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# A Descriptive Correlational Study to Assess the Relationship Between Pregnancy Related Pelvic Girdle Pain and Functional Status among Antenatal Mothers at Selected Hospital, Puducherry

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**Abstract: Background of the study:** Pelvic girdle pain (PGP) during pregnancy is a common complaint among women all over the world. Women who experience pelvic girdle pain in the present pregnancy continues to have in the puerperium period and are at risk of developing it in subsequent pregnancies also. Symptoms of PGP can vary and may be more severe for some antenatal women, they may have difficulty with certain movements including walking, climbing stairs, dressing, hip movements, turning in bed or lying on the back, limited or painful hip abduction and pain during other normal activities.

**Aim of the study:** The main aim of this study is to assess the relationship between pelvic girdle pain and functional status of expectant mothers.

**Methodology:** A Descriptive correlational design was used to conduct this study. Antenatal mothers with pregnancy related pelvic girdle pain who fulfilling the inclusion criteria were taken as a sample using non probability purposive sampling technique. Sample size was 50 antenatal mothers. Standardized numerical pain rating scale and modified functional status assessment scale were used to collect the needed data. The statistical analyses were done by using the descriptive statistics.

**Results:** The results showed that, the pre-test mean and SD scores were 6.96±1.05 and 54.72±2.68, the calculated 'r' value was r = 0.048, this shows that there is a mild positive correlation found between pregnancy related pelvic girdle pain and functional status among antenatal mothers. And in post-test, the mean and SD scores were 3.52±1.44 and 34.36±4.46, the calculated 'r' value was r = 0.499, this shows that there is a moderate positive correlation found between pregnancy related pelvic girdle pain and functional status among antenatal mothers.

**Conclusion:** The result of this study concluded that there is a significant relation found between pregnancy related pelvic girdle pain and functional status among antenatal mothers.

**Keywords**: Tailor made intervention, pregnancy related pelvic girdle pain, functional status

# INTRODUCTION

During pregnancy, a woman's body goes through a variety of changes, including weight increase, changes in posture, joint, and ligament laxity, and changes in musculotendinous strength[1,2]. The pain of musculoskeletal origin over the anterior and posterior parts of the pelvic region of pregnant women, between the levels of the posterior iliac crest and the gluteal fold, is referred to as pregnancy-related pelvic girdle pain[3,4].

Women during pregnancy as a result of PPGP, reported a considerable level of complaints in activities of daily living such as walking, standing, sitting, lying down, and changing position[5]. In fact, a systematic review and meta-analysis that included 32 studies found that pregnant women who were active during gestation reported lower pain during pregnancy and early postpartum compared to those who were not active[6].

A study in Ethiopia conducted by Moges Gashaw (2020) reports that the impact of pelvic girdle pain was higher among urban dwellers 84.5% and those women 82.5% did not able to practice a recommended level of physical activities[7]. According to an Australian survey report, 71% of the pregnant women with PGP reported to health care professionals about their pain, however only 25% received pelvic support garments, management of acute exacerbations, physical activities and exercise type of treatment for their condition. Very few participants expressed that their condition is normalized by the health care professionals [8].

# OBJECTIVES

- To find out the correlation between the levels of pregnancy related pelvic girdle pain and functional status among antenatal mothers in study and control group.
- To find out the association between the levels of pregnancy related pelvic girdle pain and functional status among antenatal mothers with the selected demographic and clinical variables.

# HYPOTHESES

- **H1:** There is a significant correlation between the levels of pregnancy related pelvic girdle pain and functional status among antenatal mothers.
- **H2:** There is a significant association between the levels of pregnancy related pelvic girdle pain and functional status among antenatal mothers with the selected demographic and clinical variables.

# MATERIALS AND METHODS

**Study Design**
A descriptive correlational research design was used in this study.

**Study Population**
The population of the study was antenatal mothers those who visited Tertiary Care Hospital at Puducherry.

**Sample Size**
The total sample size of this study was 50 antenatal mothers.

**Sampling Technique**
Non probability, purposive sampling technique was adopted for this study.

# SAMPLING CRITERIA

**Inclusion Criteria**
It includes antenatal mothers,
- who were 30 weeks of gestational age.
- who had pregnancy related pelvic girdle pain.
- who were available during the period of data collection.

**Exclusion Criteria**
It includes antenatal mothers,
- who had medical and obstetrical comorbid illness.
- who were receiving any pharmacological treatment for pregnancy related pelvic girdle pain.
- who were not willing for the study.

# METHOD OF DATA COLLECTION

The data collection was started after obtaining permission from the Institutional Review Committee (IRC NO: ICON IRC-2021-2022-001). The data was collected over a period of four weeks from 17.07.2023 to 31.08.2023 at selected hospital, Puducherry. For the study, 50 antenatal mothers with pregnancy related pelvic girdle pain was selected by using purposive sampling technique. Participants were explained about the study and informed consent was obtained. Pre-test

was conducted with standardized numerical pain rating scale to assess the level of pregnancy related pelvic girdle pain and modified functional status assessment scale to assess the functional status.

# RESULTS

**Table 1: Frequency and percentage distribution of demographic variables among antenatal mothers (N = 50)**

| S. No. | Demographic variables | Frequency (n) | Percentage % |
|---|---|---|---|
| 1. | Age of the woman | | |
| | a) <20 years | 5 | 10 |
| | b) 21 – 25 years | 15 | 30 |
| | c) 26 – 30 years | **22** | **44** |
| | d) >30 years | 8 | 16 |
| 2. | Educational status | | |
| | a) Non formal education | 4 | 8 |
| | b) Primary education | 3 | 6 |
| | c) High school education | 7 | 14 |
| | d) Graduates | **36** | **72** |
| 3. | Occupation | | |
| | a) Homemaker | 17 | 34 |
| | b) Daily wages / Self employee | 12 | 24 |
| | d) Government employee | 6 | 12 |
| | e) Private employee | **15** | **30** |
| 4. | Family income | | |
| | a) <Rs.10,000 | 9 | 18 |
| | b) Rs.10,001 – 20,000 | 6 | 12 |
| | c) Rs.20,001 – 30,000 | 7 | 14 |
| | d) >Rs.30,000 | **28** | **56** |
| 5. | Type of the family | | |
| | a)Nuclear family | **40** | **80** |
| | b) Joint family | 5 | 10 |
| | c) Extended family | 5 | 10 |
| 6. | Religion | | |
| | a) Hindu | **28** | **56** |
| | b) Christian | 13 | 26 |
| | c) Muslim | 7 | 14 |
| | d) Any other | 2 | 4 |
| 7. | Dietary pattern | | |
| | a) Vegetarian | 0 | 0 |

| | | | |
|---|---|---|---|
| | b) Non-vegetarian | **50** | **100** |
| **8.** | **Height in cm** | | |
| | a) <150 | 4 | 8 |
| | b) 151 – 160 | **40** | **80** |
| | c) 161 – 170 | 6 | 12 |
| | d) >170 | 0 | 0 |
| **9.** | **Weight in kg** | | |
| | a) <50 | 0 | 0 |
| | b) 51 – 60 | 5 | 10 |
| | c) 61 – 70 | 12 | 24 |
| | d) >70 | **33** | **66** |
| **10.** | **Body Mass Index (BMI)** | | |
| | a) <18.5 | 0 | 0 |
| | b) 18.5 – 24.9 | 4 | 8 |
| | c) 25 – 29.9 | 26 | 52 |
| | d) ≥30 | **20** | **40** |

Table 1 shows that the frequency and percentage distribution of demographic variables, 22(44%) most of the antenatal mothers belong to 26 – 30 years of age. In respect to education, majority 36(72%) of them were graduates. About the occupation, 15(30%) of them were private employees. Regarding family income per month, majority 28(56%) of them earning>Rs.30, 000. About the family status, highest 40(80%) were living in nuclear family, majority 28(56%) of them were Hindus, all 50(100%) of the samples preferred non-vegetarian diet pattern. Regarding height, highest 40(80%) of the antenatal mothers belong to 151-160cm. Majority 33(66%) of the samples fall under >70 kg. About BMI, 20(40%) of them were ≥30.

**Table 2: Frequency and percentage distribution of clinical variables among antenatal mothers (N = 50)**

| S. No. | Clinical variables | Frequency n | Percentage % |
|---|---|---|---|
| **1.** | **Age at menarche** | | |
| | a) <10 years | 0 | 0 |
| | b) 11 – 13 years | **44** | **88** |
| | c) 14 – 16 years | 6 | 12 |
| | d) >16 years | 0 | 0 |
| **2.** | **The number of conception** | | |
| | a) Primi gravidae | **37** | **74** |
| | b) Multi gravidae | 13 | 26 |
| **3.** | **Gestational age** | | |
| | a) <32 weeks | 3 | 6 |
| | b) 32 – 35 weeks | 17 | 34 |
| | c) 35 – 38 weeks | **23** | **46** |

| | | | |
|---|---|---|---|
| | d) >38 weeks | 7 | 14 |
| 4. | **Haemoglobin level** | | |
| | a) <11 g/dl | 7 | 14 |
| | b) 11 – 13 g/dl | **29** | **58** |
| | c) 13 – 15 g/dl | 11 | 22 |
| | d) >15 g/dl | 3 | 6 |
| 5. | **Presentation of foetus** | | |
| | a) Cephalic | **36** | **72** |
| | b) Breech | 12 | 24 |
| | c) Shoulder | 2 | 4 |
| | d) Brow | 0 | 0 |

The above table 2 shows that the frequency and percentage distribution of clinical variables, majority 44(88%) of the antenatal mothers belongs to the age group of 11 – 13 years at the time of menarche. Among them, 37(74%) were primi gravidae mothers. Regarding gestational age, 23(46%) of the samples were between 32 - 35 weeks. About haemoglobin level, 29(58%) of them had 11 – 13 g/dl. Among them, majority 36(72%) of the samples had cephalic presentation of foetus.

**Table 3: Correlation of pre-test, post-test levels of pregnancy related pelvic girdle pain and functional status among antenatal mothers (N = 50)**

| Test | Variables | Mean | S.D | 'r' value |
|---|---|---|---|---|
| **Pre-test** | Pregnancy related pelvic girdle pain | 6.96 | 1.05 | r=0.048 p=0.820* |
| | Functional status | 54.72 | 2.68 | |
| **Post-test** | Pregnancy related pelvic girdle pain | 3.52 | 1.44 | r=0.99p=0.011** |
| | Functional status | 34.36 | 4.46 | |

* Mild positive correlation, ** Moderate positive correlation

Table 3 demonstrates that the correlation between the levels of pregnancy related pelvic girdle pain and functional status among antenatal mothers, the pre-test mean and SD scores were 6.96±1.05 and 54.72±2.68, the calculated 'r' value was r = 0.048, this shows that there is a mild positive correlation found between pregnancy related pelvic girdle pain and functional status among antenatal mothers. And in post-test, the mean and SD scores were 3.52±1.44 and 34.36±4.46, the calculated 'r' value was r = 0.499, this shows that there is a moderate positive correlation found between pregnancy related pelvic girdle pain and functional status among antenatal mothers. It clearly shows that there is a significant relation found between pregnancy related pelvic girdle pain and functional status. Hence the hypothesis H1 was accepted.

**Table 4: Association between the pre-test levels of pregnancy related pelvic girdle pain among antenatal mothers with the selected demographic and clinical variables (N = 50)**

| S.No. | Variables | Moderate pain | | Severe pain | | Chi-Square $\chi^2$ and 'p' value |
|---|---|---|---|---|---|---|
| | | **(n)** | **(%)** | **(n)** | **(%)** | |
| | **Demographic variables** | | | | | |

| 1 | **Age of the woman** | | | | | $\chi^2$=3.96 p=0.26 (NS) |
|---|---|---|---|---|---|---|
| | a) <20 years | 1 | 5 | 4 | 13.3 | |
| | b) 21 – 25 years | **9** | **45** | 6 | 20 | |
| | c) 26 – 30 years | 7 | 35 | **15** | **50** | |
| | d) >30 years | 3 | 15 | 5 | 16.7 | |
| 2 | **Educational status** | | | | | $\chi^2$=0.49 p=0.92 (NS) |
| | a) Non formal education | 1 | 5 | 3 | 10 | |
| | b) Primary education | 1 | 5 | 2 | 6.7 | |
| | c) High school education | 3 | 15 | 4 | 13.3 | |
| | d) Graduates | **15** | **75** | **21** | **70** | |
| 3 | **Occupation** | | | | | $\chi^2$=2.29 p=0.51 (NS) |
| | a) Homemaker | 6 | 30 | **11** | **36.7** | |
| | b) Daily wages / Self employee | 6 | 30 | 6 | 20 | |
| | c) Government employee | 1 | 5 | 5 | 16.7 | |
| | d) Private employee | **7** | **35** | 8 | 26.6 | |
| 4 | **Family income** | | | | | $\chi^2$=1.55 p=0.67 (NS) |
| | a) <Rs.10,000 | 4 | 20 | 5 | 16.7 | |
| | b) Rs.10,001 – 20,000 | 1 | 5 | 5 | 16.7 | |
| | c) Rs.20,001 – 30,000 | 3 | 15 | 4 | 13.3 | |
| | d) >Rs.30,000 | **12** | **60** | **16** | **53.3** | |
| 5 | **Type of the family** | | | | | $\chi^2$=1.66 p=0.43 (NS) |
| | a) Nuclear family | **16** | **80** | **24** | **80** | |
| | b) Joint family | 3 | 15 | 2 | 6.7 | |
| | c) Extended family | 1 | 5 | 4 | 13.3 | |
| 6 | **Religion** | | | | | $\chi^2$=0.66 p=0.88 (NS) |
| | a) Hindu | **12** | **60** | **16** | **53.3** | |
| | b) Christian | 4 | 20 | 9 | 30 | |
| | c) Muslim | 3 | 15 | 4 | 13.3 | |
| | d) Any other | 1 | 5 | 1 | 3.4 | |
| 7 | **Dietary pattern** | | | | | Constant |
| | a) Vegetarian | 0 | 0 | 0 | 0 | |
| | b) Non-vegetarian | **20** | **100** | **30** | **100** | |
| 8 | **Height in cm** | | | | | $\chi^2$=3.02 |
| | a) <150 | 0 | 0 | 4 | 13.3 | |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | b) 151 – 160 | **17** | **85** | **23** | **76.7** | p=0.22 (NS) |
| | c) 161 – 170 | 3 | 15 | 3 | 10 | |
| | d) >170 | 0 | 0 | 0 | 0 | |
| 9 | **Weight in kg** | | | | | |
| | a) <50 | 0 | 0 | 0 | 0 | $\chi^2$=9.8 p=0.007 *S |
| | b) 51 – 60 | 0 | 0 | 5 | 16.7 | |
| | c) 61 – 70 | **10** | **50** | 4 | 13.3 | |
| | d) >70 | **10** | **50** | 21 | 70 | |
| 10 | **Body Mass Index (BMI)** | | | | | |
| | a) <18.5 | 0 | 0 | 0 | 0 | $\chi^2$=4.32 p=0.11 (NS) |
| | b) 18.5 – 24.9 | 1 | 5 | 3 | 10 | |
| | c) 25 – 29.9 | **14** | **70** | 12 | 40 | |
| | d) ≥30 | 5 | 25 | **15** | **50** | |
| | **Clinical variables** | | | | | |
| 11 | **Age at menarche** | | | | | $\chi^2$=0.28 p=0.59 (NS) |
| | a) <10 years | 0 | 0 | 0 | 0 | |
| | b) 11 – 13 years | **17** | **85** | **27** | **90** | |
| | c) 14 – 16 years | 3 | 15 | 3 | 10 | |
| | d) >16 years | 0 | 0 | 0 | 0 | |
| 12 | **The number of conception** | | | | | $\chi^2$=3.3 p=0.065 (NS) |
| | a) Primi gravidae | **12** | **60** | **25** | **83.3** | |
| | b) Multi gravidae | 8 | 40 | 5 | 16.7 | |
| 13 | **Gestational age** | | | | | $\chi^2$=3.47 p=0.325 (NS) |
| | a) <32 weeks | 0 | 0 | 3 | 10 | |
| | b) 32 – 35 weeks | **9** | **45** | 8 | 26.7 | |
| | c) 35 – 38 weeks | 8 | 40 | **15** | **50** | |
| | d) >38 weeks | 3 | 15 | 4 | 13.3 | |
| 14 | **Haemoglobin level** | | | | | $\chi^2$=6.11 p=0.10 (NS) |
| | a) <11 g/dl | 3 | 15 | 4 | 13.3 | |
| | b) 11 – 13 g/dl | **15** | **75** | **14** | **46.7** | |
| | c) 13 – 15 g/dl | 1 | 5 | 10 | 33.3 | |
| | d) >15 g/dl | 1 | 5 | 2 | 6.7 | |
| 15 | **Presentation of foetus** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| a) Cephalic | **11** | **55** | **25** | **83.3** | $\chi^2$=4.97 |
| b) Breech | 8 | 40 | 4 | 13.4 | p=0.08 |
| c) Shoulder | 1 | 5 | 1 | 3.3 | (NS) |
| d) Brow | 0 | 0 | 0 | 0 | |

S – Significant, (NS) – Not Significant

In association between the pre-test levels of pregnancy related pelvic girdle pain among antenatal mothers, there is a significant association found between the weight in kg ($\chi^2$=7.405, p=0.025) and pregnancy related pelvic girdle pain among antenatal mothers. This clearly shows that there is an association found in selected demographic variable and pregnancy related pelvic girdle pain among antenatal mothers (Table 4). Hence the hypothesis H2 was accepted.

**Table 5: Association between the pre-test levels of functional status among antenatalmothers with the selected demographic and clinical variables (N = 50)**

| S. No. | Variables | Moderately limited functional Status | | Severely limited functional Status | | Chi-Square $\chi^2$ and 'p' value |
|---|---|---|---|---|---|---|
| | | **(n)** | **(%)** | **(n)** | **(%)** | |
| | Demographic variables | | | | | |
| 1 | Age of the woman | | | | | $\chi^2$=2.66 |
| | a) <20 years | 2 | 6.3 | 3 | 16.7 | p=0.44 |
| | b) 21 – 25 years | 11 | 34.4 | 4 | 22.2 | (NS) |
| | c) 26 – 30 years | **15** | **46.9** | **7** | **38.9** | |
| | d) >30 years | 4 | 12.4 | 4 | 22.2 | |
| 2 | Educational status | | | | | $\chi^2$=0.51 |
| | a) Non formal education | 2 | 6.3 | 2 | 11.1 | p=0.91 |
| | b) Primary education | 2 | 6.3 | 1 | 5.6 | (NS) |
| | c) High school education | 5 | 15.5 | 2 | 11.1 | |
| | d) Graduates | **23** | **71.9** | **13** | **72.2** | |
| 3 | Occupation | | | | | $\chi^2$=1.31 |
| | a) Homemaker | **10** | **31.3** | **7** | **38.9** | p=0.72 |
| | b) Daily wages / Self employee | 8 | 25 | 4 | 22.2 | (NS) |
| | c) Government employee | 5 | 15.6 | 1 | 5.6 | |
| | d) Private employee | 9 | 28.1 | 6 | 33.3 | |
| 4 | Family income | | | | | $\chi^2$=2.22 |
| | a) <Rs.10,000 | 5 | 15.6 | 4 | 22.2 | p=0.52 |
| | b) Rs.10,001 – 20,000 | 3 | 9.4 | 3 | 16.7 | (NS) |
| | c) Rs.20,001 – 30,000 | 6 | 18.8 | 1 | 5.6 | |
| | d) >Rs.30,000 | **18** | **56.2** | **10** | **55.6** | |

| 5 | **Type of the family** | | | | | $\chi^2=0.08$ p=0.95 (NS) |
|---|---|---|---|---|---|---|
| | a) Nuclear family | **26** | **81.2** | **14** | **77.8** | |
| | b) Joint family | 3 | 9.4 | 2 | 11.1 | |
| | c) Extended family | 3 | 9.4 | 2 | 11.1 | |
| 6 | **Religion** | | | | | $\chi^2=2.23$ p=0.52 (NS) |
| | a) Hindu | **20** | **62.5** | **8** | **44.4** | |
| | b) Christian | 8 | 25 | 5 | 27.8 | |
| | c) Muslim | 3 | 9.4 | 4 | 22.2 | |
| | d) Any other | 1 | 3.1 | 1 | 5.6 | |
| 7 | **Dietary pattern** | | | | | Constant |
| | a) Vegetarian | 0 | 0 | 0 | 0 | |
| | b) Non-vegetarian | **32** | **100** | **18** | **100** | |
| 8 | **Height in cm** | | | | | $\chi^2=1.06$ p=0.58 (NS) |
| | a) <150 | 2 | 6.2 | 2 | 11.1 | |
| | b) 151 – 160 | **27** | **84.4** | **13** | **72.2** | |
| | c) 161 – 170 | 3 | 9.4 | 3 | 16.7 | |
| | d) >170 | 0 | 0 | 0 | 0 | |
| 9 | **Weight in kg** | | | | | **$\chi^2=7.16$ p=0.02 *S** |
| | a) <50 | 0 | 0 | 0 | 0 | |
| | b) 51 – 60 | 1 | 3.1 | 4 | 22.2 | |
| | c) 61 – 70 | 12 | 37.5 | 2 | 11.1 | |
| | d) >70 | **19** | **59.4** | **12** | **66.7** | |
| 10 | **Body Mass Index (BMI)** | | | | | $\chi^2=1.22$ p=0.54 (NS) |
| | a) <18.5 | 0 | 0 | 0 | 0 | |
| | b) 18.5 – 24.9 | 3 | 9.4 | 1 | 5.6 | |
| | c) 25 – 29.9 | **18** | **56.2** | 8 | 44.4 | |
| | d) ≥30 | 11 | 34.4 | **9** | **50** | |
| | **Clinical variables** | | | | | |
| 11 | **Age at menarche** | | | | | $\chi^2=0.58$ p=0.44 (NS) |
| | a) <10 years | 0 | 0 | 0 | 0 | |
| | b) 11 – 13 years | **29** | **90.6** | **15** | **83.3** | |
| | c) 14 – 16 years | 3 | 9.4 | 3 | 16.7 | |
| | d) >16 years | 0 | 0 | 0 | 0 | |
| 12 | **The number of conception** | | | | | $\chi^2=1.27$ |
| | a) Primi gravidae | **22** | **68.8** | **15** | **83.3** | |

|  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|
|  | b) Multi gravidae | 10 | 31.2 | 3 | 16.7 | p=0.25 (NS) |
| 13 | **Gestational age** |  |  |  |  | $\chi^2$=**8.13** **p=0.04** ***S** |
|  | a) <32 weeks | 2 | 6.3 | 1 | 5.6 | |
|  | b) 32 – 35 weeks | **14** | **43.8** | 3 | 16.7 | |
|  | c) 35 – 38 weeks | 10 | 31.1 | **13** | **72.2** | |
|  | d) >38 weeks | 6 | 18.8 | 1 | 5.6 | |
| 14 | **Haemoglobin level** |  |  |  |  | $\chi^2$=0.18 p=0.98 (NS) |
|  | a) <11 g/dl | 4 | 12.5 | 3 | 16.7 | |
|  | b) 11 – 13 g/dl | **19** | **59.4** | **10** | **55.6** | |
|  | c) 13 – 15 g/dl | 7 | 21.8 | 4 | 22.1 | |
|  | d) >15 g/dl | 2 | 6.3 | 1 | 5.6 | |
| 15 | **Presentation of foetus** |  |  |  |  | $\chi^2$=4.18 p=0.12 (NS) |
|  | a) Cephalic | **20** | **62.5** | **10** | **88.9** | |
|  | b) Breech | 10 | 31.3 | 2 | 11.1 | |
|  | c) Shoulder | 2 | 6.3 | 0 | 0 | |
|  | d) Brow | 0 | 0 | 0 | 0 | |

S – Significant, (NS) – Not Significant

In association between the pre-test level of functional status among antenatal mothers, there is a significant association between the weight in kg and gestational age ($\chi^2$=7.16, p=0.02 and $\chi^2$=8.13, p=0.04) and functional status. This clearly shows that there is an association found in selected demographic and clinical variable and functional status among antenatal mothers (Table 5). Hence the hypothesis H2 was accepted.

# DISCUSSION

The first objective of the study was to find out the correlation between the levels of pregnancy related pelvic girdle pain and functional status among antenatal mothers.

In correlation between the levels of pregnancy related pelvic girdle pain and functional status among antenatal mothers, the pre-test mean and SD scores were 6.96±1.05 and 54.72±2.68, the calculated 'r' value was r = 0.048, which shows that there is a mild positive correlation found between pregnancy related pelvic girdle pain and functional status among antenatal mothers. And in post-test, the mean and SD scores were 3.52±1.44 and 34.36±4.46, the calculated 'r' value was r = 0.499, this shows that there is a moderate positive correlation found between pregnancy related pelvic girdle pain and functional status among antenatal mothers. It clearly shows that there is a significant relation found between pregnancy related pelvic girdle pain and functional status. Hence the hypothesis H1 was accepted.

The study was supported by a similar study conducted by Sathyaprabha *et al*., (2022) assessed a cross-sectional study on physical activity and pelvic girdle pain in section pregnancy, Tamil Nadu [9]. The sample consists of 250 mothers. Random sampling technique was used in this study. The data were collected by using Pregnancy Physical Activity Questionnaire (PPAQ), Pregnancy Musculoskeletal Dysfunction Scale (PMDS). The results shows that PGP was found in 26 (17.33%) of the pregnant women in this investigation. The relationship between total PA and PGP revealed that as PA grew, the probability of PGP reduced, which was statistically significant (p-value=0.03). PGP was also connected with an increase in body weight (p-value=0.014). The study concluded that there was a link between total PA and PGP during pregnancy. Increased PA is linked to a decrease in PGP. As a result, moderate physical activity is advised throughout pregnancy.

Another study by Tang Xiangsheng *et al.*, (2021) conducted a longitudinal follow-up study on personality traits predict regression of pelvic girdle pain after pregnancy, Karnataka [10]. The sample consists of 387 pregnant women. Random sampling technique was used in this study. The data were collected by using Quick Big Five Personality Test (QBFPT). The results showed that with a mean age of 26±34.5 years, 264 of the 387 women participating in the study developed PGP during their pregnancy. PGP persisted in 80 of 264 (30.3%) of the women after the pregnancy. PGP after pregnancy was linked to greater levels of neuroticism (OR = 2.12, P = 0.001). When women with chronic PGP were compared, those with greater levels of extraversion and conscientiousness were more likely to recover (OR = 0.65, P = 0.001; OR =

0.78, P = 0.010, respectively). Furthermore, neuroticism was associated with higher pain levels (r = 0.52, P = 0.005). Extraversion and conscientiousness categories, on the other hand, revealed negative relationships with pain score (r = 0.48, P = 0.003; r = 0.36, P = 0.001). The study concluded that personality qualities were found to be substantially related to PGP outcomes.

Similarly, a prospective cohort study on lumbo-pelvic discomfort, anxiety, physical activity, and mode of conception in Canadian pregnant women was carried out by Emeline Lardon et al. (2018). 59 pregnant women make up the sample, and purposive sampling was employed [11]. Pelvic Girdle Questionnaire data collection was used. The findings indicated that whereas trait anxiety decreased from early to mid-pregnancy (p=0.03), the prevalence and severity of LPP increased during pregnancy (p=0.0001). Throughout pregnancy, physical activity levels decreased and activity limitations rose (time impact, p=0.0001). The degree of LPP was shown to be negatively correlated with levels of physical activity (r=0.39 to 0.41) and favorably correlated with activity restrictions (r=0.51 to 0.55). The study found similarities between maternal health-related traits as physical activity, anxiety, and LPP. The study came to the conclusion that women who conceived naturally or after reproductive therapies had similar maternal health-related traits, including LPP, anxiety, and physical activity. The severe the LPP, the ladies were more physically constrained and sedentary.

The second objective of the study was to find out the association between the levels of pregnancy related pelvic girdle pain and functional status among antenatal mothers with the selected demographic and clinical variables.

In association between the pre-test levels of pregnancy related pelvic girdle pain among antenatal mothers, there is a significant association found between the weight in kg ($\chi^2$=7.405, p=0.025) and pregnancy related pelvic girdle pain among antenatal mothers. This clearly shows that there is an association found in selected demographic variable and pregnancy related pelvic girdle pain among antenatal mothers. Hence the hypothesis H2 was accepted.

In association between the pre-test levels of functional status among antenatal mothers, there is a significant association between the weight in kg and gestational age ($\chi^2$=7.16, p=0.02 and $\chi^2$=8.13, p=0.04) and functional status. This clearly shows that there is an association found in selected demographic and clinical variable and functional status among antenatal mothers. Hence the hypothesis H2 was accepted.

The study was supported by Francesca Wuytack et al., (2020), who assessed a scoping review on Risk factors for pregnancy-related pelvic girdle pain, Ireland [12]. The sample consists of 24 articles, random sampling technique was used. The data were collected using Pain intensity. The results show that a history of low back or pelvic girdle pain, being overweight/obese, already having a child, younger age, lower educational level, and no pre-pregnancy exercise, and physically demanding work, previous back trauma/disease, progestin-intrauterine device use, stress, depression, and anxiety were all associated with PPGP. The study concluded that a vast variety of possible risk factors for PPGP have been investigated - Age, BMI, parity, and smoking are among the factors.

A similar study by Steven D Manyozo et al., (2019) conducted a quantitative cross sectional study on low back pain during pregnancy: Prevalence, risk factors and association with daily activities among pregnant women in urban Blantyre, Malawi [13]. The study participants were drawn from low risk antenatal clinics by using simple random sampling technique. The Oswesty Low Back Pain Disability Questionnaire was used to collect the data. The results showed that, among 404 pregnant women, the prevalence of LBP in pregnancy was 62%. (n=249). Among them 172 (69%) reported LBP for the first time during the current pregnancy. Gestational age was significantly associated with presence of LBP at 'p' level of 0.03. LBP was associated with the women's sleep patterns, mobility, lifting techniques and sexual activities.

Weis CA et al., (2018) has done a study on prevalence of low back pain (LBP), pelvic girdle pain (PGP), and combined pain (Combo Pain) in a pregnant women, Ontario [14]. A total of 287 pregnant women were included using random sampling technique in the study and the data was collected. Three quarters of women suffered from some sort of pregnancy related back pain. Secondary analyses demonstrated that increasing Gestational age and suffering from both pains (LBP, PGP) at some point prior to pregnancy (Prior Both) had increased the risk of experiencing PGP and Combo Pain during pregnancy, respectively. This study concluded that 76% of sampled women experienced pregnancy related back pain and the prevalence of site specific pain (LBP, PGP and Combo Pain) increased with advanced gestational age.

From the current study, it is concluded that there is a positive correlation exists between the pregnancy related pelvic girdle pain and functional status among antenatal mothers.

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