

Age Relationship With Pain Complaints In *Low Back Pain* Patients At Aceh Regional General Hospital, Indonesia

Muhammad Reza Rizki¹, Marlina^{2*}, Cut Husna³

¹(Master of Nursing Student, Syiah Kuala University, Indonesia)

²(Lecturer at Faculty of Nursing, Syiah Kuala University, Indonesia)

³(Lecturer at Faculty of Nursing, Syiah Kuala University, Indonesia)

Abstract:

Low Back Pain Is One Of The Musculoskeletal Disorders As Well As The Second Leading Cause Of Disability In The World, It Tends To Be Very Common In Healthy Patients With Various Health Problems Or Complications Of Different Diseases (Comorbidities) That Make It Difficult For A Person To Carry Out Daily Activities Normally. This Study Aims To Determine The Relationship Between Characteristics And Comorbid Conditions With The Incidence Of Low Back Pain.

Materials And Methods: *The Design Of This Study Is Cross Sectional Study. Data Was Collected From 237 Respondents Selected By Non-Probability Sampling Technique With Convenience Sampling Technique. Data Collection Tools In This Study Consisted Of International Physical Activity Questionnaire (IPAQ), Depression Anxiety And Stress Scale-21 (DASS-21), Self Administered Comorbidity Questionnaire (SCQ), Short Form Mcgill Pain Questionnaire (SF-MPQ) And Physical Factor Questionnaire That Had Been Tested For Validity With An R Table Value (0.632) And Reliability With A Cronbach Alpha Value Of > 0.6. Data Analysis Using Chi Square Test.*

Results: *The Results Showed That There Was A Significant Association Between Age And Pain In Patients With Low Back Pain (P = 0.001).*

Conclusion: *As A Person Gets Older, It Will Aggravate The Pain In Patients With A Diagnosis Of Low Back Pain Accompanied By Other Factors, Namely Repetitive Activities, Wrong Body Position And Other Accompanying Diseases. In This Case, The Hospital Must Strive To Carry Out Prevention Programs For Patients With Low Back Pain So That It Can Reduce The Intensity Of Patients In Making Visits To The Hospital And Do Not Occur Recurring Pain Symptoms.*

Key Word: *Pain In Low Back Pain Patients; Comorbidity; Characteristic.*

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I. Introduction

Low back pain (LBP) is the second leading cause of disability in the world, making it the leading cause of disability globally. In addition, the largest proportion of this condition is very common in healthy patients with various health disorders, who often experience complications of the disease, one-third to one-half musculoskeletal disorders, and is often associated with depression [1]. It is estimated that about 50-80% of people with low back pain are those over the age of 18 years. Workers are at risk for LBP, so this is a major cause of disability. The workload of LBP patients is likely to result from ergonomic exposures which was estimated at approximately 21,8 million disability-adjusted life-years (DALYs) in 2010 (95% CI: 14,5-30,5). In addition, women are more likely to experience LBP than men, people with LBP are perform daily activities and everyone is at greater risk of developing LBP as they age [2].

The lower back area is anatomically defined extending from the 12th rib to the iliac crest, and although LBP often coexists and is combined with pain in the buttocks area, the buttock region is anatomically distinct and consists of the area at the iliac crest to the gluteal fold. In this case most people have at least one episode of acute low back pain in their lifetime, the condition usually resolves on its own but often also becomes chronic [3].

Comorbidities that are often found in low back pain patients include hypertension, which accompanies the most common cause of low back pain found in cases of Herniated Nucleus Pulposus (HNP), namely dislocation of the nucleus pulposus which discharge from the intervertebral disc, thus requiring spinal surgery in some patients [4]. Globally, age-based prevalence data for LBP is available, which decreased from 8,20% in 1990 to 7,50% in 2017. In the gender category, women experienced more LBP than men, 8,86% in 1990 and 8,01% in 1990 and 2017, and men experienced 7,47% and 6,94% in 1990 respectively and 2017. In this context, the total number of LBP sufferers was estimated at 377,5 million in 1990, but increased by 577 million in 2017 [5]. Public health center in Manado City reported the results of 92 musculoskeletal patients suffering from LBP in 2018 and

the number of cases increased in 2019 to 290 patients, compared to a total of 87 cases in 2018 in residents aged 20 and over, the number of cases increased in 2019, with 282 patients. From the results of the LBP incident report related to age [6].

Age is thought to be associated with pain in patients with *low back pain*. The purpose of this study was to determine the relationship between age and the level of pain experienced in patients with *low back pain*.

From the above problems, researchers want to identify whether there is a relationship between age and complaints of *low back pain* experienced by patients. By knowing this problem, it can be found about other problems related to LBP that afflict patients so that they hinder carrying out normal activities.

II. Material And Methods

Study Design: *Cross Sectional study*

Study Location: This study was conducted in one of the hospitals in Aceh.

Study Duration: April 12 to May 18, 2023.

Sample size: 237 *low back pain* patients who were outpatient.

Sample size calculation: The sample size in the study was measured using the Isaac & Michael formula with a population of 618 patients and a confidence level of 95% so that a sample size of 237 respondents was obtained.

Subjects & selection method: The sampling technique used is *convenience sampling*.

Instruments: Data collection on *low back pain* patients using the *International Physical Activity Questionnaire* with 7 questions calculated using the METs formula with measuring results divided into 3 categories, namely high activity, moderate activity and low activity. While data on the level of pain in *low back pain* using the *Short Form McGill Pain Questionnaire* (SF-MPQ) questionnaire by looking at pain intensity with 15 questions containing alternative answers in the form of Likert scale, namely 0 = no pain, 1 = mild pain, 2 = moderate pain and 3 = severe pain. SF-MPQ has high reliability with the *value of the Cronbach alpha* coefficient for 15 items is 0.926.

Inclusion criteria:

1. *Low back pain* patients.
2. Patients who are doing outpatient treatment.
3. *Compos mantis* awareness
4. Cooperative

Exclusion criteria:

1. *Low back pain* patients who are experiencing severe pain (unbearable).
2. Patients who do not agree to be examined.

Procedure methodology

The research procedure was carried out after obtaining ethical permission from the hospital (No.040/ETIK-RSUDZA/2023). Samples are selected by *convenience sampling* technique. Data collection was carried out by distributing questionnaires to patients directly by researchers assisted by three enumerators who and patients were guided directly during the study. When the data has been collected, the researcher will check the completeness of the questionnaire filling process that has been carried out and data analysis will be carried out.

Statistical analysis

After the data was collected, then a process of re-examination was carried out on the completeness of filling in all parts of the research instrument that had been collected one by one, and no missing data was found, then coding and analysis were carried out using a computerized program. The data analysis used is descriptive statistics, including the frequency and proportion of each variable. Testing for statistical significance to see whether there is a relationship or not is done using the *Chi-square test*.

III. Result

Table 1. Frequency Distribution of Respondent Characteristics in *Low Back Pain* Patients in Aceh Regional Hospital in 2023 (n = 237)

No	Characteristics of Respondents	Frequency	Percentage
1	Age		
	40-60 Years and older (Late Adult)	154	65,0
	18-40 years (early adulthood)	83	35,0
2	Gender		
	Woman	145	61,2
	Man	92	38,8
3	Body Mass Index (BMI)		

	Usual	164	69,2
	Fat	68	28,7
	Thin	5	2,1
4	Period of Service		
	≥ 10 Years	196	82,7
	≤ 10 Years	41	17,3
5	Smoking Habits		
	Passive	186	78,5
	Active	51	21,5
6	History of Education		
	Secondary Education	102	43,0
	Higher Education	94	39,7
	Primary Education	41	17,3
7	Income Level		
	≥ UMP (≥ IDR 3,280,000)	138	58,2
	≤ UMP (≤ IDR 3,280,000)	99	41,8
8	Physical Activity		
	Low	210	88,6
	Tall	27	11,4
9	Physical Factors		
	There is a risk	196	82,7
	No risk	41	17,3
10	Psychosocial Factors		
	Normal	188	79,3
	Mild	49	20,7
11	Comorbidity		
	Exist	193	81,4
	None	44	18,5

Table 2: Relationship between age and pain complaints in low back pain patients in Aceh General Hospital, Indonesia

Variable	Pain Level						p
	Mild pain		Moderate pain		Total		
	f	%	f	%	f	%	
Age							
a. 18-40 (Early adulthood)	81	72,8	2	10,2	83	100	0,001
b. > 40 (Late adulthood)	127	82,5	27	18,8	154	100	

IV. Discussion

Low back pain is one of the most common health problems in primary care [7]. LBP can be defined as pain between the last rib cage and the lower gluteal fold with or without pain in the lower limbs [8]. From this it can be seen that *low back* pain patients experience mild pain. Some studies say that complaints of pain in *low back pain* are generally in the age range of 26 years and over (50.9%) [9]. In another study, respondents experienced the most complaints of *low back pain at the* age of > 25 years by 74% [10].

In accordance with the results of the study which said that there was a very significant relationship between age and pain complaints in *low back pain* patients with $p = 0.001$. The results of this study can be connected that the older a person gets, there will be degeneration in the bones and this situation begins to occur when a person is 30 years old. At this age there is degeneration in the form of tissue damage, tissue replacement into scar tissue or fluid reduction. This causes stability in bones and muscles to be reduced, so the older a person is, the more at risk the person has a decrease in elasticity in the bones which triggers the onset of symptoms of *low back pain* [11].

Decline in physiological, neurological and physical abilities occurs after the age of 30 to 40 years with a different rhythm for each person. Previous research revealed a person in the age range of 35 years experienced an increase in *musculoskeletal* pain [12]. This is also reinforced by other studies that someone who is more susceptible to *musculoskeletal* complaints including the lower back is an elderly worker [13].

Other studies also mention that the prevalence, incidence and rate of *Years Life of Disability* (YLD) worldwide is higher in women than men, the trend of common cases worldwide, incidence cases, and YLDs in 2019 increases with age and peaks at the age of 45-54 years for both men and women, this also applies to the age group of 80-84 years for men and women 2019 [14].

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The country of Indonesia experiences a *low back pain* incidence of 18% and is likely to continue to increase with age and this often occurs in the middle decade and early fourth decade age which is 85% where the cause is non-specific [8]. Based on statistical data, there are 26.74% of people aged 15 years and over who work experience complaints and health problems, which is due to the increasing age of a person, muscle strength decreases [15].

In this case the risk of *low back pain* can be experienced by anyone and from any age, LBP attacks usually occur between the ages of 30 or 50 years and the condition becomes more risky with age, as individuals age the position of the cushioning discs between the spine is getting off so that the ability to absorb shocks is getting lower so that it becomes one of the factors that support the risk of LBP. Many other things can affect such as length of work, fitness level, weight gain, smoking, genetics and bad habits while working [16].

Therefore, it can be concluded that pain complaints in *low back pain* patients greatly affect elderly individuals, because with these problems can cause uncomfortable pain and interfere with daily activities. In this case, nurses are expected to take more roles in the prevention of this disease so that patients with *low back pain* do not experience recurring symptoms and reduce the schedule of treatment visits gradually.

V. Conclusion

Based on the results of this study, it can be concluded that there is a relationship between age ($p = 0.001$) with complaints of *low back pain* at the Regional General Hospital, Aceh.

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