LOW BACK PAIN IN THE THIRD TRIMESTER OF PREGNANCY

Kurniati Devi Purnamasari
Department of Midwifery, Faculty of Health Sciences, Universitas Galuh, R.E Martadinata Street No.150, Ciamis Regency, West Java, Indonesia
Corresponding Email: kurniatidevip@unigal.ac.id

ABSTRACT
This study sought to characterize lower back pain in pregnant women in their third trimester. A cross-sectional descriptive study design is the methodology employed. According to the study's findings, 20% of participants reported having light pain, 50% reported having moderate pain, and 30% reported having severe pain with concomitant symptoms. Despite the fact that it is an issue, 82% of youngsters choose to ignore their pain or, in the case of 18%, simply sip warm water and apply pressure to the sore spot. Only 12.8% of third-trimester pregnant women sought assistance from midwives or health professionals; instead, 87.2 percent of these women turned to their husbands and families for assistance with problems that came up. In summary, the majority of participants reported having lower back muscle soreness. Usually, pregnant women and their parents are the main sources of knowledge regarding the back bottom. Most pregnant women seek assistance from their spouses and relatives when they have lower back issues.
Keywords: Low Back Pain, Pregnancy, Pregnant Women

INTRODUCTION

Being pregnant is a typical and natural procedure. A mother goes through both physical and psychological changes throughout pregnancy. Pregnant women find these alterations uncomfortable (Manuaba, 2010). A pregnant woman's body goes through distinct hormonal and physiological changes during her pregnancy, which might cause or influence the course of neurological and psychiatric illnesses. Furthermore, for reasons related to the health of the mother, many diagnostic tests that are safe for normal, non-pregnant women cannot be carried out during pregnancy. The balance issue that naturally arises during pregnancy, which is connected to the risks that arise in the absence of treatment versus active treatment for the mother and fetus, plays a significant role in therapeutic decisions and management of pregnant patients with complaints of pain (Elsevier 2011). Pregnant women frequently report of psychological issues throughout the third trimester of their pregnancy, including pain and anxiety (Hartvigsen et al., 2018). Of these concerns, lower back discomfort is the most frequently reported, affecting 60% to 90% of expectant mothers and contributing to the rate of cesarean deliveries.

Pregnant women often experience different levels of discomfort during each stage of their pregnancy. Pregnant women frequently complain about many changes that occur during pregnancy, such as nausea, early pregnancy vomiting, constipation, varicose veins, urinary difficulties, hemorrhoids, swelling in the legs and feet, and back pain (Bobak, 2010). Back pain affects 88.2% of pregnant women. About 62% of pregnant women between the ages of 14 and 22 weeks gestation report having lower back pain. Pregnancy-related back pain ranges from 35 to 60%. According to Ariyanti's (2012) research, 68% of pregnant women reported having severe back pain, while 32% reported having mild back pain. Of all these ladies, 47–60% said they started having back discomfort between weeks five and seven of their pregnancy (Renata, 2009). The weight of the larger uterus, heavy lifting, prolonged bending, and restless walking are the causes of these alterations. The hormones progesterone and estrogen also contribute to back pain symptoms by loosening bone and joint connections. as well as the hip muscles (Tiran, 2008).

Pregnancy-related pain is a common issue, particularly in the third trimester. According to the International Society for the Study of Pain, the phenomenon of pain has evolved into a

complicated issue that can lead to stress and significant physiological changes during pregnancy. Pain also induces dread and worry. Anxiety and pain cooperate well, intensifying one another's effects (Carvalho et al. 2017a; Durand, Plata 2017; Burns et al, 2018). According to earlier study conducted in several countries (Yan et al., 2014), back pain is one of the most commonly reported symptoms among pregnant women, with a prevalence ranging from 50% to 70%. Severe impairment is documented in 8% of cases (Lee, 2016).

Inadequate management of acute pain raises the risk of chronic pain, lowers quality of life, and facilitates the use of subpar health services; nevertheless, there is little scientific evidence to support this claim regarding the care provided to those who experience pain. is therapeutic (Nickel et al., 2018). Even though lower back pain during pregnancy is very common, very few pregnant women are aware of the issues and consequences associated with this condition. Pregnant women's health services are developing in large part because of the availability of knowledge regarding discomfort during pregnancy and associated difficulties in the third trimester.

METHODOLOGY

The research was conducted at the Baregbeg Community Health Center using a descriptive study design with a cross-sectional method in May 2020. The research subjects were third-trimester pregnant women who visited Antenatal Care (ANC) at one of Community Health Center in Ciamis District. All individuals who visited the Community Health Center in a sequential manner and satisfied the study's requirements were included in the study until the necessary number of subjects was reached.

The mother's level of pain, how long the pain has lasted, where teenagers go for help when they have lower back pain, and what is done to lessen the pain were all covered in the three questions on the Visual Analog Scale (VAS) questionnaire used in the research study. back elevated. Lower back pain is classified into three categories based on the intensity of pain symptoms: mild degrees, which indicate mild pain that does not interfere with the mother's daily activities (scales 1-3), moderate degrees, which indicate moderate pain that can interfere with daily activities but does not prevent the mother from carrying out normal activities (scales 4–7), and severe degrees, which indicate severe pain that prevents the mother from carrying out daily activities and limits her to resting in bed. (scales 8–10).

Before filling out the questionnaire, respondents were given an explanation and asked for the respondent's consent to take part in the research. Data were analyzed with a computerized program. The definition of low back pain is a complaint of pain and a feeling of tension or stiffness in the muscles, which is localized in the costal area and above the inferior gluteus crease with or without pain radiating to the legs.

RESULTS AND DISCUSSION

The characteristics in this study consisted of maternal age, parity, gestational age, uterine fundal height, body height, body weight, Visual Analog Scale (VAS) for lower back pain shown in the table 1.

Table 1. Characteristics of respondent

Characteristics	Min	Max	Mean ± SD
Age	21	30	24,73 ±2,71
Parity	1	2	1,53 ±0,52
Gestational Age	28	38	27,26 ±7,40
Height of the uterine fundus	12	30	23,93 ±7,03
Maternal height	152	167	156,46 ±4,25
Maternal weight	40	80	62,36 ±14,69
Pain Scale	5	10	6,33 ±1,63

Based on table 1, it can be seen from the 30 subjects studied that the average value of maternal age characteristics is (24.73 ± 2.71) years with the age range of respondents being 21-30 years. The average parity of respondents was (1.53 ± 0.52) with a range of 1-2 pregnancies. The average gestational age of respondents was (27.26 ± 7.40) weeks with a gestational age range of 28-38 weeks. The average TFU of respondents was (23.93 ± 7.03) cm with a range of 12-30 cm. The average height of respondents was (156.46 ± 4.25) cm with a range of 152-167 cm. The average body weight of respondents was (62.36 ± 14.69) kg with a weight range of 40-80 kg. The average Body Mass Index (BMI) of respondents is (25.45 ± 5.72) with a Body Mass Index (BMI) range. The average Visual Analog Scale (VAS) pain scale for respondents was (6.33 ± 1.63) with a pain scale range of 5-10.

An overview of measuring lower back pain using the Visual Analog Scale (VAS), it shows that low back pain experienced by third trimester pregnant women respondents was 3 (10%) people with mild VAS pain scale, as many as 22 people (73.33%) with moderate VAS pain scale and 5 people (16.67%) with severe VAS pain scale. A total of 30 questionnaires were given to respondents and respondents were willing to fill out the questionnaires. It was found that 30 (100%) respondents had experienced lower back pain during pregnancy.

Table 2. Distribution of Low Back Pain Respondents Based on Degree of Pain, Duration of Pain, Accompanying Symptoms, and Place to Seek Help

Variables	(n=30)	place to seek help		
		Husband	Family	Midwives
Level of Pain				
mild pain	3 (10%)	1 (33,33%)	2 (66,67%)	-
moderate pain	22 (73,33%)	20 (90,90%)	2 (9,10%)	-
severe pain	5 (16,67%)	2 (40%)	1 (20%)	2 (20%)
Pain Duration				
Less than 24 hours	26 (86,66%)	21(80,76%)	4 (15,38%)	1 (3,86%)
A day	2 (6,67%)	2 (100%)	-	-
A few days	2 (6,67%)	-	-	2 (100%)
Accompanying symptoms				
With signs and symptoms	28 (93,33%)	20 (71,42%)	7 (28,58%)	-
Without signs and symptoms	2 (6,67%)	-	-	2 (100%)

Based on table 2 above, it can be seen that of pregnant women who experience lower back pain, the majority (73.33%) experience moderate pain, while 10% and 16.67% experience

mild and severe pain. It was found that 26 people (86.66%) of respondents experienced lower back pain for less than 24 hours, 6.67% experienced pain that lasted for one day, and 6.67% for several days. The majority (93.33%) of respondents experienced dysmenorrhoea without accompanying symptoms and 6.67% had accompanying symptoms. Accompanying symptoms reported were nausea, vomiting (50%) and a tendency to become irritable or emotional disturbances (50%). In Table 2, it is shown that for moderate pain, most people ask for help from their husbands (90.90%). Respondents who experienced severe lower back pain most often asked for help from their husband's friends (40%), not midwives.

Based on the research we conducted, the majority (73.33%) experienced moderate pain, while 10% and 16.67% experienced mild and severe pain. Low back pain is the most frequent cause of long-term disability throughout the world (Lima et al, 2018) with a prevalence of 6 out of 10 pregnant women in the world experiencing low back pain during pregnancy (Golob, Wipf 2014). During pregnancy, relaxation of the joints around the pelvis and lower back of pregnant women may occur due to hormonal changes.

Changes in the musculoskeletal system occur as gestational age increases (Darwich, Diwan 2009). The greater the likelihood of sacroiliac joint instability and increased lumbar lordosis, leading to pain (Carvalho et al, 2017b). The presence of severe pain causes a reflexory reaction in the lumbo dorsal muscles, especially the erector spine muscles at L4 and L5, resulting in a localized increase in tone (spasm) as a "guard" against movement.

If muscle spasms last a long time, the muscles will tend to become tight. The tightness of the erector spine muscles will aggravate the pain because it is ischemic and causes the spine alignment to become abnormal, causing a large stress/compression load on the injured intervertebral disc (Golob, Wipf, 2014). Damage causes the release of irritants such as prostaglandins, bradykinin, and histamine, thereby stimulating Aδ and type C (thin myylein) nerve fibers. The impulse is carried to the dorsal ganglion and enters the spinal cord via the dorsal horn, which is then carried to a higher level of the central nervous system via the spinothalamic and spinoreticular tracts. Stimulation of the dorsal ganglion will trigger the production of "P" substance. The production of "P" substance will stimulate an inflammatory reaction.

This indicates a tendency for the muscles to shorten if the abdominal muscles are stretched, which can cause muscle imbalances around the pelvis and lower back, and additional tension can be felt over these ligaments. The result is back pain that usually originates in the sacroiliac or lumbar region, and can become a long-term back disorder if muscle balance and pelvic stability are not restored after childbirth and postpartum. It is estimated that approximately 50% of pregnant women complain of some type of back pain at some point in pregnancy or during the postpartum period (Brown, Johnston, 2013).

During pregnancy, when the body stretches, the uterus will be pushed forward, and because the uterus is only held by ligaments from the back and bottom (right), the ligaments will be tense and cause pain in the groin and a small part of the back (Pierce, 2007). The hormone progesterone and relaxation hormone cause relaxation of connective tissue and muscles. This occurs maximum in the last week of pregnancy. This relaxation process gives the pelvis the opportunity to increase its capacity in preparation for childbirth, the pubic bone softens to resemble a joint, the sacrococcigus joint loosens making the coccyx bone shift towards the back of the unstable hip joint. In pregnant women, this can cause back pain. A woman's body posture gradually changes as the fetus enlarges in the abdomen so that to compensate for this additional weight, the shoulders are pulled back and the bones are more

curved, the spinal joints are more flexible and can cause back pain in some women (Vivian, Sunarsih, 2011) .

West (2010) lists discomfort along the back or pelvis, weakness or pain in the legs and buttocks, and trouble walking as a result of leg pain as symptoms of back pain. Few pregnant women in the study sought medical attention for lower back pain. The majority of pregnant women with lower back discomfort in the third trimester sought advice from midwives and other medical professionals. It was found that most pregnant women knew about the physiology of low back pain based on information from family and husbands, while information from doctors was only 3.5%. In another study, it was found that in pregnant women in the third trimester lower back pain occurred more frequently with a prevalence of (43.24%) (Katonis et al, 2011).

CONCLUSION

This study shows that lower back pain in third trimester pregnant women occurs with the highest prevalence on the moderate pain scale. Increasing gestational age and these findings are four measures of the biomechanical origin of low back pain in pregnant women. Lower back pain is often found in pregnancy. This can be an indication of the importance of health education about low back pain for pregnant women during the third trimester and their husbands and families, and routine evaluation of low back pain problems by clinicians.

LIMITATIONS AND FUTURE DIRECTION

Based on the results provided by this study regarding low back pain during pregnancy, further research is recommended for providing interventions in the treatment of low back pain in third trimester pregnant women.

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DECLARATIONS

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REFERENCES

Pierce, A. G., Borley, R. N. (2007). At a Glance Ilmu Bedah Edisi Ketiga. Jakarta: Erlangga. P. 14-15

Ariyanti. (2012). Apakah Ada Pengaruh WWZ terhadap Perubahan Skala Nyeri Punggung pada Ibu Hamil di Puskesmas Perawatan Ngletih Kota Kediri

Bobak. (2010). Buku Ajar Keperawatan Maternitas Edisi 4. Jakarta: EGC

Brown, A., & R. Johnston. (2013). Maternal Experience of Musculoskeletal Pain during Pregnancy and Birth Outcomes: Significance of Lower Back and Pelvic Pain. Midwifery, 29(13), 46-51

Burns, S. A., Joshua A. C., Darren, A. R., & Suzanne J. S. (2018). Effectiveness of Physical Therapy Interventions for low Back Pain Targeting the Low Back only or Low Back Plus Hips: a Randomized Controlled Trial Protocol. Brazilian Journal of Physical Therapy

Carvalho, M. E. C. C., Luciana. C. L., Cristovam, A. L. T., Deyvid, R. L. P., Marcelo N. S., Gustavo, A. C., & Tania, C. M. C. (2017a). Low Back Pain during Pregnancy. Revista Brasileira de Anestesiologia, 67(2), 66-70 . (2017b). Low Back Pain during Pregnancy. Brazilian Journal of Anesthesiology (English Edition), 67(2), 66-70

Darwich, A. A., & Sudhir A. D. (2009). Management of Back Pain in Pregnancy', Techniques in Regional Anesthesia and Pain Management, 13(2), 51-54

Dewi, V. N. L., Sunarsih, T. (2011). Asuhan Kebidanan Ibu Nifas. Jakarta: Salemba Medika Durand., Guillaume., & Erika, M. P. (2017). The Effects of Psychopathic Traits on Fear of Pain, Anxiety, and Stress, Personality and Individual Differences, 119, 198-203

Elsevier. (2011). Neurological Disorders and Pregnancy 1st Edition. In: Elsevier

Golob, A. L., & Joyce, E. W. (2014). Low Back Pain. Medical Clinics of North America, 98(40), 5-28

Hartvigsen., Jan., Mark J. H., Alice K., Quinette, L., Manuela L. F., Stéphane, G., Damian, H, Jaro. K., Glenn, P., Joachim, S., Rob J. S., Martin, U., Rachelle B., Jan, H., Dan, C., Nadine, E. F., Chris, G. M., Martin U., Maurits, V. T., Johannes R. A., Roger, C., Stephen, P. C., Lucíola, Menezes C., Peter, C., Manuela, F, Paulo, H. F., Julie, M. F., Stéphane, G., Douglas, P. G., Mark, J. H., Damian, H., Jaro, K., Bart, W. K., Alice, K., Quinette, L., Birgitta, Ö., Wilco, C. P., Glenn P., Mark, S., Joachim, S., Rob, J. S., Judith, A. T, & Anthony, W. (2018). What Low Back Pain is and Why We Need to Pay Attention. The Lancet, 391(23), 56-67

Katonis, P. A., Kampouroglou, A., Aggelopoulos, K., Kakavelakis, S., Lykoudis, A., Makrigiannakis., & Alpantaki, K. (2011). 'Pregnancy-Related Low Back Pain', Hippokratia, 15, 205

Lee., Diane. (2016). Chapter 17 - Highlights from an Integrated Approach to the Treatment of Pelvic Pain and Dysfunction A2 - Magee, David J. in James E. Zachazewski, William S. Quillen and Robert C. Manske (eds.). Pathology and Intervention in Musculoskeletal Rehabilitation (Second Edition) (W.B. Saunders)

Lima., Maicom., Arthur, S. F., Felipe, J. J. R., Vanessa, P, & Ney, M. H. (2018). 'Chronic low back pain and back muscle activity during functional tasks', Gait & Posture, 61(2), 50-56

Manuaba,I. B. G. (2010). Gawat Darurat Obstetri Ginekologi dan Obstretri Ginekologi Sosial untuk Profesi Bidan. Jakarta: EGC

Nickel, B. T., Mitchell, R. K., William, A. B., David, E. A., Thorsten, M. S., & Samuel S. W. (2018). Battling the Opioid Epidemic with Prospective Pain Threshold Measurement. The Journal of Arthroplasty

Renata. (2009). Askep Nyeri Punggung. http://www.scribd.com/doc/52688087/askebnyeri-punggung

Tiran. (2008). Bailliere's Midwives' Dictionary. Bailliere Tindall West, Z. (2010). Natural Pregnancy. Jakarta: Pustaka Bunda

Yan, C. F., Ya-Chi, H., Meei-Ling, G., & Kuan-Chia, Lin. (2014). Effects of a Stability Ball Exercise Programme on Low Back Pain and Daily Life Interference during Pregnancy. Midwifery, 30(4), 12-19