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ORIGINAL ARTICLE

PREVALENCE OF PELVIC GIRDLE PAIN IN PREGNANT WOMEN OF TERTIARY CARE HOSPITAL IN AHMEDNAGAR DISTRICT

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ABSTRACT:

Background: To find out the prevalence of pelvic girdle pain in pregnant women and the corresponding severity of the condition. **Methods:** This is a cross-sectional study that was conducted in the obstetrics and gynaecology department at Dr Vitthalrao Vikhe Patil Foundation's Hospital. A total of 35 pregnant women participated in the study from a period of December to May. **Result:** A total of 35 pregnant women participated in the study in the time of 6 months (December to May). The gestational ages of the pregnant women were 6 to 9 months. The overall cumulative prevalence of pelvic girdle pain in pregnant women visiting tertiary care hospitals (Dr Vitthalrao Vikhe Patil Foundation's Hospital) is 24.4% with 95% CI (21.95–26.90). There was no significant difference between the incidence of PGP in the second and third trimester pregnant ladies. **Conclusion:** PGP is the major problem concerning women's morbidity and thus this needs the concern of the health care worker. PGP is also prevalent in the rural population of India. Therefore, proper ANC treatment should be provided and PGP should not be neglected as a health concern.

Keywords: pelvic girdle pain, pregnant women, rural population, pelvic girdle questionnaire, women's health, ANC

INTRODUCTION:

Pregnancy is defined as the period of gestation lasting from the onset of fertilization to the induction of delivery. Length of gestation ranges from 208 to 284 days[26]. Several physiological and anatomical changes occur due to pregnancy which has a major impact on a women's health.

In this phase of pregnancy, a woman faces various burdens of disease, morbidity, and mortality rates which are high at stake[27]. Maternal morbidity is the most ranking topic of discussion nowadays. Maternal morbidity is mainly any health condition that occurs or enhances due to pregnancy and harms women's well-being[1,5,27].

Pregnancy-related morbidity is multifactorial, out of which the pelvic girdle pain (PGP) is the main cause of maternal morbidity[1,4,5]. PGP is defined as the pain between the posterior iliac crest and the gluteal fold which is mainly located at the sacroiliac joint, that may radiate down towards hips and thighs. It occurs with or without the addition of pain in pubic symphysis[2-9,11,13,14,18-21,23,25].

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The aetiology and pathophysiology of PGP comprise of various factors consisting of hormonal, biomechanical, traumatic, metabolic, genetic, and degenerative factors[6]. The hormonal influence of PGP is unclear. Relaxin hormone is responsible for joint laxity but the correlation of relaxin levels and peripheral joint laxity or PGP is yet unclear[6,12,17]. The biomechanical pathophysiology has a correlation with PGP which states that the increasing abdominal circumference due to enlarging uterus places maximum stress on the lumbar spine. Therefore, it increases the existing lumbar lordosis in a pregnant woman. This places a shift in the maternal centre of gravity and places stress over the lower back and pelvic girdle areas[6,2,3.]

Almost every pregnant woman develops pain in groins, symphysis, gluteal region[22]. Pelvic girdle pain affects more than half of the women[24]. Many past studies have shown that PGP prevalence is mainly seen in 33-50% of pregnant women[13-16,19-21,23-25]. Recent studies show the prevalence of PGP in 20-80% of pregnant women[1,3,5-10].

Mainly Indian population has a major residency in rural areas and women often face physical hardships such as carrying loads, agricultural labour, domestic household work, and in addition to raising children[1,5].

PGP is a major disability and more prevalent in pregnant women and this can lead to significant physical disability and has an important role in the effects of psychosocial factors like difficulty in doing work during pregnancy, poorer quality of life (as a result of not being able to do normal day-to-day activities, common chores, and difficulty in taking care of the children) and sometimes this may lead to worsening of the conditions[6-9,19-21].

Although PGP is a major topic of concern there is still a lack of awareness of pregnancy-related management there are many studies which are conducted in the developed countries related to PGP in pregnancy but still, these conditions are ignored by several women and healthcare workers in developing countries[1,5]. To our knowledge, the prevalence and severity of pregnancy-related PGP is not been studied in the rural population of Ahmednagar district, Maharashtra. Thus, this study aims to find out the prevalence and severity of PGP in pregnancy in Ahmednagar, Maharashtra.

METHODS:

The study design used was a Cross-sectional study and the study was conducted at the OBGY department of Dr Vikhe Patil Medical Foundation's, Ahmednagar. The sampling method was purposive sampling in which a total of 35 participants were recruited in 6 months. The inclusion criteria were pregnant women coming for consultation in the gynaecology and obstetrics department and including 2nd and 3rd trimesters and those who were willing to participate to answer the questionnaire. Exclusion criteria were pregnant women having a history of spinal fracture or surgery or pathology, the pain located on the lower back or combined lumbopelvic area, and pregnant women not willing to participate in answering the questionnaire.

PROCEDURE:

The ethical approval was taken from the institutional ethical committee. The sample collection permission was taken from the department of OBGY of Dr Vitthalrao Vikhe Patil Foundation's Hospital, Ahmednagar. Samples were recruited according to the inclusion. The location of pain was asked to these pregnant women. The pain was located near the SI joint, symphysis, pelvis, posterior iliac crest, gluteal region, and gluteal fold along with or without radiating pain at the hips and thighs[1,5,6,7]. These women who had pain in few areas mentioned above were then recruited for the data collection and sample recruitment process. 35 pregnant women were recruited and further data was collected.

Demographic data was collected like age, occupation, marital status, type of family, number of family members, household work, number of pregnancies, parity, and gestation (months/weeks)[1,5,7,8,9]. After this, the pelvic girdle questionnaire was taken on those women. All the women who were recruited were asked the 25-components of the questionnaire and the 4-point scale of the severity in that scale was marked according to the women's severity[1,5,6-10,16,19,25]. An individual score of percentage of disability was calculated.

RESULTS:

The analysis was done using Graphpad Instat Version 3.06, 32 Bits for Window

Table No. 1: Showing demographic profile of the participants:

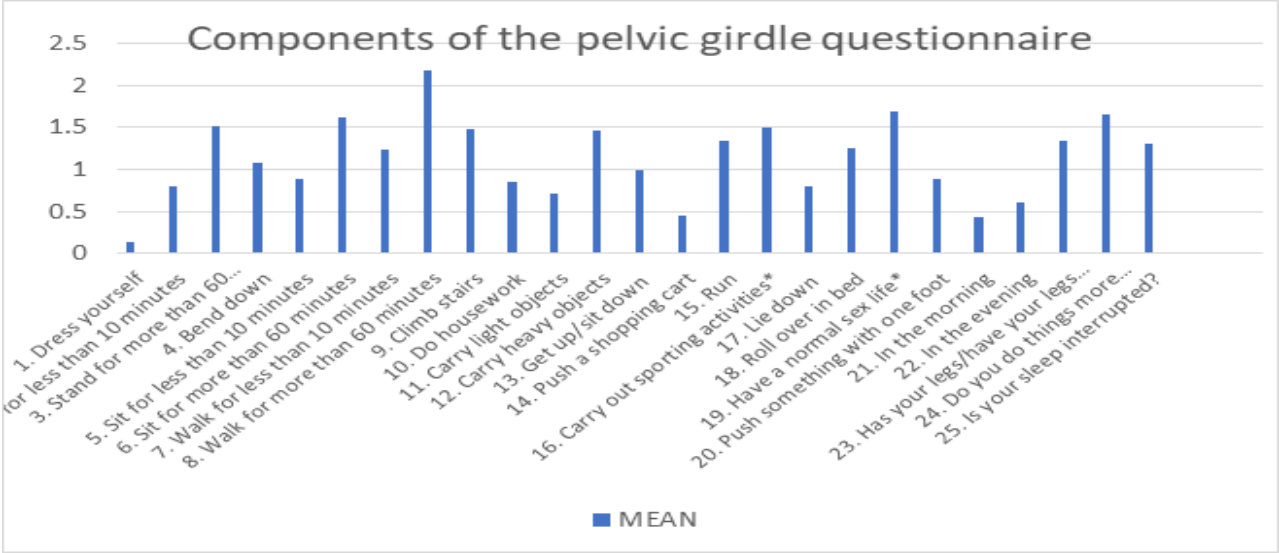
Demographics	**Mean±SD**
Age	23.857±3.39
No. of pregnancies	2.285±0.925
Parity	1.285±0.987
Gestation(months)	6.457±1.804

Table no. 3: Showing the mean and standard deviation of the total score in the second and third trimester

	MEAN±SD
Second trimester	23.789±6.42
Third trimester	25.125±8.18

Table No. 2: Showing the mean and standard deviation of the components of the pelvic girdle questionnaire

COMPONENTS OF SCALE	**MEAN**±SD
How problematic is it for you because of your pelvic girdle pain to:	
1. Dress yourself	0.1428±0.35
2. Stand for less than 10 minutes	0.8±0.603
3. Stand for more than 60 minutes	1.514±0.65
4. Bend down	1.085±0.78
5. Sit for less than 10 minutes	0.885±0.58
6. Sit for more than 60 minutes	1.628±0.73
7. Walk for less than 10 minutes	1.228±0.59
8. Walk for more than 60 minutes	2.171±0.58
9. Climb stairs	1.485±0.85
10. Do housework	0.857±0.64
11. Carry light objects	0.714±0.71
12. Carry heavy objects	1.468±0.76
13. Get up/sit down	1±0.80
14. Push a shopping cart	0.457±0.61
15. Run	1.333±0.57
16. Carry out sporting activities*	1.5±0.71
17. Lie down	0.8±0.75
18. Roll over in bed	1.257±0.91
19. Have a normal sex life*	1.692±0.63
20. Push something with one foot	0.885±0.83
How much pain do you experience	
21. In the morning	0.428±0.61
22. In the evening	0.6±0.81
To what extent because of pelvic girdle pain	
23. Has your legs/have your legs given way?	1.342±0.93
24. Do you do things more slowly?	1.657±0.87
25. Is your sleep interrupted?	1.314±0.99
TOTAL	24.428±7.2



Graph No. 1: Showing the mean and SD of every component of the pelvic girdle questionnaire

Paired t-test was used the one-tail p-value is 0.29 and the test is not significant. 95% confidence interval (mean difference) is 1.336. p-value is 0.3272. This test suggests that the difference between the two SDs is not significant.

DISCUSSION:

The findings of this study showed that the overall prevalence of pelvic girdle pain among pregnant women was 24.4% with 95% CI (21.95–26.90). There was no significant difference between the SDs of the second and the third trimester. The overall pain intensity found was as low as 0.4 to as high as 2.17 with the pelvic girdle questionnaire which was analyzed. The impact of disability arising from the pelvic girdle pain was low. The is no significant difference seen in the pain intensity or the disability arising due to the PGP in the second and third trimesters.

This prevalence found is comparable to the recent article of Ethiopia (2020) which is having a prevalence of 24.3%1, Australian article (2017) 27.2%8, and another Australian article (2012) states 23%10. Other articles had a comparatively higher rate of disability like one of Nepal (2019) had 34% diability5, Spanish article (2017) 65.4%, a multinational study conducted in the US, UK, Norway, and Sweden had 34.6%, 46.71%, 44.13%, 42.50% respectively[19]. Another study conducted in Karnataka, India had 43.6% and one Spain article had a 64.5% disability rate. Hence, this gives a clear indication that prevalence of the pelvic girdle pain is not dependent on the developed or developing countries in general. This difference in prevalence could be due to the age, socioeconomic status, type of work, physical activity, number of pregnancies, parity, and gestation period of the pregnant women. The reason for the lower prevalence is due to the type of work they were into even before getting pregnant, the level of physical activity and fitness of the women in the rural population, and even the level of education, the level of understanding the scale better and the neglect of any pain during activity or the symptoms arising due to pelvic girdle pain[1,5].

Prevalence rates may also be impacted due to the way the data is collected. Data PGP is commonly collected using the local language questionnaires[7,9,25]. More accurate diagnosis of pelvic girdle pain should be done through a thorough clinical examination given in the European guidelines[11].

The classification and elimination of the pelvic girdle pain were done by the levels of the pain location shown by the lady herself, the pain location if only validated through the definition of pelvic girdle were included in this study eliminating the lower back pain specifically.

Reflecting on a recent multinational study, the women in this study shows a lower rate of disability due to pelvic girdle pain. However, the US, UK, Norway, and Sweden have the highest rate of pain intensity[19]. This is due to the higher level of educated participants in that study as compared to this study. Another Indian article of Karnataka, India has a comparatively higher rate of PGP than that of this article. This is due to the high level of education and low level of physical activity in the urban side of India as compared to the rural area of India. Ahmednagar, India has a rural population that is involved more in farming and highest physical activity level, and low education level. This is also a reason given in the Ethiopian article1 as well as the Nepali article[5].

This study also showed that there is no significant difference between the rate of PGP in the second and third trimesters of pregnancy. One study showed that there was a rise of 60-70% of the rate of PGP in the late pregnancy which consists of the gestation period of more than 20 weeks[16]. So here in our study, the criteria of the first trimester pregnant women were not the participants of the study.

Henceforth, the cause of PGP is the commonest problem seen during the gestation period of women. Thus, PGP should not be neglected as a vague condition by the health care workers and they should be pay heed to it. After the lady completed the questionnaire, they were given physiotherapy advice and some of the ANC advice to relief their pain and give them some amount of better quality of life. Thus, the PGP should be treated as a part of ANC and this will help to reduce the maternal morbidity conditions[1,5,19,20].

The findings of this study show that even the rural population should get proper ANC treatment. This study also shows that even ANC plays a major role in the gestation period of a woman. Health care workers should pay heed to PGP as a major concern. Even PGQ can be used as an outcome measure for determining the rate of pain intensity as well as a percentage of disability.

The researchers who are interested to do a study on this topic should be aware of the limitations this topic provides. The first limitation is the small sample size taken due to the pandemic situation and the study was conducted in the tertiary care hospital which can be conducted in other settings as well. The second one is that first trimester subjects were not available and the third one is that clinical tests were not performed due to certain inconveniences.

CONCLUSION:

PGP is prevalent in the rural population of Ahmednagar district, India. Rather than the pain intensity found in women was comparatively greater than the disability occurring due to the emerging PGP. There is no significant difference between the rate of PGP in the second and third trimester pregnant ladies.

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CONFLICT OF INTEREST: None

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REFERENCES:

1. Gashaw M, Gedlu S, Janakiraman B. Burden of pelvic girdle pain during pregnancy among women attending the ante-natal clinic, Ethiopia: a cross-sectional study. BMC pregnancy and childbirth. 2020 Dec;20(1):1-1.
2. Olsén MF, Körnung P, Kallin S, Elden H, Wendt GK, Gutke A. Validation of self-administered tests for screening for chronic pregnancy-related pelvic girdle pain. BMC Musculoskeletal Disorders. 2021 Dec;22(1):1-8.
3. Wuytack F, Begley C, Daly D. Risk factors for pregnancy-related pelvic girdle pain: a scoping review. BMC pregnancy and childbirth. 2020 Dec;20(1):1-4.
4. Stuge B, Garratt A, Krogstad Jenssen H, Grotle M. The pelvic girdle questionnaire: a condition-specific instrument for assessing activity limitations and symptoms in people with pelvic girdle pain. Physical therapy. 2011 Jul 1;91(7):1096-108.
5. Acharya RS, Tveter AT, Grotle M, Eberhard-Gran M, Stuge B. Prevalence and severity of low back and pelvic girdle pain in pregnant Nepalese women. BMC pregnancy and childbirth. 2019 Dec;19(1):1-1.
6. Walters C, West S, Nippita TA. Pelvic girdle pain in pregnancy. Australian Journal of general practice. 2018 Jul;47(7):439.
7. Girard MP, O'Shaughnessy J, Doucet C, Lardon E, Stuge B, Ruchat SM, Descarreaux M. Validation of the French-Canadian pelvic girdle questionnaire. Journal of manipulative and physiological therapeutics. 2018 Mar 1;41(3):234-41.
8. Ceprnja D, Chipchase L, Gupta A. Prevalence of pregnancy-related pelvic girdle pain and associated factors in Australia: a cross-sectional study protocol. BMJ Open. 2017 Nov 1;7(11).
9. Rejano-Campo M, Ferrer-Peña R, Urraca-Gesto MA, Gallego-Izquierdo T, Pecos-Martín D, Stuge B, Plaza-Manzano G. Transcultural adaptation and psychometric validation of a Spanish-language version of the "Pelvic Girdle Questionnaire". Health and quality of life outcomes. 2017 Jan;15(1):1-9.
10. Pierce H, Homer CS, Dahlen HG, King J. Pregnancy-related lumbopelvic pain: listening to Australian women. Nursing research and practice. 2012 Jan 1;2012.
11. Vleeming A, Albert HB, Östgaard HC, Sturesson B, Stuge B. European guidelines for the diagnosis and treatment of pelvic girdle pain. European Spine Journal. 2008 Jun;17(6):794-819.
12. Albert HB, Godskesen M, Korsholm L, Westergaard JG. Risk factors in developing pregnancy-related pelvic girdle pain. Acta obstetricia et Gynecologica Scandinavica. 2006 May;85(5):539-44.
13. Van De Pol G, Van Brummen HJ, Bruinse HW, Heintz AP, Van Der Vaart CH. Pregnancy-related pelvic girdle pain in the Netherlands. Acta obstetricia et Gynecologica Scandinavica. 2007 Apr;86(4):416-22.
14. Clarkson CE, Adams N. A qualitative exploration of the views and experiences of women with Pregnancy-related Pelvic Girdle Pain. Physiotherapy. 2018 Sep 1;104(3):338-46.
15. Grotle M, Garratt AM, Krogstad Jenssen H, Stuge B. Reliability and construct validity of self-report questionnaires for patients with pelvic girdle pain. Physical therapy. 2012 Jan 1;92(1):111-23.

16. de Luna Fagundes FM, Cabral CM. Cross-cultural adaptation of the Pelvic Girdle Questionnaire (PGQ) into Brazilian Portuguese and clinimetric testing of the PGQ and Roland Morris questionnaire in pregnancy pelvic pain. Brazilian journal of physical therapy. 2019 Mar 1;23(2):132-9.

17. Aldabe D, Ribeiro DC, Milosavljevic S, Bussey MD. Pregnancy-related pelvic girdle pain and its relationship with relaxin levels during pregnancy: a systematic review. European Spine Journal. 2012 Sep;21(9):1769-76.

18. Robinson PS, Balasundaram AP, Vøllestad NK, Robinson HS. The association between pregnancy, pelvic girdle pain and health-related quality of life–a comparison of two instruments. Journal of patient-reported outcomes. 2018 Dec;2(1):1-9.

19. Gutke A, Boissonnault J, Brook G, Stuge B. The severity and impact of pelvic girdle pain and low-back pain in pregnancy: a multinational study. Journal of women's health. 2018 Apr 1;27(4):510-7.

20. Getnet MG, Gedlu S, Janakiraman B. Burden of Pelvic Girdle Pain During Pregnancy Among Women Attending Ante-Natal Clinic, Ethiopia: A Cross-Sectional Study.

21. Malmqvist S, Kjaermann I, Andersen K, Økland I, Larsen JP, Brønnick K. The association between pelvic girdle pain and sick leave during pregnancy; a retrospective study of a Norwegian population. BMC pregnancy and childbirth. 2015 Dec;15(1):1-8.

22. Bastiaanssen JM, de Bie RA, Bastiaenen CH, Heuts A, Kroese ME, Essed GG, van den Brandt PA. Etiology and prognosis of pregnancy-related pelvic girdle pain; design of a longitudinal study. BMC public health. 2005 Dec;5(1):1-8.

23. Wuytack F, O'Donovan M. Outcomes and outcomes measurements used in intervention studies of pelvic girdle pain and lumbopelvic pain: a systematic review. Chiropractic & manual therapies. 2019 Dec;27(1):1-3.

24. Mogren IM. BMI, pain and hyper-mobility are determinants of long-term outcomes for women with low back pain and pelvic pain during pregnancy. European spine journal. 2006 Jul;15(7):1093-102.

25. Kovacs FM, Garcia E, Royuela A, González L, Abraira V, Spanish Back Pain Research Network. Prevalence and factors associated with low back pain and pelvic girdle pain during pregnancy: a multicenter study conducted in the Spanish National Health Service. Spine. 2012 Aug 1;37(17):1516-33.

26. Jukic AM, Baird DD, Weinberg CR, McConnaughey DR, Wilcox AJ. Length of human pregnancy and contributors to its natural variation. Human reproduction. 2013 Oct 1;28(10):2848-55.

27. McCauley M, Avais AR, Agrawal R, Saleem S, Zafar S, van den Broek N. 'Good health means being mentally, socially, emotionally and physically fit: women's understanding of health and ill-health during and after pregnancy in India and Pakistan: a qualitative study. BMJ Open. 2020 Jan 1;10(1):e028760.