



## The Relationship of Nurses' Caring Behavior with Post-Chemotherapy Patients' Anxiety Levels in the Santa Maria/Marta Room of Santa Elisabeth Hospital Medan

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**Abstract.** Anxiety is a feeling of fear / worry experienced by patients during chemotherapy treatment because it causes various side effects such as body pain, heat, hair loss, skin and nail discoloration, nausea, vomiting, and lack of appetite. Caring behavior is a caring behavior closely related to the patient's well-being, caring behavior involves aspects such as sensitivity, providing support, paying attention, the ability to listen well, honesty, acceptance, and an attitude without judgment. This type of research uses a cross sectional approach. The sampling technique was by sampling a total of 32 respondents. This research instrument uses a questionnaire. The results of the study showed that "The Relationship between Nurses' Caring Behavior and Patient Anxiety Levels in Maria/Marta Room in 2024" had very good caring behavior (56.3%) and mild anxiety (43.8%). Based on the sperm rank test, it showed a P-value of 0.001 ( $p < 0.05$ ) so that there was a significant relationship between the caring behavior of nurses and the anxiety level of post-chemotherapy patients at Santa Elisabeth Hospital Medan in 2024. It is expected for nurses to maintain caring behavior.

**Keywords:** Anxiety Level; Caring Behavior; Chemotherapy Patients; Nursing Services; Significant Relationships

### 1. INTRODUCTION

According to Goodwin (2023), anxiety is defined as a mental condition or fear related to modern life, triggered by fear of the future and worries about life, which inhibits the ability to be active and creative, and disrupts the immune system. Over time, anxiety can become an unpleasant experience and have a significant impact on our lives. When anxiety reaches severe and chronic levels, it can limit our lives and hinder our ability to enjoy life with meaning and satisfaction.

According to Laura (2022), anxiety is an aspect of daily life that can cause discomfort and anxiety, and every individual experiences periods of sadness and worry from time to time as an emotional response to various factors such as health, work, age, and so on. Feelings of sadness can produce tears flowing, cause deep sadness, and affect the way we think, act, feel, and interact with others. Sadness can dominate our daily lives and worries can dominate our minds, and this is not considered abnormal.

High levels of anxiety indicate that patients who are receiving treatment at medical institutions not only have difficulty coping with physical pain, but also face challenges in maintaining their mental health, especially in those who have undergone chemotherapy sessions. Chemotherapy is a medical treatment method that involves administering cytostatic

drugs to reduce cancer mass and destroy cancer cells that have metastasized, and is one of the medical approaches given to patients suffering from cancer.

Based on (Simanullang & Manullang, 2020), it is known that the anxiety level of cancer patients is mostly moderate anxiety as many as 36 people (67.9%). At the level of mild anxiety there were 8 people (15.1%) and at the level of severe anxiety there were 9 people (17.0%). Data from Santa Elisabeth Hospital Medan shows that from January to November 2023, a total of 285 patients have undergone chemotherapy in the Maria/Marta room. Preliminary findings from the study conducted by researchers at Santa Elisabeth Hospital Medan through the distribution of questionnaires to 10 respondents showed that 2 people (20%) experienced anxiety at a mild level, five individuals (50%) experienced anxiety at a moderate level, and three individuals (30%) experienced anxiety at a severe level. Symptoms characterized include feelings of fear, pressure, shortness of breath, a stabbing sensation throughout the body, rapid heart rate, changes in appetite, and mood disorders, as well as thoughts haunted by death and chemotherapy side effects that patients may experience.

According to Azril (2021), chemotherapy is generally given in a series of cycles, usually six cycles if the response to the tumor is good. Each chemotherapy cycle has a specific interval, which is generally about three weeks, but there are also those that last for two to four weeks. The body's normal cells have a chance to recover during this interval, while cancer cells may not have fully developed. Appropriate chemotherapy arrangements aim to kill more cancer cells than normal cells, although it is unlikely that some cancer cells will grow back. Patients undergoing chemotherapy often face psychological challenges due to side effects such as hair loss, nausea, skin changes, and pain.

Anxiety often causes the appearance of physical symptoms, among which some people may experience changes in appetite, sleep, and energy levels, as well as disturbances in mindset and behavior (Laura, 2022). Symptoms of anxiety include heart palpitations, chest pain, rapid pulse, nausea, dizziness, chest pain, muscle pain, and disturbances in sleep patterns, often waking up at night. In addition, symptoms also include loss of appetite, memory impairment, discomfort, excessive loneliness, easy emotional responses, including crying, as well as weak body sensations, fatigue, and a desire to faint (Study et al., 2023). The impact of these symptoms will cause changes in the patient's lifestyle, as well as possibly lead to rejection, anxiety, depression, feelings of hopelessness, and low self-esteem (Hafsah, 2022).

One of the most effective methods to reduce stress is laughter therapy, also known as laughter therapy. Laughter practice involves a combination of yoga techniques, such as breathing and stretching, that help restore our physical, mental, and spiritual balance.

Mindfulness meditation is a type of mental exercise that aims to calm the mind, improve concentration, and find sources of happiness, so that it can effectively reduce anxiety (Karo, Ance Siallagan, et al., 2022). Based on the above background, the researcher felt interested in running this study with the title *The Relationship of Caring Behavior of Nurses with the Level of Anxiety of Post-Chemotherapy Patients in the Santa Maria / Marta Room of Santa Elisabeth Hospital Medan*.

## **2. LITERATURE REVIEWS**

Caring behavior is a behavior that is aimed at helping patients cope with all stages of treatment and encourage their growth and development. This caring attitude creates a calming and safe environment for patients and their families, and builds a trust-filled relationship between nurses and patients. This has a positive impact on the quality of nursing services provided (Hafsah, 2022). To reduce anxiety and calm the patient, nurses can show a good attitude by using various techniques, one of which is deep breathing relaxation techniques. This method involves the practice of deep and regular breathing to reduce muscle tension, improve concentration, and develop the ability to cope with stress, thereby helping the patient achieve a state of relaxation (Suryono et al., 2020).

Taize meditation is a form of calming spiritual experience, often involving chanting, candles, and mental communication with God. It can help a person reach a deep depth of solemnity and open their heart to God, providing peace and happiness, especially for those who feel anxious. During meditation, the adrenal glands are responsible for stress control, causing the body to relax and reduce stress, anxiety, and tension. Laughter therapy.

## **3. METHODS**

This study adopts a type of quantitative research using a cross-sectional design method, this study focuses on a single point in measuring or observing independent and dependent variable data, which is only carried out once. The population in this study is the total number of chemotherapy patients based on medical record data at Santa Elisabeth Hospital Medan in 2023 amounting to 285 and the monthly average is 23 people. To collect samples that are relevant to the overall research topic, the researcher uses sampling techniques, namely Accidental sampling (Nursalam, 2020). Inclusion criteria: Refers to things that are generally owned by the research subjects from the population being investigated (Nursalam, 2020). The following are the inclusion criteria that are the focus, namely: Patients who have undergone

chemotherapy > 2 and Patients who have undergone chemotherapy who have full awareness (Compos mentis).

The independent variable in this study is the caring behavior of nurses, a dependent variable that has an influence on the dependent variable and affects other variables. The dependent variable in this study was the level of anxiety in post-chemotherapy patients, whose value was influenced by other variables.

The questionnaire on caring behavior consists of 40 statements adopted from Karo's (2019) work, this questionnaire has gone through a validity test by previous researchers and no re-validity testing is required. The questionnaire applied asking about the caring behavior of nurses had a choice of criteria, where "always" was represented with a score of 4, "often" with a score of 3, "rarely" with a score of 2, and "absolutely not" with a score of 1. The length of the class range is 120, which is the difference between the highest and lowest grades, which is 30. The number of caring behavior classes is 4 classes (always, often, rarely, not at all), so the P of the class is 30. Using these intervals, the results are as follows: category less (from 40 to 69), fairly good (from 70 to 99), good (from 100 to 129), excellent (from 130 to 160).

The tool used in this study was formatted as a questionnaire with the intention of collecting data from the respondents. The anxiety questionnaire for post-chemotherapy patients in this thesis is the Hamilton Anxiety Rating Scale (HARS) questionnaire. The Anxiety Instrument in patients undergoing chemotherapy is arranged in 14 questions for each component. The statement questionnaire is prepared in a closed format and uses the Likert scale, used to evaluate the attitudes, views, and perceptions of individuals or groups towards social phenomena or events. Each response related to a statement or attitude assessment is rated according to the Likert scale: No symptoms are given a score of 0, mild symptoms are rated 1, moderate is given a score of 2, heavy is given a score of 3, and very heavy is given a score of 4. The highest score of this questionnaire is 56 and the lowest score is 0. In determining class intervals in this study, a formula is used.

The questionnaire on anxiety levels was measured through 14 questions, with the highest score being 56 and the lowest score being 0, so the range was 56. This range is divided into Anxiety categories including no anxiety, mild, moderate, severe, and panic (very severe). The measurement results were described as follows: no anxiety (<14), mild anxiety (14-20), moderate anxiety level (21-27), severe anxiety level (28-41), and panic (42-56).

In this study, the author chose to use the Hamilton Rating Scale for Anxiety (HRS-A) questionnaire without conducting a validity test because the questionnaire has been tested valid and has become a standard. In research on caring behavior, a validity test is not necessary

because the questionnaire used has come from a previously tested source (Karo, 2019). The authors did not test the reliability and validity of the anxiety questionnaire because the questionnaire had been deemed valid, so the reliability and validity testing was considered unnecessary. The authors did not test the reliability and validity of the questionnaire on caring behavior because they relied on the results of tests that had been conducted by previous researchers, which showed a Cronbach Alpha value of 0.855. The value confirms that all statements in the questionnaire are valid and trustworthy.

This research has also been ethically feasible from the health research commission of STIKes Santa Elisabeth Medan with letter number No: 078/KEPK-SE/PE-DT/III/2024.

#### 4. RESULT AND DISCUSSIONS

**Table 1.** Distribution of Respondents Based on Demographic Data at Santa Elisabeth Hospital Medan.

No	Characteristic	<i>f</i>	(%)
1	<b>Age (Years)</b>		
	45-54	17	53,1
	55-65	10	31,3
	66-74	5	15,6
	<b>Total</b>	<b>32</b>	<b>100.0</b>
2	<b>Gender</b>		
	Female	24	75.0
	Male	8	25.0
	<b>Total</b>	<b>32</b>	<b>100.0</b>
3	<b>Education</b>		
	SMA	20	62,5
	D3	6	18,8
	S1	3	9,4
	SMP	2	6,3
	SD	1	3,1
	<b>Total</b>	<b>32</b>	<b>100.0</b>
4	<b>Religion</b>		
	Protestan	25	78.1
	Katolik	4	12.5
	Islam	3	6.3
	Budha	1	3.1
	<b>Total</b>	<b>32</b>	<b>100.0</b>
5	<b>Tribe</b>		
	Batak toba	23	71.6
	Batak karo	5	15.6
	Jawa	2	6.3
	Buddha	1	3.1
	Batak simalungun	1	3.1
	<b>Total</b>	<b>32</b>	<b>100.0</b>

6	<b>Blood pressure</b>		
	101-120	18	56.3
	121-140	8	25.0
	80-120	6	18.8
	<b>Total</b>	<b>32</b>	<b>100.0</b>
7	<b>Chemotherapy Time</b>		
	3	8	25.0
	2	6	18.8
	6	5	15.6
	7	4	12.5
	8	3	9.4
	4	2	6.3
	11	2	6.3
	9	1	3.1
	12	1	3.1
	<b>Total</b>	<b>32</b>	<b>100.0</b>

**Table 2.** Distribution of Respondents Based on Caring Behavior of Nurses at Santa Elisabeth Hospital Medan.

No	Caring Behaviour	(f)	(%)
1	Excellent	18	56.3
2	Good	14	43.8
3	Good Enough	0	0.0%
4	Not Good	0	0.0%
	<b>Total</b>	<b>32</b>	<b>100.0%</b>

**Table 3.** Distribution of Respondents Based on Post-Chemotherapy Anxiety Level at Santa Elisabeth Hospital Medan.

No	Patient Anxiety	f	(%)
1	No symptoms Completely	0	0.0
2	Mild Anxiety	14	43.8
3	Moderate Anxiety	13	40.6
4	Severe Anxiety	5	15.6
5	Anxiety Is Very Severe	0	0.0
	<b>Total</b>	<b>32</b>	<b>100.0%</b>

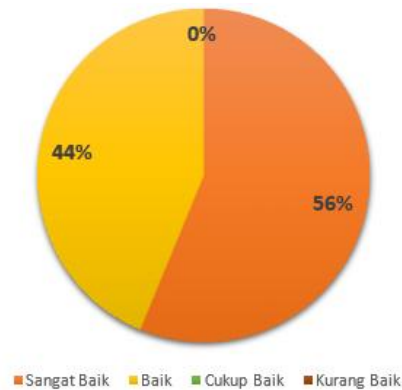
Spearman's rho	Total Caring Behavior	Correlation Coefficient	1,000	,567**
		Sig. (2-tailed)	.	,001
		N	32	32
	Total Kecemasan Pasien	Correlation Coefficient	,567**	1,000
		Sig. (2-tailed)	,001	.
		N	32	32

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Figure 1.** Results of Analysis of the Relationship between Nurses' Caring Behavior and Post-Chemotherapy Patients' Anxiety Level in the Santa Maria/Marta Room, Santa Elisabeth Hospital Medan.

Table 4 shows above that the p-value of 0.001 ( $p < 0.05$ ) means that  $H_a$  is accepted where there is a relationship *between the Caregiver Caring Behavior* and the Anxiety Level of Post-Chemotherapy Patients. The results of *the Spearman rank test* showed that the correlation coefficient was 0.567 with a moderate positive direction, which means that the better the caring behavior given by the nurse, the lower the anxiety of post-chemotherapy patients.

## Discussions



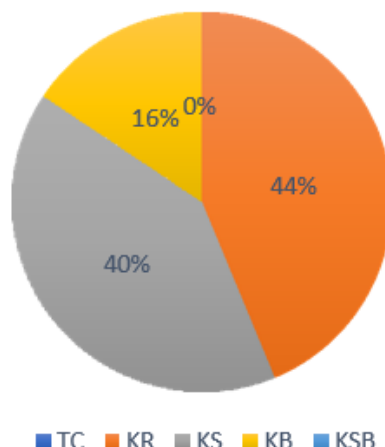
**Figure 2.** *Caring Behavior* of Nurses with Post-Chemotherapy Patient Fatigue Rate in the Santa Maria/Marta Room of Santa Elisabeth Hospital Medan.

Based on diagram 1, the results of the study show that the majority of respondents are in the high category who have *caring behavior* as many as 18 respondents (56.3%) and the minority are in the category of caring behavior very well and who have good caring behavior as many as 14 respondents (43.8%).

The researcher assumes that the majority of respondents have *very good caring behavior* towards patients who have undergone chemotherapy, because of the nurse's awareness, caring or caring to see the patient's condition, and caring practice is carried out during the nursing care process, when the nurse weighs in, the nurse greets the patient, asks the complaints felt, greets the patient, greets, touches, pays attention to the patient's needs, and when getting treatment, the nurse explained the procedure carried out according to her expertise. In accordance with the vision of the mission of Santa Elisabeth Hospital Medan by opening hands and hearts to provide loving services that heal sick people.

This assumption is supported by Niluh (2022), that the caring behavior of nurses can also make patients more enthusiastic in undergoing chemotherapy treatment, patients feel valued, receive more attention, information, and education from nurses, so that patients' expectations of recovery increase. (Fariz, 2021) that caring nurses are indispensable for patients, especially every sick individual, to motivate, encourage and provide a sense of psychological help to patients. (Made, 2020) Nurses need to know the patient's disease process

to be able to provide quality nursing care. Nurses can meet the patient's needs if they have knowledge of the illness the patient is currently feeling.



**Figure 3.** Anxiety of Chemotherapy Patients at Santa Elisabeth Hospital Medan.

Based on diagram 1, the results of the study show that the majority of respondents with the category of mild anxiety are 14 respondents (43.8%), and the minority of the category of severe anxiety are 5 respondents (15.6%) and in the results of the study none of the respondents experience severe anxiety and there are no respondents who have no symptoms at all, all experience anxiety.

The researcher assumes that the majority of respondents have a category of mild anxiety due to the disease poses experienced, how to handle side effects after chemotherapy, nutritional needs during treatment must be improved. Physical changes experienced by the patient, experiencing hair loss every day, lack of appetite, diarrhea. Patients who undergo chemotherapy think about the distance of residence to the hospital and the expensive transportation costs because there are some patients far from the hospital and have to come once every 3 weeks for chemotherapy, with the house and costs needed by chemotherapy patients are not small.

This is in line with Novitarum et al. (2023) patients have poor perceptions and judgments of the treatment undergone, and side effects of chemotherapy such as body pain, heat, hair loss, skin and nail discoloration, nausea, vomiting, and loss of appetite. However, as many types of therapy become more understandable and give better judgments, depending on the severity of the disease, these therapies have different side effects for each individual.

The researcher assumed that out of 32 respondents, there were 5 respondents who experienced severe anxiety caused by damage to cells in the body (leocytes, platelets and hemoglobin) which caused the patient to feel pain throughout the body and experience muscle



pain, prolonged fever, having to undergo hospitalization before chemotherapy which made the patient unable to do activities as usual. As a result of the disruption of laboratory results, chemotherapy will be postponed and cannot be done as usual, which causes patients to have leukogen injections injected in the abdomen and blood transfusions as well as concerns about disease metastases in the future.

This assumption is supported by Azkiya et al. (2024) that anxiety that occurs in patients undergoing chemotherapy for the first time can increase the risk of side effects from chemotherapy and cause patients to be unwilling to follow treatment completely. The professionalism of nurses plays a very important role in providing holistic nursing care. The role of nurses as educators is very necessary to provide the information needed by patients to increase the knowledge and readiness of patients in undergoing treatment. Information related to the stages of chemotherapy protocols, diseases experienced, how to handle chemotherapy side effects, nutritional needs during treatment can be the focus of education for first-time chemotherapy patients. The presence and preparedness of nurses in the management of chemotherapy side effects can provide a sense of security to patients.

### **The Relationship of Nurses' Caring Behavior with the Level of Anxiety of Post-Chemotherapy Patients in the Santa Maria/Marta Room of Santa Elisabeth Hospital Medan**

Based on the results of the study to 32 respondents on the relationship between nurses' caring behavior and the anxiety level of chemotherapy patients in the Santa Maria / Marta room of Santa Elisabeth Hospital Medan in 2024. Based on the results of the p-value of 0.001 where the nilai  $p < (0.05)$  means that  $H_a$  is accepted where there is a relationship *between the Caregiver Caring Behavior* of the Nurse and the Anxiety Level of the Post-Chemotherapy Patient. The results of *the Spearman rank test* showed that the correlation coefficient of 0.567 with a moderate positive direction which means that the better *the caring behavior* given by the nurse aka the patient's anxiety will decrease.

The author assumes that caring for nurses in chemotherapy patients is very good where nurses can be present with patients by smiling, being empathetic to patients, nurses caring for patients and nurses can provide a touch by strengthening patients during treatment, nurses are sensitive to patient needs. Able to provide good education and patience to patients and nurses are able to respect patients' decisions.

The results of this study are supported by Fariz (2022), that caring nurses are needed by patients to improve and maintain the patient's health status by being given increased knowledge to keep them enthusiastic about undergoing therapy, especially in chemotherapy

patients, factors that affect the anxiety level of chemotherapy patients in the form of internal factors and external factors. Internal factors are: age, experience, physical aspects, while external factors are: knowledge and education, family finances, medicine and socio-cultural support.

According to Karo et al. (2022), in carrying out nursing services, caring is very good. This happens because caring behavior is needed in nursing services when a nurse provides nursing care directly to patients. Poor communication from nurses causes patients to misperceive so that they become afraid to check themselves, because good and correct communication will give knowledge and there is no fear to undergo treatment.

Social support also plays a very important role in strengthening psychologically so that they are optimistic and enthusiastic in carrying out a series of treatment therapies. And family support can be in the form of assistance in the therapy process, providing healthy nutrition, providing funds, motivating to stay enthusiastic and inviting prayers and looking for other health facilities.

## **5. CONCLUSION AND SUGGESTION**

Caring Behavior of Nurses in Chemotherapy Patients in the Santa Maria/Marta Room at Santa Elisabeth Hospital Medan It was concluded that the majority of nurses had very good caring behavior as many as 18 respondents (56.3%) out of 32 respondents. Patient anxiety while undergoing chemotherapy In chemotherapy patients in the Santa Maria/Marta Room at Santa Elisabeth Hospital Medan it was concluded that the majority of mild anxiety was 14 respondents (43.8%) out of 32 respondents. Based on the results of the statistical test, it can be seen that a p-value of 0.001 is obtained, where the value ( $p < 0.05$ ) means that  $H_a$  is accepted where there is a relationship between the Caregiver's Caring Behavior and the Patient's Anxiety Level Post Chemotherapy. The results of the Spearman rank test showed that the correlation coefficient was 0.567 with a moderate positive direction, which means that the better the caring behavior given by the nurse, the lower the anxiety of post-chemotherapy patients.

This research can expand understanding and become a source of research data in expanding knowledge about caring behavior to patients' anxiety, and is expected to perform music therapy to reduce anxiety in chemotherapy patients.

## REFERENCE

- Suyitno, A. (2017). *Untuk memenuhi persyaratan memperoleh gelar Magister Keperawatan (S2) Universitas Brawijaya* (Tesis). Universitas Brawijaya. <http://repository.ub.ac.id/id/eprint/9402/3/Tesis%20Full%20Text-Adi.pdf>
- Rahmawati, A. Y. (2020). *Anxiety and depression* (2022 ed.).
- Aziz, M. F., Andrijono, & Saifuddin, A. B. (2014). *Onkologi ginekologi*.
- Azkiya, M. W., Ardiana, A., Afandi, A. T., & Herawati, H. (2024). Pengaruh edukasi terhadap kecemasan pasien kanker kolorektal pada kemoterapi pertama kali: Studi kasus. *Jurnal Keperawatan*, 5(1), 122–129.
- Azril, A. (2021a). *Dasar-dasar onkologi dan hallmark of cancer* (2nd ed.).
- Azril, A. (2021b). *Tips mengatasi efek samping kemoterapi*.
- Deswita. (2023). *Leukemia pada anak: Kemoterapi dan kelelahan (fatigue)* (1st ed.).
- Goodwin, G. (2023). *Creativity and anxiety: Making, meaning, experience*.
- Hafsah, L. (2022). Gambaran tingkat kecemasan pada pasien kanker yang menjalani kemoterapi di RSUD Dr. M. Yunus Bengkulu. *Jurnal Vokasi Keperawatan (JVK)*, 5(1), 21–28. <https://doi.org/10.33369/jvk.v5i1.22338>
- Hawari, D. (2006). *Stres, cemas, dan depresi*.
- Karo, M. B. (2018). Perilaku peduli lingkungan. *Analisadaily*. <https://analisadaily.com/berita/arsip/2018/11/18/650592/perilaku-peduli-lingkungan/>
- Karo, M. B., Siallagan, A., & Pandiangan, B. B. (2022). The mindfulness meditation effect on anxiety in nursing students level II of nursing study program STIKes Santa Elisabeth Medan. *Science Midwifery*, 10(3), 2017–2021. <https://doi.org/10.35335/midwifery.v10i3.602>
- Karo, M. B., Sigalingging, V. Y. S., & Margaretha, D. Q. (2022). Gambaran caring behavior perawat pada masa pandemi dalam pelayanan keperawatan di UGD RS Santa Elisabeth Medan. *Jurnal Pendidikan Tabusai*, 6(2), 15511–15517.
- Lihawa, L., & Zainuddin, R. (2022). Tingkat kecemasan pasien kanker yang menjalani kemoterapi di masa pandemi COVID-19: Literature review. *Jurnal Akademika Baiturrahim Jambi*, 11(1), 96–104. <https://doi.org/10.36565/jab.v11i1.457>
- Lutfu, U., & Maliya, A. (2008). Faktor-faktor yang mempengaruhi kecemasan pasien dalam tindakan kemoterapi di Rumah Sakit Dr. Moewardi Surakarta. *Berita Ilmu Keperawatan*, 1(4), 113–129. <https://journals.ums.ac.id/index.php/bik/article/view/3733/2403>
- Menga, M. K., Lilianty, E., & Irwan, A. M. (2021). Analisis faktor yang mempengaruhi fatigue pada pasien kanker dengan kemoterapi: Literature review. *Jurnal Ilmiah Perawat Manado (JUIPERDO)*, 8(2), 47–64. <https://doi.org/10.47718/jpd.v8i02.1235>
- Nursalam. (2020). *Metodologi penelitian ilmu keperawatan* (5th ed.; P. P. Letari, Ed.).
- Simanullang, P., & Manullang, E. (2020). Tingkat kecemasan pasien yang menjalani tindakan kemoterapi di Rumah Sakit Martha Friska Pulo Brayan Medan. *Jurnal Darma Agung Husada*, 7(2), 71–79.
- Smith, L. L. (n.d.). *Buku kerja kecemasan dan depresi*.

- Soelastri, Rahmalia, S., & Elita, V. (2017). Hubungan dukungan keluarga terhadap kecemasan pada pasien kanker yang menjalani kemoterapi di RSUD Arifin Achmad Provinsi Riau. *Jurnal Ilmiah Psikologi Terapan*, 5, 204–211.
- Khoiroh. (2023). *Hubungan durasi lama terdiagnosa dengan kemoterapi* (Skripsi). <http://repository.stikesdrsoebandi.ac.id/746/1/19010102.pdf>
- Suryono, N., Nugraha, F. S., Akbar, F., & Armiyati, Y. (2020). Combination of deep breathing relaxation and murottal reducing post-chemotherapy nausea intensity in nasopharyngeal cancer patients. *Media Keperawatan Indonesia*, 3(1), 24–31. <https://doi.org/10.26714/mki.3.1.2020.24-31>
- Weni, A. (2023). *Terapi murottal untuk stres pasien yang menjalani kemoterapi* (1st ed.).
- Yusuf, A., Fitryasari, R. F. K., & Nihayati, H. E. (2012). *Buku ajar keperawatan kesehatan jiwa*.