PREVALENCE AND PATTERNS OF BACK PAIN COMPLAINTS AMONG PREGNANT WOMAN IN DEVELOPING COUNTRIES IN ASIA: A LITERATURE REVIEW

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Abstract

Introduction: Back pain has become one of the most common and serious musculoskeletal symptoms. About 5% of those symptoms require medical treatment. Back pain is generally complained of in the II to III trimester of the n's perception. This is due to the effects of musculoskeletal changes, namely an increase in the load on the vertebrae due to the growth of the fetus that is getting bigger. The occurrence of back pain during pregnancy is closely related to various patterns of pain in the back, including *low back pain*, *pelvic girdle pain*, and *combination pain.* In the lower middle and lower middle regions, especially Asia, they still often face challenges related to poor health and the economy, as well as a lack of knowledge about the problem of back pain during pregnancy. This is important to know so that it becomes an effort if back pain arises in pregnant women and can be handled properly.

Objective: To find out the prevalence and how the pattern of back pain experienced by pregnant women changes.

Methods: This study used a literature *review* design. Usually, risk assessment is done using *the Joanna Briggs Institute* (JBI) *Critical Appraisal Score*.

Results: The results of this study found that back pain is often reduced during the III trimester of pregnancy, which can be affected by increasing gestational age, jobs, and pregnant women who have a history of pain. The pain patterns found were *low back pain* (LBP) as much as 3%–86%, *pelvic girdle pain* (PGP) by 2%–37%, and *combo pain* by 22%–42%.

Conclusion: The prevalence of back pain in developing countries, especially the Asian region, showed the most LBP complaint patterns with a percentage of 3%–86% of the total 2,334 respondents who experienced back pain during the third trimester of pregnancy.

**Keyword**: pregnancy, back pain pattern, pregnancy back pain, pelvic girdle pain

Introduction

Back pain becomes one of the most common and important serious musculoskeletal symptoms with a clinical presentation of 24%-90% during pregnancy, 25% of which is complained of in postpartum mothers, and about 5% of such symptoms require medical treatment (Gutke et al., 2018; Proisy et al., 2014; Verstraete et al., 2013). According to (Ramachandra et al., 2015) this musculoskeletal disorder can be influenced by the level of physical activity, cultural influences, and the environment. Although it is becoming increasingly realized that there are back pain problems during pregnancy, its etiology is still unknown. The occurrence of back pain during pregnancy is closely related to various patterns of pain in the back, including *low back pain* (LBP)*, pelvic girdle pain* (PGP), *and combination pain* (Tavares et al., 2020). Back pain often occurs in the second to third trimester compared to the first trimester. This occurs due to the effects of musculoskeletal changes, namely an increase in load on the vertebrae due to the growth of the fetus getting larger, resulting in lordosis of the lumbar (Manyozo et al., 2019). During pregnancy, pain occurs in the area of the lower back, precisely in *the sacroiliac joint* and pubic symphysis (Peterson et al., 2014). Complaints of low back pain are referred to as burning pain sensations in 37.8% of pregnant women. Back pain and pubic symphysis pain (31.7%) are the disorders that most affect comfort during pregnancy and have certain characteristics (Maria Emília Coelho Costa Carvalhoa, Luciana Cavalcanti Limaa et al., 2017; Ramachandra et al., 2015). Most health workers and pregnant women consider back pain to be a normal condition that occurs during pregnancy, where in this case there is no management needed to reduce pain. Women believe this condition will disappear on its own because the lack of knowledge makes women less attentive to this condition and they do not check the pregnancy in health facilities (Al-Sayegh et al., 2012; Verstraete et al., 2013). The highest prevalence of back pain in pregnant women is found in several developed countries such as the United States, the United Kingdom, Scandinavian countries, Europe, several African countries, and Australia, with a prevalence of pelvic wrist pain (PGP) of 44% to 86% compared to complaints of pain in the lumbar area (LBP) and a combination of complaint patterns from both (*combo-pain*), which mostly occur in the third trimester of pregnancy (Ceprnja et al., 2021; Gutke et al., 2018; Omoke et al., 2021). In developing countries (MIC), there is still little data on the associated prevalence of back pain available.

Research and Methods

This research uses *a literature review* design, which is a study by carefully examining knowledge, findings, or ideas from various library sources such as books, articles, and journals that are scientifically oriented to obtain explanations, summaries, and evaluations of previous texts that are relevant to the research topic (Ramdhani, Abdullah & Amin, 2014). The article search process was carried out in November and December 2021. The basic data search was carried out using seven literature search engines, including *Science Direct*, PubMed, *Semantic Scholar*, *SpringerLink*, *BiomedCentral*, Neliti, and *Google Scholar*. Researchers searched with the keyword "*pregnancy*" and combined the words "*back pain*" or "*pelvic girdle pain*" or "*lumbopelvic pain*" or "*low back pain*" and "*prevalence*". After finding the article, it is continued with *the snowball sampling* technique to obtain secondary data. In this case, the researcher reads the literature in one article so that they also find an article that matches the research topic. The data source used is secondary data, where the data source is not obtained from direct review, but is obtained from several scientific articles that have been previously researched. Data sources are obtained in the form of national and international articles with several provisions: (1) articles with a publication period of 20 05-2021; (2) *cross-sectional* studies that reported being associated with the prevalence of back pain during pregnancy; (3) respondents of pregnant women over the age of 19 who come from low- and low-medium-cap developing countries in Asia; (4) the study has a JBI appraisal score of at least 6/9. All articles that fit the inclusion criteria will be organized through EndNote to remove duplicate articles. The reputation assessment methodology in each study was carried out by the researcher himself using *The Joanna Briggs Institute's* (JBI's) *Critical Appraisal Tools,* which consisted of 9 questions according to the type of study to assess the quality and risk of bias of the article.

RESULTS
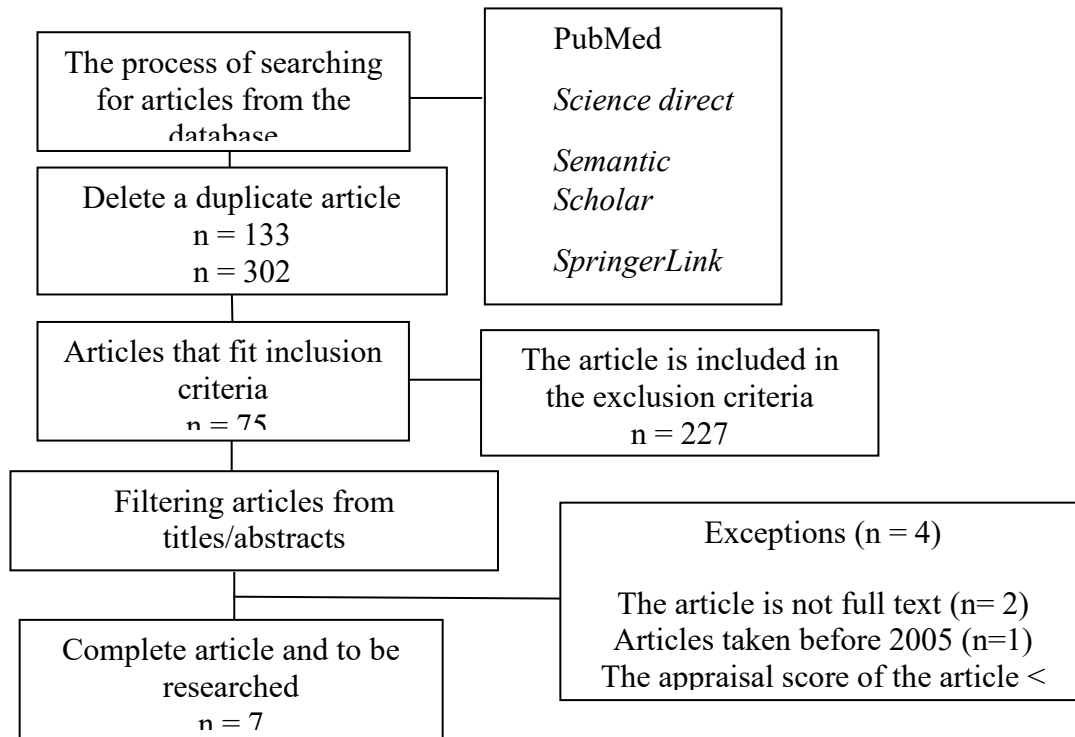
Figure 1. Process Search and Selection Article

As a result of the search and selection, the author got 434 articles based on keywords through seven literature search engines. Articles were duplicated through EndNote, which found 133 of the same articles so that 302 articles remained. Furthermore, the researcher examines the article according to inclusion (n = 75), title and abstract (n = 11), and completeness of the text (n = 7) that corresponds to the topic of eliteization. Articles that passed the screening were then assessed using *The Joanna Briggs Institute's Appraisal Tools for Prevalence Study*. The quality of the study assessment uses a *cut-off* value of 50%, which meets the requirements of the assessment so that it is ready for data extraction (Ulhaq & Rahmayanti, 2019). Based on the appraisal results of eight articles, seven articles meet the standards or criteria, namely three articles worth 8/9, three articles worth 7/9, and one article is worth 6/9. There is one article worth 5/9, so the article cannot be reviewed further. The average article has a high article quality or value of 80%, with 7 articles having a higher score according to *The* JBI *Appraisal Tools,* which means articles have a low bias. All the types of studies that are in accordance with this review are *cross-sectional studies,* carried out in various places and countries in the Asian region, especially including in *low-middle income countries* and *low-income countries* (WHO & Banks, 2021). The countries found, namely South-Central Asia, consist of Nepal

(Shijagurumayum Acharya et al., 2019), India (Mahishale & Borkar, 2016; Saxena et al., 2019; Vijayababu et al., 2016), Pakistan (Shad et al., 2018), and Southeast Asia, consisting of Indonesia (Kurniati Devi, 2019).

Discussion

Based on the age of the respondents, all articles stated that back pain on average occurs at the age of pregnant women from 23 to 27 years. An *online* survey developed by (Dufour et al., 2018) states that age is not a risk factor for back pain. Researchers (Mahishale & Borkar, 2016) found that pregnant women living in cities experienced LBP and PGP more often, namely 75% compared to 25% in rural areas. There is less prevalence in rural areas due to the higher activity levels of rural residents, where individual movements can help the lumbar bones and the movement of the pelvic area more freely compared to urban residents, who tend to be encouraged to do sedentary activities and prevented from engaging in strenuous activities. This is in agreement with research (Kwang et al., 2017) in Malaysia that found pregnant women who work in offices experience higher back pain than mothers who work as household helpers. In this case, work can be one of the risk factors associated with back pain during pregnancy. In Nepal (Shijagurumayum et al., 2019) revealed that as many as 34%, or 432, of the 1.284 respondents experienced back pain in the past month. This data is different from that of the study (Kurniati Devi Purnamasari, 2019) in Indonesia, which amounted to 30 respondents, 86% of whom experienced low back pain. (Shijagurumayum Acharya et al., 2019) suggested the low prevalence results in Nepal were because respondents were mothers who became pregnant for the first time with an average gestational age of 24 weeks. This explanation corresponds to (Cavalcanti Limaa et al., 2017) that with further pregnancy, a history of back pain in previous pregnancies becomes a greater risk of having the back pain come back. (Weis et al., 2018) also reported that back pain increased three times if pregnant women had a previous history of LBP and PGP. The study (Saxena et al., 2019) in Delhi, India found back pain occurred during 34 weeks of pregnancy in about 80%, or 162 of the 201 total respondents who experienced back pain. This is in accordance with the findings (Ramachandra et al., 2015) that the prevalence of low back pain in the first trimester is lower than in the third trimester by 33% (38 respondents out of a total of 116 respondents). A supporter of this research is also expressed by (Casagrande et al., 2015) that as the gestational age increases, the size of the abdomen will enlarge, so that it will cause the posture of pregnant women to changes because the mother's center of gravity will become shifted towards the front, the *iliac* ligaments will become loose, and the development of an enlarged fetus will put more pressure on the pelvic ankle and lower back This leads to hyperflection of the lumbar bone (Casagrande et al., 2015). Research (Shad et al., 2018) conducted in Pakistan with a total of 560 respondents found that back pain arises quite significantly during the third trimester by complaining

of different pain patterns, namely pain, pelvic pain, and combined pain (pelvis and waist). This study coincided with (Weis et al., 2018) that as many as 76.6% or 287 respondents experienced back pain during pregnancy with various patterns, namely 70 respondents or 27.9% experienced lower back pain (LBP), 17 respondents or 27% experienced pelvic pain (PGP), and 33 respondents or 30.7% experienced combined pain (combo *pain*). The study (Vijayababu et al., 2016) in India totaled 202 respondents. Of these, 31 respondents experienced back pain with 3 similar patterns, namely 1 respondent experienced PGP, 17 respondents experienced LBP, and 13 respondents experienced combined pain, namely LBP and PGP. The pain pattern was also found by (Ramachandra et al., 2015), which found the prevalence of LBP only occurred in the third trimester, i.e., (3.4%). PGP tended to occur in the second trimester (37%) and decreased in the third trimester (32.5%). Based on its characteristics, in South Central Asia and Southeast Asia there are differences found, namely the lack of pregnant women who recognize back pain (Shijagurumayum Acharya et al., 2019; Vijayababu et al., 2016). In Nepal (Shijagurumayum Acharya et al., 2019) this is because the majority of respondents have a lower level of education, which can be a factor in the severity of the intensity of the back pain felt. This statement agrees with (Kurniati Devi Purnamasari, 2019) which found that most highly educated pregnant women still want to find information related to back pain from sources other than their immediate environment, such as family (70%), and midwives (23%), as well as from other sources such as magazines, newspapers, or the internet (3.3%). While the similarity found is that the level of activity carried out by pregnant women affects the prevalence of pain, the less activity, the lower the prevalence of pain, as it is found (Ramachandra et al., 2015). In India, pregnant women sit more often in the middle of walking. This agrees with (Kwang et al., 2017) in Malaysia, who found housewives who have lower activity.

Conclusion

Based on the results and discussion written above, it can be concluded that the prevalence of back pain was found to be 75% of the total sample of 3,079, the most there was a pattern of low-complaint back pain with a percentage of 3%-86% of the total 2,334 respondents who experienced back pain during the third trimester of pregnancy. The things that affect the occurrence of back pain vary greatly. In this study, it was found that the age of productive mothers was not a risk factor. In addition, the longer the gestational age, work, and previous history of pain can be things affect the onset of back pain in pregnant women.

Suggestions

It is hoped that the next study can enrich the theoretical point of view by looking at other theories

and adding other appropriate variables so that they can be compared and increase the scope of generalizations that are wider.

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