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Sociodemographic and Clinical Characteristics of Women with Chronic Low Back Pain in Aceh, Indonesia: A Cross-Sectional Study

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Abstract

Background

A frequent musculoskeletal illness in women, chronic low back pain can have a negative impact on daily functioning, quality of life, and physical functioning. In order to create effective preventative and management plans, it is crucial to have a good grasp of the afflicted individuals' sociodemographic and clinical features. The purpose of this research was to characterize the clinical and sociodemographic features of women in Aceh, Indonesia, who suffer from persistent low back pain.

Methods

The research used a cross-sectional design to describe the phenomenon. Patients at a referral hospital for mothers and children in Aceh, Indonesia, who suffered from persistent low back pain were the subjects of the research. Using a convenience sample approach, 250 individuals were recruited in total. The Numeric Rating Scale (NRS) for pain severity and a questionnaire for sociodemographic and clinical factors were used to gather data. In order to analyze the data, descriptive statistics such as percentages, means, standard deviations, and frequencies were utilized.

Results

Participant ages ranged from 55 ± 13.35 years on average. Of the total participants, 52.0% were married, 60.8% had completed secondary school, and 32.4% were stay-at-home moms. With a mean duration of 3.89 ± 2.08 years and a body mass index of 25 ± 3.51 kg/m², the participants in the study experienced persistent low back pain. While 22.8% of subjects reported constant discomfort, 77.2% reported intermittent pain. The average pain score was 4 with a standard deviation of 0.89, suggesting a moderate degree of discomfort.

Conclusion

Most women who suffered from persistent low back pain were in their middle-aged or later years of life, and they were housewives who had completed at least secondary school. According to clinical criteria, the majority of participants were overweight, reported moderate pain severity, pain that lasted for a long time, and pain that came and went.

Keywords: Chronic Low Back Pain, Women, Sociodemographic Characteristics, Clinical Characteristics

Introduction

A major source of impairment on a global scale, low back pain is among the most prevalent musculoskeletal health issues. According to the World Health Organization (WHO), 619 million individuals suffered from low back pain in 2020, and by 2050, that figure is predicted to rise to 843 million instances [1]. In addition to causing physical disability, this disorder has many other negative effects, such as lowering quality of life, limiting daily activities, decreasing productivity at work, and increasing the financial burden on healthcare systems and people [2-4]. Low back pain is still somewhat common in Indonesia, with rates ranging from 7.6% to 37% across different demographic groups [3]. Patients in Aceh who seek medical attention often complain of low back pain, especially those in the middle age and older adult demographics. This suggests that low back pain is still a major public health issue in Aceh that needs treatment and preventative initiatives [5].

More complicated clinical issues, such as physical functional limitations, restrictions in daily activities, sleep disturbances, psychological problems, and reduced quality of life, are associated with chronic low back pain (CLBP), which is defined as pain that lasts more than 12 weeks. There are significant personal and societal costs associated with CLBP since it is a major contributor to job absenteeism and higher healthcare costs in the long run [3, 6].

When compared to males, women have a greater chance of experiencing persistent low back discomfort. Biological, hormonal, reproductive, and social variables all play a role in this heightened susceptibility. Musculoskeletal systems and pain sensitivity can be impacted by hormonal changes that occur during menstruation, pregnancy, delivery, and menopause. In addition, women often assume multiple roles involving domestic responsibilities and occupational activities, which may increase biomechanical stress on the spine and consequently elevate the risk of developing chronic low back pain [7].

Patients with persistent low back pain might be better described by looking at their sociodemographic and clinical traits. Clinical variables include things like body mass index (BMI), pain duration, pain episodes, and pain severity; sociodemographic variables include things like age, marital status, educational attainment, and employment status. Understanding these characteristics is essential for obtaining a comprehensive overview of patients' conditions, identifying high-risk groups, and supporting the development of more effective and patient-centered healthcare services [8].

Although numerous studies have investigated chronic low back pain, most have focused on risk factors, quality of life, disability, and the effectiveness of interventions.

There is a dearth of research in Aceh and throughout Indonesia that focuses on the demographics and health of women who suffer from persistent low back pain. To better treat chronic low back pain in women, this data is essential for informing the creation of tailored promotive, preventative, curative, and rehabilitative interventions.

Study Objective

The purpose of this research was to characterize the clinical and sociodemographic features of women in Aceh, Indonesia, who suffer from persistent low back pain.

Methods

Study Design

Descriptive cross-sectional research was used in this study.

Population and Sample

Women presenting to a mother and child referral hospital in Aceh, Indonesia, suffering from persistent low back pain made up the research population. For this study, we used a convenience sampling strategy, which entails selecting respondents according to their availability and interest in taking part in the data gathering process. Two hundred and fifty people met the inclusion and exclusion criteria and were subsequently recruited in the research.

Here are the criteria that were used for inclusion: (1) women aged 18 years or older; (2) diagnosed with chronic low back pain with symptoms persisting for at least three months; (3) receiving treatment or attending follow-up care at the selected maternal and child referral hospital in Aceh during the data collection period; (4) able to communicate verbally and provide the required information; and (5) willing to participate in the study by providing written informed consent.

The exclusion criteria included: (1) patients with cognitive impairment or communication difficulties that could interfere with the data collection process; (2) patients who did not complete all study instruments; and (3) patients who declined participation or withdrew from the study during the data collection period.

Study Setting and Period

This study was conducted at a specialized maternal and child referral hospital in Aceh, Indonesia, between November 2024 and March 2025.

Data Collection Procedure

This study's data gathering process included two phases: Planning and execution. During the preparation stage, the researcher coordinated with a specialized maternal and child referral hospital in Aceh, Indonesia, to obtain permission to conduct the study. This process included submitting an official research permit from the Faculty of Nursing, Syiah Kuala University, and obtaining ethical approval from the relevant ethics committee. In addition, the researcher prepared the study instruments, including a sociodemographic and clinical characteristics questionnaire and the Numeric Rating Scale (NRS) to assess pain intensity. An informed consent form was also developed, providing information regarding the study objectives, procedures, benefits, potential risks, and participants' rights.

During the implementation stage, the researcher was assisted by four trained enumerators who had received prior training on study procedures, participant approach techniques, and proper administration of the research instruments. The researcher and enumerators approached eligible participants at the study site and provided detailed explanations regarding the study objectives and procedures. In order to verify that participants were giving their informed permission voluntarily, we had them sign an informed consent form.

Next, information was gathered by means of structured questionnaires that inquired about several sociodemographic and clinical factors, such as age, marital status, degree of education, profession, BMI, length of time with pain, frequency of pain episodes, and severity of pain. The NRS was utilized to quantify the degree of pain. During data collection, the researcher and enumerators assisted participants to ensure that all items were clearly understood and fully completed.

After data collection was completed, the researcher checked the data for completeness and consistency (data editing) before proceeding to data processing and analysis. Lastly, the hospital's certification served as evidence that the data gathering process had been carried out in compliance with the authorized research protocol.

Data Analysis

This research aimed to characterize the socioeconomic and clinical features of female patients suffering from persistent low back pain by use of descriptive (univariate) statistics. Various descriptive statistics were employed, such as percentages, means, standard deviations, minimums, and maximums, as well as frequency distributions.

Editing, coding, data input, and tabulation were some of the steps used to guarantee that the data was comprehensive, accurate, and consistent before analysis began. Afterwards, statistical software was used to examine the data in line with the study goals.

Since the purpose of this study was to characterize respondent characteristics rather than to investigate correlations or effects between variables, inferential hypothesis testing was omitted from the analysis. Age, marital status, education level, and employment were among the sociodemographic factors examined; BMI, pain duration, pain episodes, and severity were among the clinical factors.

The analysis was conducted to provide a thorough overview of the sociodemographic and clinical characteristics of female patients with chronic low back pain at a specialized referral hospital for maternal and child health in Aceh. The results were presented using frequency distribution tables, percentages, measures of central tendency and dispersion.

Ethical Consideration

Ethical clearance and research permission were both granted by Syiah Kuala University, Indonesia's Faculty of Nursing, under the study's registration number 112017150925.

Results

Tables 1 and 2 display the respondents' characteristics.

Table 1: Sociodemographic Characteristics of Women with Chronic Low Back Pain (n = 250)

Variable	n	%
Marital Status		
Single	13	5,2
Married	130	52,0
Divorced	107	42,8
Educational Level		
Primary education	46	18,4
Secondary education	152	60,8
Higher education	52	20,8
Occupation		
Farmer	29	11,6
Civil Servant	36	14,4
Laborer	20	8,0
Retired	32	12,8
Self-employed	52	20,8
Homemaker	81	32,4

Most respondents were married (52.0%), had a secondary education (60.8%), and were homemakers (32.4%), according to Table 1.

Table 2: Clinical Characteristics of Women with Chronic Low Back Pain in Aceh, Indonesia (n = 250)

Variable	n (%)
Age (years)	
Mean (SD)	55 ± 13,35
Min-Max	22-84
Body Mass Index (BMI) (kg/m²)	
Mean (SD)	25 ± 3,51
Min-Max	18-32
Years of Employment (years)	
Mean (SD)	24 ± 11,44
Min-Max	1-44
Duration of CLBP (years)	
Mean (SD)	3,89 ± 2,08
Min-Max	1-11
Pain Intensity (NRS)	
Mean (SD)	4 ± 0,89
Min-Max	3-6
Pain Pattern	
Intermittent	193 (77,2)
Continuous	57 (22,8)

Results from Table 2 show that the respondents' ages ranged from 22 to 84 years old, with a mean age of 55 ± 13.35 years. With an average length of work of 24 ± 11.44 years and a mean body mass index of 25 ± 3.51 kg/m². The mean duration of chronic low back pain was 3.89 ± 2.08 years, and the mean pain intensity score was 4 ± 0.89. Most respondents experienced intermittent pain (77.2%), whereas 22.8% reported continuous pain.

Discussion

The average age of women with chronic low back pain in this research was 55 ± 13.35 years, suggesting that this ailment was more common in older age groups and late adulthood. Previous research has shown that degenerative alterations in the intervertebral discs, facet joints, and spinal supporting structures increase the incidence of low back pain with age [7]. This conclusion is in line with those findings. In addition, a worldwide study on the effects of menopause on women's health found that low back pain is more common and more severely disabled in women aged 55 and more, mostly as a result of hormonal shifts and the natural aging process [9]. When it comes to treating women's persistent low back pain, these results show that age is a major issue.

Regarding marital status, most respondents were married (52.0%), while 42.8% were divorced or widowed. Marital status is closely related to social support, which may influence individuals' ability to cope with chronic pain conditions. Spousal and family support contributes to improved treatment adherence, assistance with daily activities, and reduced psychological burden associated with chronic pain [10]. Although this study did not examine associations between marital status and health outcomes, the findings suggest that social support should be considered in nursing care planning for patients with chronic low back pain.

Most respondents had a secondary level of education (60.8%). This finding is consistent with previous studies reporting that sociodemographic characteristics, including educational level, contribute to variations in the occurrence and experience of low back pain among adult populations [11]. Educational attainment may influence health literacy, the ability to understand medical information, and decision-making regarding health-related behaviors [12]. Individuals with higher educational levels are generally more capable of understanding preventive strategies, exercise recommendations, and therapeutic advice provided by healthcare professionals.

Among the participants, homemakers made up the biggest category at 32.4%, with self-employed people coming in second at 20.8%. This finding may be explained by frequent exposure to repetitive physical activities involving bending, lifting, and prolonged static postures. According to a meta-analysis, women are more likely to have low back pain as a result of the physically demanding nature of domestic labor [13]. Another element that has been linked to the onset of chronic low back pain is the long-term exposure to biomechanical stress that occurs when working [14]. Therefore, education on ergonomic principles and safe movement techniques should be an essential component of nursing care for women with CLBP.

The average BMI of the participants was 25 ± 3.51 kg/m², suggesting a propensity towards being overweight. Consistent with other research, this data shows that a higher body mass index is linked to the development and maintenance of persistent low back pain [15]. Excess body weight increases mechanical loading on the lumbar spine, potentially accelerating degenerative changes and exacerbating pain symptoms [16]. Increased inflammatory

mediators, which are linked to adipose tissue buildup, may also play a role in the maintenance of chronic pain.

Prolonged exposure to ergonomic risk factors during employment was indicated by the mean length of 24 ± 11.44 years. Chronic low back pain is substantially linked to heavy lifting, bending over the same spot over and over, sitting for long periods of time without moving, and physically demanding jobs [14]. The results show that when it comes to managing and preventing persistent low back pain, occupational considerations are still a major element to consider.

The majority of the individuals had gone through long-term suffering, as the average duration of chronic low back pain was 3.89 ± 2.08 years. Reductions in physical ability, restrictions on everyday activities, and an increased risk of psychological disorders like anxiety and depression are all known to be caused by chronic pain [17]. This emphasizes the need for an interdisciplinary strategy to manage CLBP, with nursing treatments taking into account both the physiological and psychological components.

A moderate level of discomfort was indicated by the mean pain intensity score of 4 ± 0.89. This confirms what previous research in Indonesia has shown: that CLBP is associated with moderate to severe pain, which in turn can impair physical performance, daily activities, and sleep quality [18]. Although classified as moderate, persistent pain over time may still significantly impact patients' quality of life.

Most respondents experienced intermittent pain (77.2%), while 22.8% reported continuous pain. Intermittent pain is a common characteristic of CLBP influenced by physical activity, psychological factors, and environmental conditions. Recurrent pain episodes may lead to activity limitations and reduced well-being if not properly managed [19, 20]. Therefore, CLBP management should not only focus on pain reduction but also on preventing recurrence through physical exercise, patient education, activity modification, and control of contributing risk factors.

The majority of the women with CLBP in this research were middle-aged or older, married, and had completed at least secondary school. The majority of these women were also homemakers. According to clinical data, the majority of participants were overweight, had intermittent pain patterns, and suffered from moderate to severe pain that lasted for an extended period of time. This research has the potential to inform the design of all-encompassing, patient-centered nursing therapies to alleviate persistent low back pain in women.

Conclusion

Women suffering from chronic low back pain tended to be housewives, middle-aged or older, married, and educated up to the secondary level, according to this study. Clinically, most participants were overweight and experienced moderate pain intensity, long pain duration, and intermittent pain patterns.

Recommendations

Healthcare providers are encouraged to use information on the sociodemographic and clinical characteristics of women with chronic low back pain as a foundation for developing patient-centered education, prevention, and management strategies that are better tailored to patients' needs.

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