



## **Description of Rheumatoid Arthritis Pain and Level of Independence in Daily Life Activities in the Elderly in the Working Area of the Kaluku Bodoa Makassar Health Center**

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### **Abstract**

*The elderly are a high-risk group who experience various health problems, especially degenerative diseases such as Rheumatoid Arthritis. Rheumatoid Arthritis has developed and attacked 2.5 million Europeans, around 75%, the prevalence of rheumatic pain in Indonesia reaches 23.6% to 31.3%. This study aims to determine the description of rheumatoid arthritis pain and the level of independence in daily life activities in the elderly in the Kaluku Bodoa Health Center Makassar Working Area. The population in this study were all elderly people in the working area of the Kaluku Bodoa Makassar Community Health Center. The number of samples studied was 67 respondents using the accidental sampling technique. Data was collected from March 30 to April 11 through filling out questionnaires and structured interviews. The results showed that of the 67 respondents, the majority of respondents experienced mild pain, namely 51 people (76.1%), while the level of independence of the elderly in daily life, the majority of respondents were independent, namely 48 people (71.6%) in perform ADL (Activity Daily Living). Based on the research results, it was concluded that respondents who experienced severe pain would always depend on their family members, thereby interfering with their daily activities, while respondents who only experienced mild pain would be more independent and able to carry out their daily life activities without help from other people. It is hoped that it can provide support to elderly families so that they continue to participate in the elderly posyandu program, as well as providing health education related to the elderly, such as rheumatoid arthritis pain for the elderly.*

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### **Introduction**

In line with the success that has been realized by the government in national development in various fields, namely economic progress, environmental improvement, progress in science and technology, especially in the medical and medical fields, it has improved the quality of population health and increased human life expectancy (Wahyudi, 2008).

Growing old is marked by biological decline which can be seen as symptoms of physical decline, including skin starting to sag, wrinkles appearing, hair turning gray, teeth starting to become toothless, reduced hearing and vision, fatigue easily and fat accumulation, especially in the stomach and hips (Saxon, et al., 2021; Gonzales et al., 2022; Szymkowicz et al., 2023). Other setbacks that occur are cognitive abilities such as forgetfulness, decreased orientation towards time, and not easily accepting new things ideas (Maryam, 2008).

Old age can be said to be the golden age, because not everyone can reach that age, older people need nursing care, both promotive and preventive, so that they can enjoy their golden age and become a useful and happy old age (Tamher, 2009). WHO and Law No. 13 of 1998 concerning the welfare of the elderly state that 60 years is the age at which old age begins (Syufa'at et al., 2023; Kang & Kim, 2022). Aging is not a disease, but a process that gradually results in

cumulative changes, a process of decreasing the body's resistance in dealing with stimuli from inside and outside the body which ends in death (Gladyshev et al., 2021; Yang et al., 2023).

Throughout the world the number of elderly people is estimated to be 500 million with an average age of 60 years and it is estimated that by 2025 it will reach 1.2 billion. In developed countries such as the United States, the increase in elderly people is estimated at 1,000 people/day and it is estimated that 50% of the population is over 50 years old, so that *the term Baby Boom* in the past has changed to "elder population explosion" (Pilleron et al., 2021; Rao & Fisher, 2021; Shackleton & De Vos, 2022).

The Central Statistics Agency (BPS) report shows an increase in life expectancy (UHH). In 2010 (with the percentage of the elderly population being 7.56%), in 2011 it was 69.65 years (with the percentage of the elderly population being 7.58%), whereas in 2013 the average life expectancy of the Indonesian people reaching 72 years (Ministry of Health of the Republic of Indonesia, 2013).

The results of the recapitulation of data from the South Sulawesi Health Service (2014), show that the number of elderly women is greater than that of elderly men. The rapid growth of the elderly population accompanied by conditions of social security that are still limited, relatively low levels of education and welfare has also increased the dependency ratio quite high. The percentage of elderly aged > 60 years is 4.54% (South Sulawesi Provincial Government, 2014).

With the increasing number of elderly people, various chronic diseases have emerged in the elderly. One of them is rheumatoid arthritis. In 2012, the World Health Organization (WHO) reported that 20% of the world's population was affected by rheumatoid arthritis. Where 5-10% are those aged 5-20 years and 20% are those aged 55 years. The prevalence of musculoskeletal diseases in the elderly with Rheumatoid Arthritis has increased to 335 million people worldwide. Rheumatoid Arthritis has developed and attacks 2.5 million Europeans, around 75% of whom are women and is likely to reduce their life expectancy by almost 10 years. In the United States in mid-2013, this disease ranked first where 12.1% of the US population with Rheumatoid Arthritis aged 27-75 years had disabilities in the knees, hips and hands, while in England around 25% of the population aged 55 years and over suffered from it. Rheumatoid Arthritis of the knee (Indonesian Ministry of Health, 2013).

In Indonesia, epidemiological data regarding Rheumatoid Arthritis is still very limited. Based on the results of research by Zeng QY et al 2012, the prevalence of rheumatic pain in Indonesia reached 23.6% to 31.3%. The results of research conducted by the Department of Internal Medicine, Faculty of Medicine, University of Indonesia (FKUI), the Health Research and Development Agency (Balitbangkes) of the Ministry of Health in 2013, and the DKI Jakarta Health Service during 2013, of the 1,645 male and female respondents studied, the researchers explained as much 66.9% of them have experienced joint pain. Based on the 2013 Household Health Survey (SKRT) report, 72.4% of the population complained of joint pain. This figure shows that the pain caused by rheumatism is enough to disrupt the activities of Indonesian people (Indonesian Ministry of Health, 2013).

Rheumatism or rheumatoid arthritis causes inflammation of the inner lining covering the joints. This disease lasts for years, attacks various joints usually symmetrically, if this inflammation is chronic there is damage to the joint cartilage and bones, muscles, ligaments in the joints. Rheumatoid arthritis attacks joints such as the fingers/toes, wrists, ankles. 90% of the main complaints of rheumatoid arthritis are joint pain and joint stiffness (Fox & Taylor, 2022; Zhou et al., 2022; Jin et al., 2023).

Being independent in carrying out daily life activities is a habit of acting, not depending on other parties for self-care or daily activities. To determine dependence on the family, it is

necessary to assess their functional status, namely examining the ability to perform ADL (*Activities of Daily Living*). Ability to perform ADL (*Activity of Daily Living*) measured by the level of independence and dependence of the elderly, both male and female elderly, using *the Barthel Index* for daily life activities (Maryam, 2008).

The results of research conducted by Rachmawati et al. (2006) showed that 80% of elderly people suffer from musculoskeletal pain. The average subjective pain quality (VAS) was  $2.7 \pm 1.9$  and the highest pain location was found in the knee at 41%. Physical functional ability obtained an average value of  $6.9 \pm 0.4$  which is included in the limited independence category.

The results of another study conducted by Novilla et al. (2023), showed that 20 respondents (51.3%) experienced low pain accompanied by a high level of independence, and 19 respondents (48.7%) experienced high pain accompanied by a low level of independence. The results of statistical tests using the Chi Square test with  $\alpha=0.05$  showed that there was a significant relationship between Rheumatoid Arthritis pain and the level of independence in carrying out daily activities in the elderly (p value=0.000).

An initial survey conducted at the Kaluku Bodoa Makassar Community Health Center, obtained data on the number of elderly people in 2012 and 2013, namely the same number, namely 2,216 people, in 2014 the number of elderly people increased by 3,422 people, and in 2015 for the January-February period the number of elderly people was 575. and 81 of them suffered from rheumatoid arthritis (Kaluku Bodoa Makassar Health Center Medical Records, 2015).

## **Method**

The study adopted a descriptive observational design to examine rheumatoid arthritis (RA) pain features and daily activity independence levels of elderly persons in the Kaluku Bodoa Health Center working region of Makassar. The research intended to create a complete understanding of rheumatoid arthritis effects on elderly physical abilities for independent performance of fundamental daily activities.

The Kaluku Bodoa Health Center area registered all elderly persons who formed the target research population for this study. A total of 67 subjects were picked via accidental sampling method from the included population to take part in this research. All participants needed to be aged sixty years or older with rheumatoid arthritis diagnosis and willingness to answer interview questions and complete questionnaires for the study.

Research data collection lasted two weeks during March 30 to April 11 by using standardized questionnaires combined with direct interviews of study participants. The questionnaire obtained information about both rheumatoid arthritis pain intensity as well as independence with daily living activities. VAS served as the mechanism to evaluate pain intensity and the Barthel Index functioned as the established geriatric nursing method to assess the patient's performance in activities including bathing, dressing, toileting, transferring, continence, and feeding.

The research team used personnel who trained in questionnaire administration to perform all the interviews for both consistency and to minimize bias affecting elderly participants. The research followed ethical standards by receiving voluntary consent from every participant and by preserving confidentiality and requiring full voluntary engagement from participants.

The Statistical Package for the Social Sciences (SPSS) software processed the coded responses obtained from the data collection phase. The study presented descriptive statistics to present data findings about participant RA pain severity along with their independence level through frequency distributions and percentage values.

The applied research methodology produced extensive explanation regarding RA pain patterns in elderly people while showing their relationship to their functional abilities. These results create a foundation to design health-oriented programs which enhance the quality of life for rheumatoid arthritis patients among elderly populations.

## Result and Discussion

Rheumatoid arthritis, a common degenerative disease in the elderly, can significantly impact joint function and mobility, thereby influencing one's ability to perform routine tasks independently. Given the demographic trends and the growing elderly population in Indonesia, understanding the patterns of pain severity and functional independence among this vulnerable group is essential for improving geriatric care strategies. The following section presents the data collected from 67 elderly respondents and interprets the results in the context of existing literature and theoretical frameworks.

### Rheumatoid Arthritis Pain

Table 1. Distribution of Respondents Based on Rheumatoid Arthritis Pain in the Working Area of the Kaluku Bodoa Health Center Makassar 2015

<b>Rheumatoid Arthritis Pain</b>	<b>n</b>	<b>%</b>
Severe Pain	4	6,0
Moderate Pain	12	1,9
Mild Pain	51	76,1
Amount	67	100,0

Source: Primary Data

Based on the interpretation results in table 1, it shows that 4 respondents experienced severe pain (6.0%), 12 people experienced moderate pain (17.9%), and 51 people experienced mild pain (76.1%).

### Level of Independence in Daily Life Activities in the Elderly

Table 2. Distribution of Respondents Based on the Level of Independence in Daily Life Activities for the Elderly in the Working Area of the Kaluku Bodoa Health Center, Makassar 2015

<b>Level of Independence</b>	<b>n</b>	<b>%</b>
Heavy Addiction	4	6,0
Light Dependency	15	22,4
Independent	48	71,6
Amount	67	100,0

Source: Primary Data

Based on the results of the interpretation in table 2, it shows that respondents with heavy dependence were 4 people (6.0%), 15 people with light dependence (22.4%), and 48 people (71.6%) who were independent.

According to Maryam (2008), elderly people generally experience several changes, namely physical/physiological changes, mental/psychological changes and occur in the musculoskeletal, nervous, cardiovascular, respiratory, sense and integument systems.

## **Description of Rheumatoid Arthritis Pain in the Elderly in the Working Area of the Kaluku Bodoa Health Center Makassar**

The results of the research on the level of rheumatoid arthritis pain experienced by respondents showed that the majority of respondents experienced mild pain, namely 51 people (76.1%), moderate pain totaling 12 people (17.9%), and severe pain totaling 4 people (6.0%). This is because when the research was conducted, the majority of respondents said they experienced pain in the morning, the joints felt painful when moved and the joints felt hot. This theoretically explains that the symptoms of rheumatoid arthritis are stiffness in the morning lasting 30 minutes, feeling warm and painful when moved. The presence of joint pain in rheumatoid arthritis can make sufferers often afraid to move, which interferes with their daily activities and can reduce their productivity. There are 2 factors that play a role in the severity of pain in rheumatoid arthritis sufferers, namely; the severity of the disease and the pain threshold of the sufferer. The more severe the disease, the more the pain increases and if the disease can be stopped, as in rheumatoid arthritis, the pain will decrease.

The results of this research are in accordance with research conducted by Hellmann, A. (2021), which shows that of the 39 respondents who experienced rheumatoid arthritis, 29 people (74.36%) experienced mild pain, and 10 people (25.64%) experienced high pain. In rheumatoid arthritis, pain and inflammation are caused by an immunological process in the synovia which results in synovitis and pannus formation which ultimately causes joint damage. In gouty arthritis, the presence of uric acid crystal deposits in the synovia/joint cavity will result in inflammation (Perry & Potter, 2005).

According to Setiabudhi & Hardywinoto (2005), the presence of joint pain in rheumatoid arthritis often makes sufferers afraid to move, which disrupts their daily activities and can reduce their productivity. Decreased musculoskeletal abilities due to joint pain can also reduce physical activity and exercise, which will affect the elderly in carrying out daily life activities. This is in accordance with the research results because respondents who experience severe pain will always depend on their family members, thereby interfering with their daily activities, while respondents who only experience mild pain will be more independent and able to carry out their daily life activities without help from other people.

## **Level of Independence in Daily Life Activities for the Elderly in the Working Area of the Kaluku Bodoa Health Center Makassar**

The results of the research on the level of independence of elderly people in daily life show that the majority of respondents were independent, namely 48 people (71.6%) in carrying out ADL (*Activity Daily Living*), of which 15 people (22.4%) experienced mild dependence, and 4 people (6.0%) experienced severe dependence. This can be explained that independence in old age depends on the ability of functional status in carrying out daily life activities. Elderly independence includes the elderly's ability to carry out daily activities such as; shower, dress neatly, go to the toilet, move around, be able to manage your bowel movements, and be able to feed yourself. Activities are closely related to a person's independence, such as elderly people who are independent and rarely suffer from joint pain tend to prefer sports such as gymnastics and leisurely walks as stated by Barbara & Erb (2010), that activity can be useful for maintaining joint function.

The results of this research are in accordance with research conducted by Dewi (2020), which was conducted on 90 respondents in the Lampasi Health Center Work Area, showing that the majority of respondents could carry out their activities alone or independently, namely (87.78%).

The level of independence of the elderly in carrying out daily activities is greatly influenced by the health status experienced, where if the elderly have poor health conditions then the elderly tend to need help from other people to be able to meet their daily needs, but if the elderly have good health conditions then the elderly will be able to be independent in meeting their daily needs. At the time the research was conducted, most of the elderly who suffered from rheumatoid arthritis were able to meet their own needs without having to get help from other people. This was because the majority of respondents only experienced mild pain so that the elderly were still able to meet their daily needs without the help of other people.

According to Hurlock (1990), elderly people in good health can do any activity, while those in moderate health tend to choose activities that require little physical activity. Who said that independence for elderly people can be seen from the quality of their health so they can carry out daily life activities.

The level of independence is not only influenced by health conditions, but independence can be influenced by economic factors and social conditions. Economic condition factors, for example, to meet their living needs, they do not work, but receive help from children or family, while social condition factors are important conditions that support happiness for elderly people, namely enjoying social activities carried out with family relatives and friends.

### **Conclusion**

Based on the results of research regarding the description of rheumatoid arthritis pain and the level of independence in daily life activities in the elderly in the Kaluku Bodoa Health Center Makassar Working Area, it can be concluded ; (1) Based on the level of rheumatoid arthritis pain experienced by respondents , the majority of respondents experienced mild pain, namely 51 people (76.1%) ; (2) Based on the level of independence of elderly people in daily life , the majority of respondents were independent, namely 48 people (71.6%) in carrying out ADL (*Activity Daily Living*).

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