 2019**) to assess the prevalence of Pregnancy-related pelvic girdle pain (PPGP) commonly limits daily activities such as walking, bending, and standing. In a study of 324 pregnant women, 29.6% experienced mild activity limitation,

57.1% moderate, and 13.3% severe restriction.<sup>(30)</sup>

**Hafsa gul khattak et al**, conducted a cross sectional study in 2020 in Islamabad through non-probability convenient sampling technique to find prevalence of musculoskeletal disorders among 385 pregnant women. Low back pain, leg muscle cramps, and pedal edema were most experienced musculoskeletal problems in pregnant women.<sup>(31)</sup>

## Chapter 3

### Methodology

#### 3.1 Study type/ design

A cross-sectional study design was used to assess the prevalence of lumbo-pelvic pain among third-trimester pregnant women.

#### 3.2 Study Setting

The research was conducted at GMMMC Hospital Sukkur, Blood Bank Hospital Sukkur, Red Crescent Hospital Sukkur, and Al Faisal Hospital Sukkur. where pregnant women attending antenatal clinics were selected for data collection.

#### 3.3 Study Duration

The study spanned six months.

#### 3.4 Sampling Method and Sample Size

A total of 150 participants were selected using a non-probability convenient sampling technique.

#### 3.5 Sample technique

A non-probability convenience sampling technique was used. Participants were selected based on availability and accessibility at the study settings. Eligible pregnant women who met the inclusion criteria were approached consecutively until the sample size of 150 was achieved.

#### 3.6 Inclusion Criteria

- ✓ Pregnant women of third trimester
- ✓ Age between 20 and 45
- ✓ Literate or educated females
- ✓ Women with normal or uncomplicated pregnancy
- ✓ Both working and housewife women

#### 3.7 Exclusion Criteria

- ✓ Women in 1<sup>st</sup> and 2<sup>nd</sup> trimester of pregnancy

- ✓ Women with inflammatory arthritis
- ✓ Recent vertebral and hip fracture
- ✓ Women with surgery and disc pathology

### 3.8 Instrumentation/tools

The Oswestry Disability Index (ODI) questionnaire was utilized to assess the level of disability and pain severity related to lumbopelvic pain. It includes questions on personal care, lifting, walking, sitting, standing, sleeping, social life, and traveling.

### 3.9. Data Collection Procedure

Eligible participants were identified and briefed about the study purpose. Written consent was obtained. Data were collected through structured interviews using the ODI, and demographic and obstetric details were recorded.

### 3.10. Data Analysis

Collected data will be analyzed using SPSS version 25. Descriptive statistics (mean, standard deviation, frequency, and percentage) will be used to describe participant characteristics and

LPP prevalence. Inferential statistics such as the Chi-square test will determine the association between LPP and risk factors (age, BMI, occupation, parity, etc.).

## Chapter 4

### Results

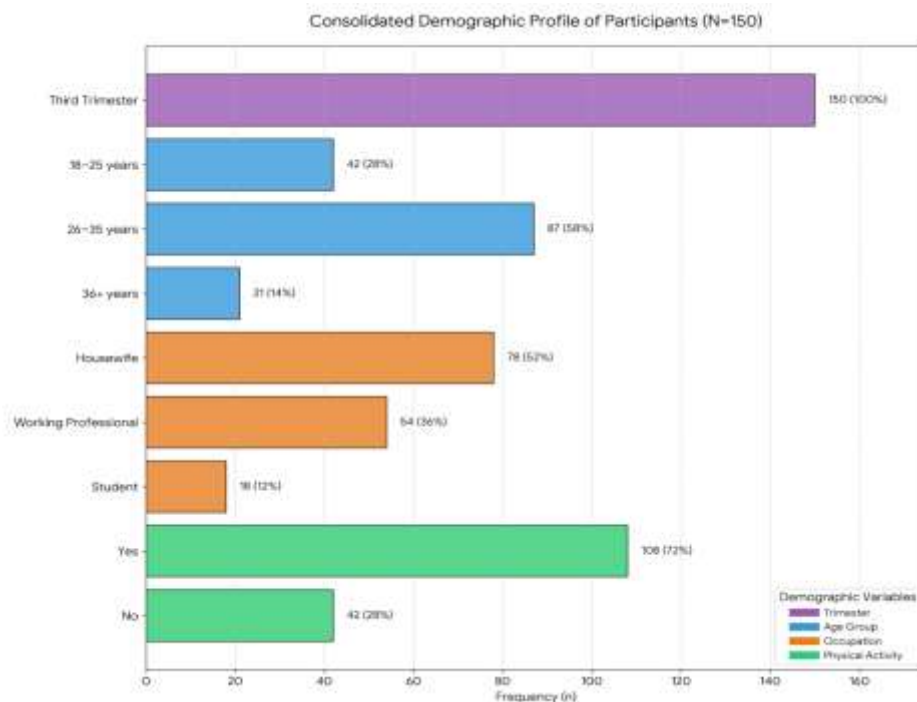
#### 4.1 Demographic & Clinical Profile

Demographic analysis revealed that all the study participants were in their third trimester. The age distribution was biggest (58 percent) in 26-35 years of age and 18 25 years of age (28 percent) and age 36 and above (14 percent). In terms of occupation, 52% said they were housewives, and 36% were working people and 12% students. The participants were also exercising as a common behavior with 72 percent of the participants exercising during their pregnancy as opposed to 28 percent who did not. These variables will form a complete background of the lifestyle and physical requirements of the population at the late-stage pregnancy.

The following table is a summary of the general elements of your study population.

**Table 4.1: Demographic Characteristics of the participants (N=150)**

| Variable          | Category             | Frequency (n) | Percentage (%) |
|-------------------|----------------------|---------------|----------------|
| Trimester         | Third Trimester      | 150           | 100%           |
| Age Group         | 18-25 years          | 42            | 28%            |
|                   | 26-35 years          | 87            | 58%            |
|                   | 36+ years            | 21            | 14%            |
| Occupation        | Housewife            | 78            | 52%            |
|                   | Working Professional | 54            | 36%            |
|                   | Student              | 18            | 12%            |
| Physical Activity | Yes                  | 108           | 72%            |
|                   | No                   | 42            | 28%            |



Graph 4.1: Demographic Characteristics of the participants (N=150)

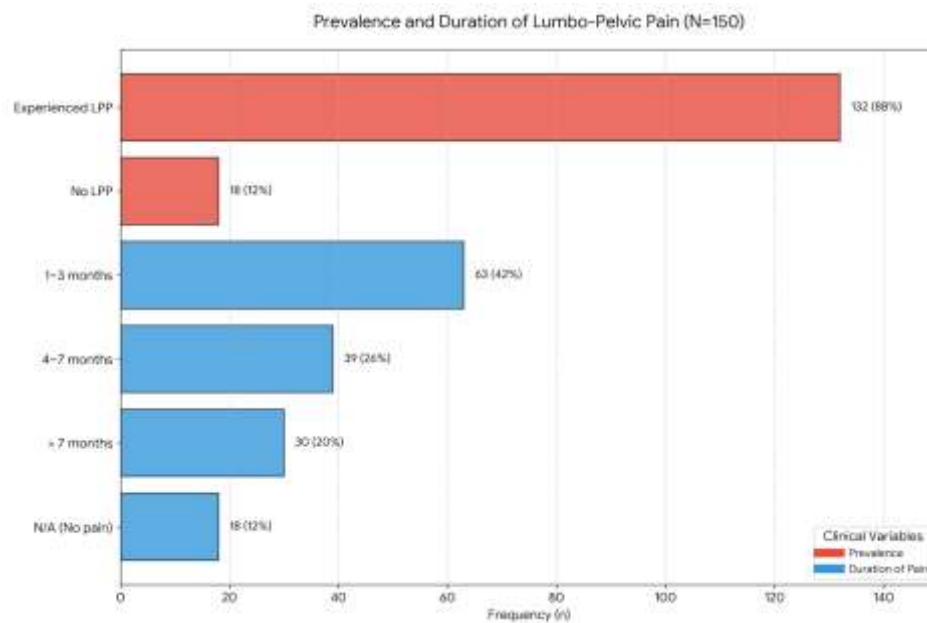
#### 4.2. Prevalence and Duration of Pain

These results revealed that the majority of pain onset occurred later in pregnancy, although close to half of the pain experienced by the

affected women lasted four months or longer, which shows that LPP can be persistent and can be viewed as a clinical burden.

Table 4.2: Lumbo-Pelvic Prevalence and Duration of Pain

| Variable         | Category        | Frequency (n) | Percentage (%) |
|------------------|-----------------|---------------|----------------|
| Prevalence       | Experienced LPP | 132           | 88%            |
|                  | No LPP          | 18            | 12%            |
| Duration of Pain | 1-3 months      | 63            | 42%            |
|                  | 4-7 months      | 39            | 26%            |
|                  | > 7 months      | 30            | 20%            |
|                  | N/A (No pain)   | 18            | 12%            |



Graph 4.2: Lumbo-Pelvic Prevalence and Duration of Pain

#### 4.3. Visualizing Pain Intensity

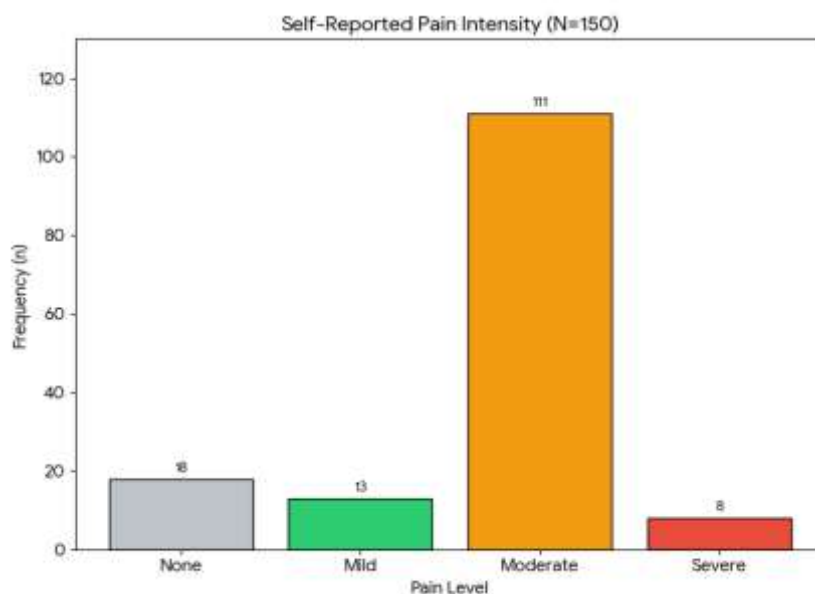
All these findings showed that the intensity was a high one, but it was at an extent that

therapeutic exercise and activity modification might be very effective in the majority of the population.

Table 4.3 Visualizing Pain Intensity

| Intensity Level | Frequency (n) | Percentage (%) |
|-----------------|---------------|----------------|
| None (No Pain)  | 18            | 12.0%          |
| Mild            | 13            | 8.7%           |
| Moderate        | 111           | 74.0%          |
| Severe          | 8             | 5.3%           |
| Total           | 150           | 100%           |





Graph 4.3 Visualizing Pain Intensity

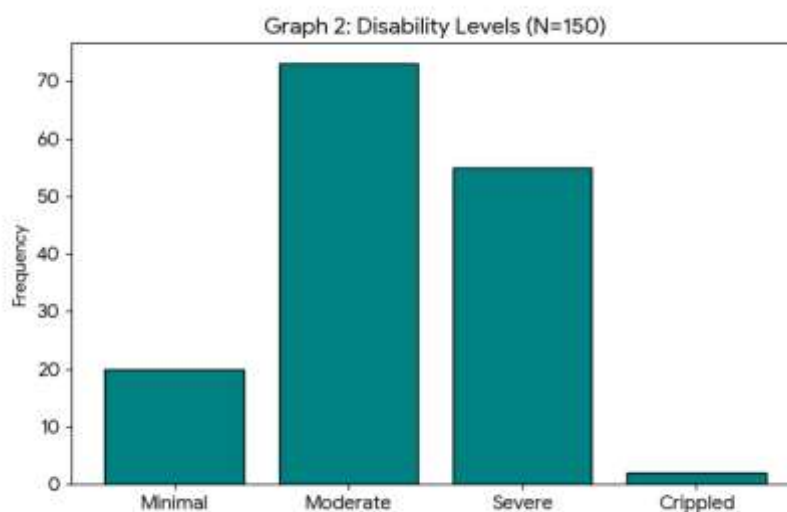
#### 4.4 Disability Levels (ODI)

The Oswestry Disability Index (ODI) was used to assess the functional disability in the subjects and give the participants an objective percentage

score. The researchers discovered that almost all the respondents encountered any degree of functional impairment because of lumbo-pelvic pain during their third trimester.

Table 4.4 Disability Levels (ODI)

| Disability Category | Score Range | Frequency (n) | Percentage (%) |
|---------------------|-------------|---------------|----------------|
| Minimal Disability  | 0% – 20%    | 20            | 13.3%          |
| Moderate Disability | 21% – 40%   | 72            | 48.0%          |
| Severe Disability   | 41% – 60%   | 56            | 37.3%          |
| Crippled            | 61% – 80%   | 2             | 1.4%           |



Graph 4.4 Disability Levels (ODI)

#### 4.5 Impact of Lumbopelvic Pain on Functional Activities

The study assessed the impact of pain on various daily activities. The results show that lumbopelvic pain significantly affects the functional capacity of pregnant women. The activities most affected included **lifting, sleeping, standing, and social life**.

**Lifting:** A large number of participants (n=72, 59.5%) reported limitations in lifting, ranging from being unable to lift heavy weights to being unable to lift anything at all. Only 9 participants (7.4%) reported being able to lift heavy weights easily.

**Walking:** Walking tolerance was reduced in most participants. Over half (n=64, 52.9%) could walk less than 1 km, and 12 (9.9%) were mostly in bed or walked with aid.

**Sitting:** While many could sit in any chair (n=73, 60.3%), a considerable number (n=48, 39.7%) reported restrictions, such as sitting for less than an hour or only in a favorite chair.

**Standing:** Standing was a major issue, with 85 participants (70.2%) reporting they could stand for less than 1 hour, and 13 (10.7%) experiencing pain or being unable to stand.

**Sleeping:** Sleep was disturbed in 78 participants (64.5%), with many reporting occasional disturbance or being unable to sleep due to pain.

**Social Life & Travelling:** Pain led to reduced social participation. Many reported going out less, staying home only, or only travelling for treatment (n=53, 43.8%). However, a significant number (n=41, 33.9%) could still travel anywhere without pain.

**Table 4.5: Impact of Lumbopelvic Pain on Functional Activities**

| Activity      | Level of Impact / Limitation             | Frequency (n) | Percentage (%) |
|---------------|------------------------------------------|---------------|----------------|
| Personal Care | Normal, no extra pain                    | 76            | 62.8           |
|               | Normal, with extra pain / Need some help | 40            | 33.1           |
|               | Painful, slow/careful                    | 5             | 4.1            |
| Lifting       | Heavy weights easily / with pain         | 26            | 21.5           |
|               | Light / Very light only                  | 46            | 38.0           |
|               | Cannot lift anything                     | 19            | 15.7           |
|               | No heavy, table height ok                | 30            | 24.8           |
| Walking       | < 500 m                                  | 31            | 25.6           |
|               | < 1 km - < 2 km                          | 64            | 52.9           |
|               | Unlimited                                | 12            | 9.9            |
|               | Mostly in bed / With aid                 | 14            | 11.6           |
| Sitting       | Any chair, any time                      | 73            | 60.3           |
|               | < 1 hour / Favorite chair only           | 48            | 39.7           |
| Standing      | Unlimited / > 1 hour                     | 26            | 21.5           |
|               | < 1 hour                                 | 85            | 70.2           |
|               | Painful / Cannot stand                   | 13            | 10.7           |
| Sleeping      | Not disturbed / Normal                   | 43            | 35.5           |
|               | Occasionally disturbed / < 6 hours       | 69            | 57.0           |
|               | Cannot sleep / disturbed                 | 9             | 7.5            |
| Social Life   | Normal                                   | 54            | 44.6           |

|                   |                               |    |      |
|-------------------|-------------------------------|----|------|
|                   | Limited / Go out less         | 41 | 33.9 |
|                   | Home only                     | 26 | 21.5 |
| <b>Travelling</b> | Anywhere, no pain             | 41 | 33.9 |
|                   | < 1 hour / Anywhere, painful  | 45 | 37.2 |
|                   | Only for treatment / < 30 min | 53 | 43.8 |

## Chapter 5

### Discussion

This research showed that lumbo-pelvic pain (LPP) was prevalent in the study population (88 per cent, N=150) and is consistent with other research showing that biomechanical and hormonal changes experienced during late pregnancy are a major cause of musculoskeletal discomfort. This high rate is in line with the world trends where prevalence usually rises to over 70 percent in the developing areas. Bakilan et al. (2020) clinical observations revealed that low back pain happens to be the main complaint in the third trimester and is usually accompanied by such secondary complaints as pedal edema.

The cohort was found to be moderately disabled (48% of the cohort) and severely disabled (37.3% of the cohort). This extreme functional influence can be replicated by Hrvatin et al. (2024), who reported that pregnancy-related pelvic girdle pain (PPGP) has a detrimental effect on the path length of the center of pressure (COP) and static stability. Additionally, the large proportion of women who experience pain between 1-3 months indicates that the onset of symptoms normally coincides with the onset of the third trimester.

Although physical aspects of gaining weight are the main triggers, research in 2020 by Wu et al. stated that psychological aspects such as anxiety and stress can equally be vital in pain perception<sup>12</sup>. Leung et al. (2025) also strengthened the idea that the intensity of pelvic and low back pain reaches its highest point at this last stage because of the increased endocrine activity and the mechanical strain. All these results, together with others, demonstrate LPP to be not a minor symptom but a serious healthcare issue that requires rehabilitation and preventive measures within the first years of postpartum to reduce the effects of long-term postpartum complications.

### 5. 1 Conclusion

The research concludes that lumbo-pelvic pain is a common problem during the third trimester with prevalence in 88 percent of women. Most of them had moderate-to-severe functional disability, which had a great effect on their daily life and quality of life. These outcomes prove the fact that late pregnancy is characterized by significant musculoskeletal issues that should be addressed by professional. Best management practices are needed to curb this clinical burden that is widespread.

### 5.2. Strengths and Weaknesses

#### Strengths:

- **Specific Focus:** The research is narrowly targeted at the third trimester period as this is the most clinically relevant period of LPP symptoms and functional impairments.
- **Validated Tools:** The use of the Oswestry Disability Index (ODI) offers a globally accepted, standardized, measure of functional impairment.
- **Representative Sample:** Both housewives as well as working professionals are included in the research, which will make the results relevant to other lifestyle requirements.

#### Weaknesses:

- **Sampling Method:** The convenient sampling that will be used is not probability sampling, and this could restrict the generalization of the results to a larger population.
- **Single Center:** The research study could be done in a single place (Sukkur), which does not necessarily reflect regional differences in access to healthcare.
- **Recall Bias:** The participants could have correctly recorded the duration of pain, yet self-reported information might be subject to subjective interpretation.

### 5.3. Recommendations

The clinicians are supposed to carry out mandatory LPP screening in the third trimester pre-natal visits to facilitate early intervention. Ergonomic counseling and physical therapy should be considered as a part of standard maternal care in order to cope with moderate-to-severe disability. Longitudinal designs should be used in future studies in which the process of LPP transition during the first trimester through the postpartum period is monitored.

### DECLARATION

We hereby declare that the research titled **“Prevalence of Lumbo-Pelvic Pain among Pregnant Women of Third Trimester”** has been solely conducted by us and represents our original work carried out under the guidance and supervision of **Dr. Abdul Hameed Brohi (PT)**. This study has been completed in partial fulfillment of the requirements for the relevant degree and has not been submitted, either in part or in full, for the award of any other degree or diploma at any university or institution. We further affirm that the data presented in this research is authentic and that all sources of information have been properly acknowledged and cited. We are fully aware that any violation of academic policies, including plagiarism or misrepresentation of data, may lead to disciplinary action in accordance with the rules and regulations of the institution. The scientific methods applied and the findings reported in this study are the result of our own efforts and comply with the ethical standards and academic guidelines of the **Royal Institute of Physiotherapy & Rehabilitation Sciences** and **Liaquat University of Medical & Health Sciences**.

### DEDICATION

We humbly dedicate this research to **Almighty Allah**, whose infinite mercy, guidance, and blessings enabled us to complete this work. We also dedicate it to **our beloved Holy Prophet Muhammad (Peace Be Upon Him)**, whose teachings inspire the pursuit of knowledge and compassion for humanity. This work is lovingly dedicated to **our respected parents**, whose unconditional love, prayers, sacrifices, and unwavering support have been the foundation of our achievements. We also express our sincere

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