

CHAPTER VI DISCUSSION

A. Interpretation and Discussion of Results

1. Participant Characteristics

a. Age

Based on the results of the descriptive analysis, it is known that the average age of the participants is 46.17 years with a median of 44 years. The youngest age of the Participant was 34 years old, and the oldest age was 67 years old, with a standard deviation of 10.095. These results show that the participants in this study are dominated by the middle adult to early elderly age group. This age characteristic is one of the factors that need to be considered because it can affect the patient's anxiety level during chemotherapy.

Research Marsaid et al., (2022) which shows that the majority of cancer patients undergoing chemotherapy are in the middle adult age group. Research Goodbye et al., (2023) It was also found that most of the patients who underwent chemotherapy were in adulthood and showed that age was one of the characteristics related to the patient's psychological condition during the treatment process. In addition, Goerling et al., (2023) It is reported that most cancer patients are in the age groups of 56–65 years and 66–75 years. The study also showed that the highest prevalence of anxiety was found in the age group of 36–45 years, so age is one of the characteristics that need to be considered in understanding the psychological condition of patients during therapy.

The findings are supported by Amiri (2024), who explains that age is one of the factors that can affect the appearance of anxiety symptoms in cancer patients. Individuals in middle adulthood generally still have various responsibilities towards family, work, and social life, so they tend to experience greater anxiety when undergoing treatment. These concerns can be related to the continuity of work, family conditions, the treatment process, or the hope of recovery, which ultimately has the potential to increase anxiety levels. This is supported

by Vital et al. (2024), which states that demographic factors, including age, contribute to variations in anxiety and depression levels in patients undergoing chemotherapy. In addition, Yue Zhang et al. (2026) explained that age is one of the factors related to the level of anxiety in cancer patients. Differences in developmental stages and responsibilities in each age group cause the psychological response to the disease and the treatment process to be different, so the level of anxiety experienced by patients can also vary.

Based on the results of the study and supported by previous research, the dominance of participants in the middle adult age group in this study showed that this age group had the potential to experience anxiety during chemotherapy. This is because they are still in a productive phase of life, have various responsibilities in family and work, and have to adapt to changes in health conditions and the treatment process undergone. Therefore, providing psychological support during chemotherapy is important to help patients manage anxiety so that they can improve their adaptability to the treatment they are undergoing.

b. Gender

The results showed that almost all participants were female, while a small number of participants were male. These results show that women are the group that underwent the most chemotherapy in this study. The results of this study are in line with the research By et al. (2020), who reported that the majority of patients undergoing chemotherapy who experienced anxiety were women, with a proportion of 76.5% of the total participants experiencing anxiety. This research is also in line with Goerling et al. (2023), who found that women dominated the patient group with cancer who experienced psychological disorders during treatment. In addition, Vital et al. (2024) report that the patient Cancer Women have higher levels of anxiety and depression than men. The findings show that women are the most common group in the

patient population Cancer and have a higher susceptibility to various psychological impacts during treatment.

In line with the results of the study, Belov et al., (2022) explained that women tend to be more prone to experiencing anxiety than men due to differences in biological, hormonal, and psychological factors. Hormonal changes that occur in women can affect emotional regulation and response to stress, increasing susceptibility to anxiety. In addition, Vital et al., (2024) stated that women are more likely to experience symptoms of anxiety and depression during the chemotherapy journey because they are more sensitive to changes in health conditions, side effects of treatment, and changes in body image caused by the disease and the therapy undergone. This is supported by Unger et al., (2022) which reported that women tend to experience more severe side effects of cancer treatment than men, so it can increase the physical and psychological burden during chemotherapy. In addition, women are known to have a higher susceptibility to anxiety disorders than men. These vulnerabilities are related to biological differences, particularly the influence of reproductive hormones such as estrogen and progesterone that play a role in regulating the activity of neurotransmitters, including serotonin and γ -aminobutyric acid (GABA), which are related to the regulation of emotions and responses to stress. These hormonal fluctuations can cause women to experience mood swings more easily, be more sensitive to stress, and be more prone to anxiety, especially when facing health-threatening conditions such as cancer diagnosis and chemotherapy processes. Thus, the dominance of female participants in this study is not only related to the high incidence of cancer in women, but is also influenced by biological and psychological factors that cause women to be more susceptible to experiencing anxiety during chemotherapy.

c. Jobs

Based on the results of the distribution of the frequency of participants by occupation, it is known that most of the participants are not working, while a small percentage of the participants are still working. These results show that the majority of patients who underwent chemotherapy in this study are no longer employed or are no longer actively working. These conditions can occur due to physical limitations, side effects of chemotherapy, and changes in health conditions that affect the patient's ability to carry out work activities. Employment status is one of the factors that can affect the psychological condition of patients, because losing their job or no longer being able to work often raises concerns about economic conditions, changes in roles in the family, and uncertainty about the future, which can ultimately increase anxiety levels during chemotherapy.

The results of this study are in line with the research Chimienti et al., (2023) which suggests that cancer patients undergoing treatment, especially chemotherapy, are at higher risk of experiencing changes in employment status, including losing their job or not being able to return to work after undergoing therapy. These conditions are affected by physical limitations, decreased functional ability, and side effects of treatment that inhibit the patient's ability to maintain work activities. In addition, the research Read et al., (2024) found that patients who experienced job loss or unemployment after a cancer diagnosis had a higher risk of psychological distress than patients who remained employed. Research Faneca et al., (2025) It also explains that patients who undergo chemotherapy often experience physical limitations, fatigue, anxiety, and stress, so they have difficulty maintaining their jobs. These findings support the results of this study, which shows that most patients who undergo chemotherapy no longer work during treatment.

In theory, conditions not working in patients undergoing chemotherapy can be affected by the impact of the disease and the side effects of treatment that degrade functional ability. Farmer et al., (2023) Explains that cancer, the therapy undergone, fatigue, and impaired cognitive function are factors associated with poor work output in cancer survivors. In addition, American Cancer Society, (2022) Explains that cancer treatment often leads to physical limitations, decreased productivity, and financial problems that can hinder the patient's ability to stay at work. In line with this, Moorish et al., (2021) Stating that cancer therapy can cause functional limitations that interfere with the ability to work, so that many patients experience job loss, prolonged absenteeism, and decreased productivity. Therefore, the high proportion of non-working participants in this study can be influenced by the impact of the disease Cancer and chemotherapy processes that cause a decrease in physical ability and productivity, so that patients prefer or are forced to stop work activities while undergoing treatment.

Based on the results of the study and supported by previous research, employment status is one of the factors related to the level of anxiety in patients undergoing chemotherapy. The dominance of non-working participants in this study suggests that the cessation of work activities during treatment can increase the psychological burden of patients. In addition to having to deal with the chemotherapy process and changes in health conditions, patients are also faced with concerns about economic conditions, the sustainability of roles in the family, and uncertainty about the future. Therefore, employment status needs to be one of the aspects that are considered in the psychological assessment of patients so that health workers can provide appropriate support to help reduce anxiety during chemotherapy.

2. The effect of Jacobson's Progressive Muscle Relaxation (JPMR) on alterations in anxiety in cancer patients undergoing chemotherapy at dr. M. Yunus Bengkulu Hospital.

The results of the study showed that there was an effect of Jacobson's Progressive Muscle Relaxation (JPMR) on alterations in anxiety in cancer patients undergoing chemotherapy at Dr. M. Yunus Bengkulu Hospital. The results of the statistical test showed a value of $p = 0.000$ ($p < 0.05$), so it can be concluded that there is a significant difference between the level of alterations in anxiety before and after the JPMR intervention. The results of this study show that JPMR can be one of the effective non-pharmacological interventions in helping to reduce anxiety in cancer patients undergoing chemotherapy.

A decrease in anxiety after the administration of JPMR can occur because this technique involves the process of systematically tightening and relaxing muscle groups, thus helping to reduce the physical tension that often arises in response to stress and anxiety. When the body is in a more relaxed state, the activity of the sympathetic nervous system that plays a role in the "fight or flight" response decreases, while the activity of the parasympathetic nervous system increases. This condition can cause a sense of calm, reduce muscle tension, slow down the heart rate, and help patients control negative thoughts related to illness and chemotherapy procedures. Thus, the patient becomes more able to adapt to the situation at hand so that the level of anxiety felt is reduced.

This research is in line with research by Hasani (2026), which indicates that giving Progressive Muscle Relaxation significantly lowers anxiety in patients with cancer and improves the quality of the patient's sleep ($p < 0.001$). PMR has been proven to be able to reduce death anxiety that patients often experience during cancer treatment. This research is also in line with the research Exam et al., (2023) Who found that a combination of musical intervention and Progressive Muscle Relaxation provides greater reductions in anxiety, depression, and stress in patients cancer who underwent chemotherapy compared to the control group. In addition, the

patients' quality of life also improved after the intervention was given. The results of this study are also supported by research by Toqan & Ayed (2023), which shows that the exercise Progressive Muscle Relaxation Exercise was able to significantly reduce anxiety in the intervention group compared to the control group ($p < 0.05$). Furthermore, in a systematic literature review by Hamudi et al. (2022), it was reported that Progressive Muscle Relaxation was effective in reducing psychological symptoms in the form of anxiety, stress, and depression, as well as improving the patient's coping skills, comfort, and quality of life in patients who are undergoing chemotherapy. The findings suggest that PMR has consistent benefits in helping patients reduce the various psychological disorders that arise during the treatment process.

In line with the results of the study, Tapeh et al., (2024) explains that Jacobson's Progressive Muscle Relaxation is a relaxation technique that is carried out by systematically contracting and relaxing muscle groups so as to produce a state of physical and mental relaxation. JPMR works on the principle that muscle relaxation will result in peace of mind (muscle relaxation brings peace of mind), so it can help reduce anxiety. It is supported by Khir et al., (2024) which states that Progressive Muscle Relaxation is an effective intervention in lowering stress, anxiety, and depression because it helps individuals distinguish tense and relaxed muscle conditions so that the body's stress response can be reduced. In addition, Dullness & Prime, (2020) explained that PMR is a technique of stretching and relaxing muscles that is carried out continuously and systematically until the whole body reaches a relaxed state. These relaxation conditions can improve the patient's psychological state, reduce anxiety, depression, stress, and improve the patient's quality of life.

According to the researchers, the decrease in anxiety in this study occurred because during the implementation of JPMR, participants were trained to focus on the process of contraction and muscle relaxation gradually. These exercises help reduce muscle tension that arises due to

stress and anxiety so that the body becomes more relaxed. The relaxation conditions created will decrease the activation of the sympathetic nervous system related to the stress response and increase the activity of the parasympathetic nervous system which causes a feeling of calm and comfort. In cancer patients undergoing chemotherapy, this situation is especially serious because anxiety often arises due to side effects of treatment, uncertainty of the disease prognosis, and concerns about the health conditions experienced. Therefore, JPMR can be used as one of the effective non-pharmacological nursing interventions to help reduce alterations in anxiety in cancer patients undergoing chemotherapy.

B. Research Limitations

The study entitled "The Effect of Jacobson's Progressive Muscle Relaxation (JPMR) on Alterations in Anxiety in Cancer Patients Undergoing Chemotherapy at Dr. M. Yunus Bengkulu Hospital" has several limitations in the research process, including:

1. The research design used was a one-group pre-test-post-test design, so there was no control group for comparison of anxiety changes that occurred after the administration of Jacobson's Progressive Muscle Relaxation (JPMR) intervention.
2. Data collection in this study was carried out in a relatively short time, considering that pretest measurements must be carried out before chemotherapy administration begins. This time limitation causes the data collection process to be carried out efficiently so as not to interfere with the implementation of chemotherapy procedures.

Although there are some limitations of the study as mentioned above, the results of the study can still provide an overview of the effect of Jacobson's Progressive Muscle Relaxation (JPMR) on alterations in anxiety in cancer patients undergoing chemotherapy. In addition, the implementation of research, the use of instruments, and statistical analysis have been carried out in accordance with the established research procedures, so that the results of this research can still be scientifically accounted for.