CHAPTER III
CONCEPTUAL FRAMEWORK, HYPOTHESIS, AND OPERATIONAL DEFINITIONS

A. Conceptual Framework

A conceptual framework is a visualization of the relationships between various variables, formulated by the researcher after reading various existing theories and then constructing the researcher's own theory to be used as the basis for the research (Anggreni, 2022). This study aims to determine the effect of the combination of Proprioceptive Neuromuscular Facilitation (PNF) and Hand Ball Grasping on increasing upper extremity muscle strength in stroke patients. Based on the description of the concept above, the conceptual framework of the study is as follows:

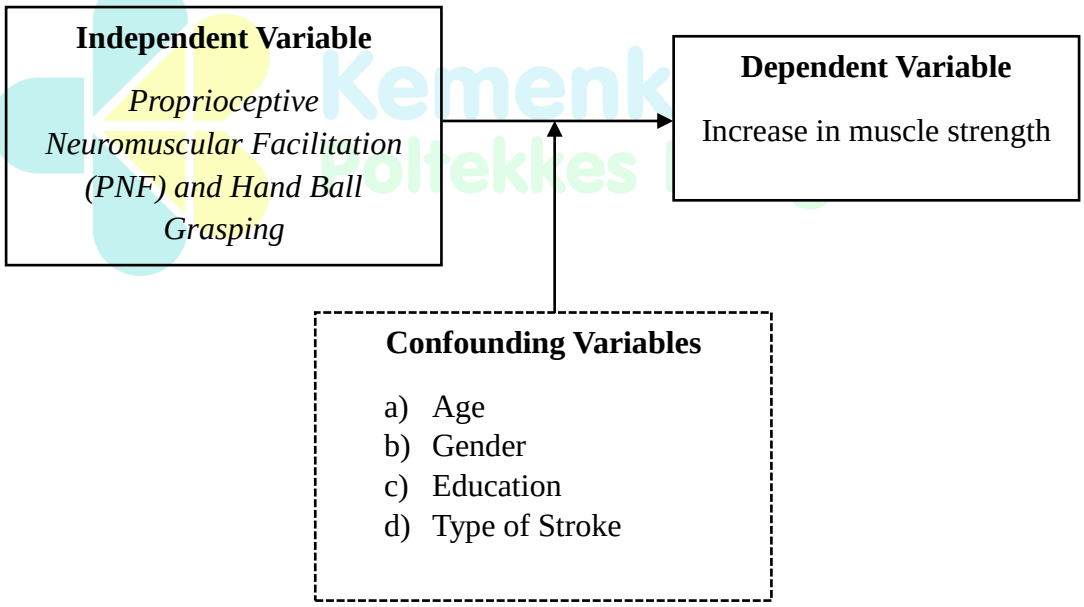

Chart 3.1 Conceptual Framework1

Legend:

: Variable studied

: Variable not studied

: Relationship between variables

B. Research Hypothesis

A hypothesis is a tentative answer that must be tested; the testing aims to determine whether the hypothesis is accepted or rejected. The hypothesis in this study is: "There is an Effect of the Combination of Proprioceptive Neuromuscular Facilitation (PNF) and Hand Ball Grasping on Increasing Upper Extremity Muscle Strength in Stroke Patients in the Working Area of Puskesmas Sawah Lebar, Bengkulu City

C. Operational Definitions

To clarify the focus and direction of the research, operational definitions of each variable used are needed. These definitions aim to ensure that the variables in the study can be measured objectively and consistently according to the context studied. The operational definitions in this study are as follows:

Table 3.1 Operational Definitions1

Variable	Definition Operational	Measurement Method	Measurement Instrument	Measurement Result	Scale
Independent Variable					
Intervention: Proprioceptive Neuromuscular Facilitation (PNF) and Hand Ball Grasping	Proprioceptive Neuromuscular Facilitation (PNF) and Hand Ball Grasping is a series of exercises that combine the PNF movement pattern with the repeated movement of gripping and releasing a therapy ball to increase muscle strength, coordination, and hand motor function in post-stroke patients. Both exercises	Observation	Manual Muscle Testing (MMT)	1 = Intervention group: Given Proprioceptive Neuromuscular Facilitation (PNF) and Hand Ball Grasping therapy	Nominal

	were given for 15 minutes (5-minute rest period), 3 times per week, for 4 weeks. Dumbbell exercise is a strength exercise that uses a dumbbell as a load to increase muscle strength and endurance. The exercise was performed for 15 minutes, 3 times a week, for 4 weeks				
Control: Dumbbell Exercise		Observation	Manual Muscle Testing (MMT)	2 = Control group: Given Dumbbell exercise therapy	Nominal
Dependent Variable					
Upper Extremity Muscle Strength	The upper extremity muscle ability possessed by the respondent when performing a muscle contraction against a given resistance	Manual Muscle Testing (MMT)		Muscle strength score values are classified as: 0 = zero 1 = trace 2 = poor 3 = fair 4 = good 5 = normal	Ratio
Characteristics					
Gender	The biological difference between men and women from birth	Questionnaire Sheet	Filling out the questionnaire	1 = male 2 = female	Nominal
Age	The length of time a person has lived from birth to the present year	Questionnaire Sheet	Filling out the questionnaire	Expressed in years	Ratio
Education	Education is a process of developing a person's competencies in the form of attitudes and	Questionnaire Sheet	Filling out the questionnaire	1 = Elementary School 2 = Junior High School 3 = Senior High School 4 = Higher	Ordinal

	behaviors that apply in society			Education	
Type of Stroke	What type of stroke the respondent experienced	Questionnaire Sheet	Filling out the questionnaire	1 = Hemorrhagic 2 = Ischemic	Nominal