CHAPTER IV
RESEARCH METHODS

A. Types of Research and Research Design

The type of research used in this study is an analytical observational quantitative research, with a latitude cut design (*cross sectional*). Design *cross sectional* It is a research method that collects data on independent and dependent variables at a time. This method is very practical in data collection, so it is more widely used in a study (Susila & Suyanto, 2024).

B. Research Variables

In this study, it consists of independent variables (independent variables), namely spiritual meaning and social support, as dependent variables (bound variables) are the level of depression of *Ca mammae patients*.

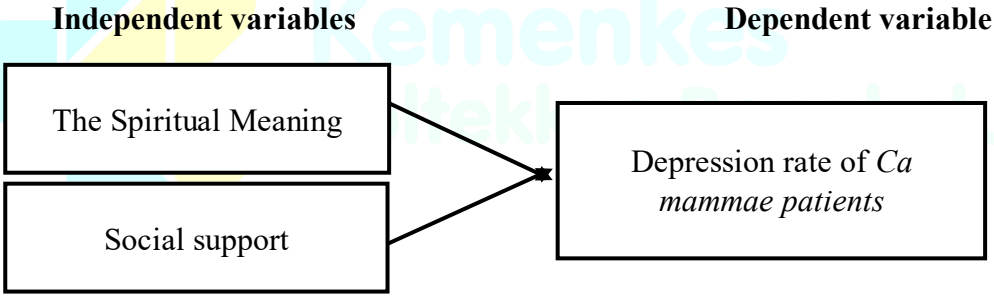

Chart 4.2 Research Variables

C. Research Location and Time

1. LocationThis research has been carried out in the oncology treatment room of Dr. M. Yunus Bengkulu Hospital.
2. TimeThis research has been carried out from May 20 to June 20, 2026.

D. Population and Sample

1. Populasi

   Population is all subjects or objects with certain characteristics that will be studied (Susila & Suyanto, 2024). The population in this study is all patients *Ca mammae* who underwent chemotherapy in the oncology treatment room of Dr. M. Yunus Bengkulu Hospital, Patient population *Ca mammae* at Dr. M Yunus Bengkulu Hospital as many as 162 based on the 2024 estimate.

2. Sample Sample

   is a part of the number and characteristics possessed by the population and must be truly representative or representative of that population. The sample in this study is some *Ca mammae patients* who undergo chemotherapy at Dr. M. Yunus Bengkulu Hospital. The calculation of the sample size in this study was carried out using the formula of sample needs for *the Chi-Square* test based on the Cohen's effect size w, with a confidence level of 95% (α = 0.05), research power of 80% (β = 0.20), and assumption of medium-to-small effect size (w = 0.22). The sample size formula is as follows:

$$n_{0=} \frac{(Z_{1-a/2} + Z_{1-\beta})^2}{w^2}$$

Description:

n_0= initial sample size (unlimited population)

$Z_{1-a/2} = 1{,}96$ (Z-value at = 0.05)a

$Z_{1-\beta} = 0{,}84$ (Z-value for power 80%

w = 0.22 (Cohen's effect size, medium-to-small)

$w^2 = 0{,}22^2$ = 0.0484

Calculation:

$$n_0 \frac{(2{,}80)^2}{0'0484}$$

$$n_0 \frac{7{,}84}{0'0484}$$

$$n_0 \approx 162$$

Finite *Population Correction*

$$n = \frac{n_0}{1 + \frac{n_0 - 1}{N}}$$

Description:

n= sample size after correction

N=148 (total population of *Ca mammae patients*)

Calculation:

$$n = \frac{162}{1 + \frac{162 - 1}{148}}$$

$$n = \frac{162}{1 + \frac{161}{148}}$$

$$n = \frac{162}{1 + 1{,}0878}$$

$$n = \frac{162}{2{,}0878}$$

$$n \approx 77{,}6 \approx 78$$

Extra 10% for *Drop-Out*

$$10\% \times 78 = 7{,}8 \approx 8$$

$$n_{\text{akhir}} = 78 + 8 = 86$$

So the sample used was 86 people.

3. Sampling Techniques

Sampling was carried out by *consecutive sampling technique* , which is sampling which is carried out by selecting all respondents who

meet the inclusion criteria that have been set by the researcher in order until the required number of samples is reached.

a. Criteria Inclusion
   1) Undergoing chemotherapy
   2) Have undergone 2nd or more cycles of chemotherapy.
   3) Aged ≥ 18 years.
   4) Able to communicate and be cooperative.
   5) Willing to be a respondent (sign informed *consent*).
   6) The patient is in a conscious and stable condition

b. Exclusion Criteria
   1) Respondents who did not complete the questionnaire.
   2) Unstable patient condition.

E. Data Collection

1. Data Source
   a. Data Primer

      Primary data is data obtained directly through filling out a questionnaire by the respondents, namely data about (age, education and history of chemotherapy cycles) with the guidance of the researcher.

   b. Data Seconds

      Secondary data is data obtained from the hospital. The data taken included data on *Ca mammae patients* who were treated in the oncology inpatient room at Dr. M. Yunus Bengkulu Hospital.

2. Data Collection Tools
   a. Instrumen FACIT–Sp *(Functional Assessment of Chronic Illness Therapy – Spiritual Well-Being)*

      The FACIT–Sp questionnaire consists of 12 items to assess the meaning and spiritual well-being of patients, covering three domains: peace, meaning of life, and faith. Respondents rated each statement based on personal experience using a Likert scale of 0–3

(from "never" to "often"). A higher score indicates better spiritual meaning. Items with a negative tone behind the score to be consistent with the direction of interpretation.

b. Instrumen *Multidimensional Scale of Perceived Social Support* (MSPSS)

The MSPSS questionnaire consists of 12 items that measure perceptions of social support from family, friends, and other close people. Each subscale contains four items, answered on a Likert scale of 1–5 from "Strongly Disagree" to "Strongly Agree". Higher scores indicate a greater perception of social support. These instruments help assess the role of the social environment in supporting an individual's emotional and psychological state.

c. Instrumen *Beck Depression Inventory-II (BDI-II)*

The BDI-II instrument consists of 21 items to assess the level of depression based on emotional, cognitive, and physical symptoms. Each item has four statements with a score of 0–3. Total scores are used to determine the level of depression from mild to severe.

3. Test Tool

The test of the data collection tool in this study uses the *Functional Assessment of Chronic Illness Therapy–Spiritual Well-Being Scale* (FACIT–Sp) to measure (independent variable) The Spiritual Meaning. This instrument has been shown to have good reliability in patients with chronic diseases including cancer, with a value of *Cronbach's alpha berkisar* 0,81–0,91, and supports a three-factor structure (*Meaning, Peace, dan Faith*), so that it is declared valid and reliable (Bredle, 2023).

Meanwhile, the instruments used to measure social support are *Multidimensional Scale of Perceived Social Support* (MSPSS). MSPSS has demonstrated high internal consistency with the *Cronbach's alpha berkisar 0,85–0,93* in various populations, including patients with chronic health conditions, and has a stable three-factor structure, so that it is declared valid and reliable (Efthymiou *et al*., 2025).

To measure (variable dependent) Levels of depression used Beck Depression Inventory-II (BDI-II). This instrument has also been shown to have high reliability in medical populations and cancer patients with a high value *Cronbach's alpha* ranges from 0.84–0.94, and valid in measuring depressive symptoms in cognitive, affective, and somatic aspects, so that it is declared valid and reliable (Biracyaza & Rusengamihigo, 2021).

4. Data Collection Procedure
    a. Apply for a research permit from an educational institution to the hospital
    b. Convey the purpose and objectives of the research to the hospital, health workers in the oncology inpatient room, respondents and families related to the research objectives.
    c. Conduct respondent selection according to inclusion criteria and ensure patients are in a conscious and stable condition prior to data collection, in order to minimize bias and maintain respondent comfort.
    d. Distribute *informed consent* sheets to respondents.
    e. Provide questionnaire-related questions to respondents with the guidance of researchers.
    f. Recollect the completed questionnaire.
    g. Conduct a check of the completeness of the respondents' answers.
    h. Processing and analyzing data according to the research objectives.

F. Data Processing

The data that has been obtained from the data collection process is processed using a computer program, there are several steps in data management as follows:

1. *Editing*

The data editing process is to double-check and make improvements to the questionnaire content to see the completeness of the answers, clarity and relevance of the questionnaire.

2. *Coding* (Data Coding)

   The coding process was carried out to clarify the answers from the respondents into numbers in each of the respondents' answers.

   In the variables of spiritual meaning with (FACIT-Sp) coding used were: 0=Low (Low level of spiritual meaning) and 1=High (High level of spiritual meaning), In the variable of social support with (MSPSS) coding used was 0= Low (Low social support) and 1=High (High social support, In the variable level of depression with (BDI-II) coding used was 0=Mild (mild depression) and 1= Severe (Severe depression).

3. *Scorting* (Data Grouping)

   The data that has been obtained and coded is then grouped based on its type and use using a computer. At this stage, the researcher ensures the match between the respondents' answers and the data variables when entered into the computer.

4. *Tabulating*

   The tabulation of data in this study was carried out using IBM *Statistical Package for the Social Sciences* (SPSS) version 25 through a computerized device.

G. Data Analysis

1. Univariate Analysis

   Univariate analysis is an analysis carried out on each variable, both independent and dependent variables. Univariate analysis was carried out using a frequency distribution formula whose results are presented in the form of a table.

2. Bivariate Analysis

Bivariate analysis aims to look at the relationship between independent variables and dependent variables. Bivariate analysis in this study uses *the Chi-Square* test to determine the relationship between research variables. However, if there are conditions for *the Chi-Square* test that are not met, i.e. there are cells with an expected count value of less than 5, then *the Fisher's Exact Test is used* as an alternative. The level of significance used is α = 0.05 with the following interpretation of the results:

a) If the p≤ value is 0.05, then Ha is accepted and H0 is rejected, which means that there is a relationship between spiritual meaning and social support and depression levels in *Ca mammae* patients undergoing chemotherapy.
b) If the p> value is 0.05, then Ha is rejected and H0 is accepted, which means that there is no association between spiritual meaning and social support and depression levels in *Ca mammae* patients undergoing chemotherapy.

H. Research Flow

1. Implementation of Pre-Research

   Before the research is carried out, the researcher first obtains approval and permission from the research ethics committee, as well as permission from the hospital as a research place. This permit is the basis for the legality of the research while ensuring that all stages of research are carried out in accordance with the rules of research ethics.

2. Research Implementation

   After obtaining permission, the researcher will record the number of patients undergoing chemotherapy with *Ca mammae* disease at Dr. M. Yunus Bengkulu Hospital. Respondents who meet the inclusion criteria will be given an explanation of the objectives, procedures, benefits, and possible risks of the research. Respondents who are willing to participate will be asked to sign an *informed consent*

sheet. Next, respondents will fill out questionnaires on spiritual meaning, social support and depression levels using validated instruments. Before the analysis, all respondents' data was neatly recorded in the research identity sheet. Data collection is carried out directly in hospitals under the supervision of researchers so that the results obtained are accurate.

3. Post-Research Implementation

   All the results of filling out the questionnaire regarding spiritual meaning, social support and depression level will be re-examined by the researcher to ensure the completeness of the data. The data that has been collected then goes through *the editing, coding, entry,* and *cleaning stages* before statistical analysis is carried out to find out the relationship between the two research variables.

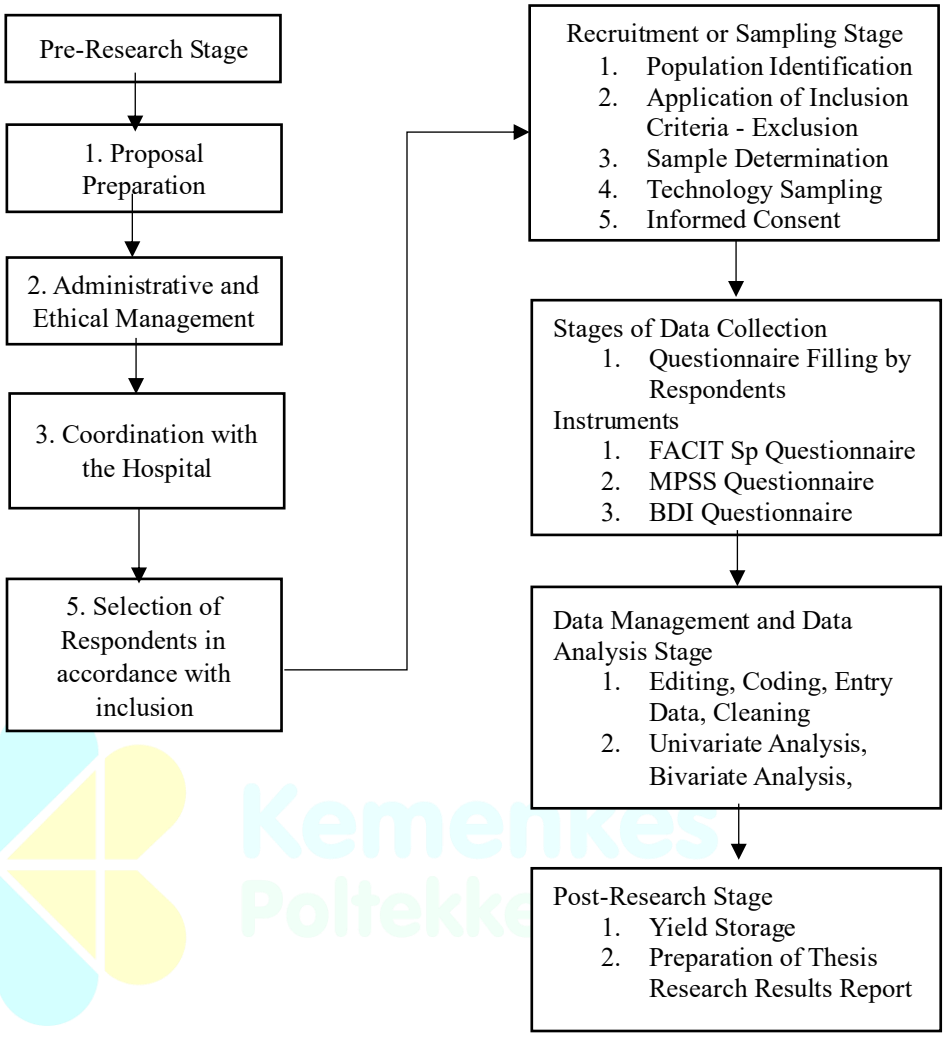

Chart 4.3 Research Flow

Source : Thesis Proposal on the Relationship of Spiritual Meaning and Social Support to the Depression Level of *Ca mammae* Patients Undergoing Chemotherapy at the Dr. M. Yunus Bengkulu Regional General Hospital in 2026.

I. Research Ethics

The researcher pays attention to the ethical principles of health research so as not to harm respondents and maintain data confidentiality. Researchers adhere to four main ethical principles, namely:

1. *Autonomy*

   The researcher respected the right of each respondent to make decisions freely without coercion. Respondents were given the opportunity to consider participation in the study independently after obtaining clear and complete information. The researcher ensured that there was no pressure, intimidation, or elements that could affect the respondents' freedom in making decisions.

2. *Respect for Persons*

   Each respondent was given an explanation of the purpose of the research, the benefits, the procedure for filling out the questionnaire, and the right to refuse or stop participation at any time without consequences. Respondents who were willing to participate in the study signed informed *consent* as a form of conscious and voluntary consent.

3. *Beneficence*

   The study was designed to pose no physical or psychological risks to respondents. If the respondent felt uncomfortable during the questionnaire, the researcher gave the researcher the opportunity to pause or choose not to continue.

4. *Confidentiality*

   The identity of the respondents was kept confidential by providing a special code on each questionnaire, so that no real names were included in the research report. Data is only used for academic research purposes and is stored in a secure place.

5. *Justice*

   All respondents were treated fairly without discrimination based on age, education, or other background. The selection of respondents was

carried out based on inclusion and exclusion criteria, not based on the preferences of the researcher.

J. Research Schedule

Table 4.4 Research Schedule

No	Activities	Month											
		9	10	11	12	1	2	3	4	5	6	7	8
1.	Completion of the Thesis Proposal				■								
2.	Thesis Proposal Seminar Examination				■								
3.	Revision and Approval of the Thesis Proposal							■					
4.	Submission of the Thesis Proposal to the Study Program							■					
5.	Obtaining Ethical Clearance								■				
6.	Obtaining Research Introduction and Permission Letters									■			
7.	**Prelliminary Research Survey**									■			
8.	Conducting the Research and Data Collection										■		

9.	Obtaining the Certificate of Research Completion											■	
10.	Data Entry, Analysis, and Interpretation of Research Findings											■	
11.	Preparation of the Research Report											■	
12.	Thesis Examination											■	
13.	Thesis Revision											■	
14.	Thesis Approval by the Board of Examiners and the Head of the Study Program											■	
15.	**Submission of the Thesis to the Study Program**											■	
16.	Preparation of a Journal Manuscript											■	
17.	Submitting Manuscript to Scientific Journal												■
18.	Submitting the Journal Article Letter of Acceptance (LOA) to the Study Program												■

19.	Submission of the Published Journal Article to the Study Program												■