



Distribution of Pre and Post Test Score and the Level of Errors in Answering Questions in the Participants of Education and Nutrition Counseling Training in Non-communicable Diseases

Supriyono*

Associate Expert Lecturer BPSDM Central Java Province, Setiabudi street, No. 201 A Semarang

* supriyonotr@yahoo.co.id

Article Info	Abstract
<p>Received : 2019-05-28 Accepted : 2020-01-10 Published : 2020-01-28</p> <hr/> <p>Key words: evaluation, pre and post-test score, the level of error, wilcoxon signed ranks test</p>	<p>This study aims to evaluate the results of pre-test and post-test scores as well as the level of error in participants in education training and nutrition counseling in non-communicable diseases at the Batam health training center in 2016. This study was observational with a cross sectional approach. The population in this study used a saturated sample, where the sample used was the pre-test and post-test scores of all participants who attended the training, which were 30 respondents. To determine the relationship between variables using the Wilcoxon Signed Ranks Test. The results of the analysis using the Wilcoxon Signed Ranks Test between the pre-test and post-test values, obtained a Z value of -4.582 with a p value of .000 < 0.05, so there is a significant difference between the pre-test and post-test values. The average pre-test with 30 questions given to participants was 53.56 with a standard deviation of 11.04. While the post-test average of 30 questions given to participants was 67.33 with a standard deviation of 9.45. There was a change of 13.78% of the participant's knowledge score before and after the training. From 30 questions, from pre-test to post-test there was a change in error rate as follows, 70% had an increase, 6.67% remained and 23.33% had a decrease</p>

Introduction

Indonesia is currently facing multiple burdens of nutrition problem, namely malnutrition and excess nutrition. Malnutrition especially in children under five is still a major problem in Indonesia. On the other hand the problem of over nutrition began to emerge along with technological advances in food. One of the effects of the excess nutrients is the emergence of various non-communicable diseases such as heart disease, high blood pressure, diabetes mellitus, and others. In order to cope with the disease due to excess nutrition, it is necessary to control efforts that can be carried out by medical personnel by conducting nutritional couns.

Nutritional education also needs to be given to patients and their families related to patient care, namely how to use the correct medication according to doctor's recommendations, dietary guidelines and nutrition care. Provision of nutrition education is very important to help the healing process of patients during hospital care or when going home. The purpose of providing education is to support the success of overall treatment. Therefore, to get the quality of good nutrition education, competent and reliable officers are needed in the field of nutrition, namely Dietisien or Nutritionists

According with the Minister of Health Regulation No. 78 of 2013 concerning Hospital Nutrition Services Guidelines, it is stated that patients are entitled to complete nutrition services in accordance with the latest service standards, where one of the most important parts of nutrition service activities is providing nutrition education and counseling that play a role in success giving nutrition intervention. (RI Ministry of Health, 2013)

Therefore, in order to improve the process of good nutrition management, training for nutrition workers is needed. Nutrition training aims to increase knowledge about the practice of practice, as well as to improve skills in providing good and correct education and counseling, the patient's trust in nutrition staff is higher. Competence of nutrition officers in providing education properly can increase patient trust so that it can help patients recover. Based on the above, it is necessary to implement Nutrition Counseling Education and Training in non-communicable diseases

The pre test given in training is to explore the extent of the participants' initial ability to the material provided, so that the facilitator can determine how to deliver the learning to be taken. While the benefits of post test are to obtain a picture of the abilities achieved by participants after the end of the learning process.

The results of the pre-test compared with the pre-test, will be known how far the influence of learning is carried out, while being able to know the parts of the question that are still unknown and understood by the participants

In a training, evaluation of the pre test results often lacks serious attention, so that when the post-test results are not shown significant changes. In connection with these problems, the author examines the evaluation of pre-test and post-test scores and the level of errors in training in education and nutritional counseling on non-communicable diseases at the Batam health training center

The purpose of this study was to determine the value of the pre / pre-test score and the level of participants' mistakes in answering the questions. The benefit of this research is the availability of information on the level of progress of the learning process

The limitation in this study is that there are confounding variables that cannot be controlled but are very influential on services such as length of work, psychological, age, gender and level of education. The formulation of the problem in this study was to determine the difference in the scores of the pre / pre-test scores and the level of participants' errors in giving answers to pre / post test questions, in nutrition education and counseling training for non-communicable diseases at Batam Health Training Center

Literatur Review and Hypotheses Development

Definition of training

Training is a planned process of activities to create a new job or develop an existing job. Whereas according to Bernadin (1998), training is a variety of introductory efforts to develop the performance of personnel in the work they carry out. Another definition of training is the process of conducting activities systematically and planned to create a conducive learning atmosphere. All potential within him is expected to be explored to realize new strengths that are spiritual, emotional, personality, intelligence, morals, and other useful skills (Ministry of Education and Culture, 2003).

Evaluation

Evaluation is an activity of collecting data and information to assess the progress of the teaching and learning system, with the aim of knowing the success and failure of learning and the steps that will be applied in subsequent learning. Measurement and assessment are the most important elements in the evaluation process. Measurements are related to the size of quantitative data, while assessments are related to quality measures (Arikunto, 2012).

Test form

According to (Arikunto, 2012) test as a measure of the development process learning is divided into six types, namely:

1. Test selection. Test selection is often known as "screening test" or "entrance examination".

This test is carried out in order to receive new prospective students, where the test results are used to select the best prospective students from the many candidates who take the test.

-
2. Initial test. This initial test is often referred to as the pre-test, carried out with the aim to determine the extent to which the material or material the lesson to be taught has been mastered by the trainees.
 3. Final test. The final test is often known as the post-test. The final test is carried out with the aim to find out whether all the subject matter classified as important can be mastered as well as possible by the students.
 4. Diagnostic tests. Diagnostic tests (diagnostic tests) are tests that are used to determine precisely, the types of difficulties faced by students in a particular subject.
 5. Formative test. Formative test is a test of learning outcomes that aims to find out, to what extent "learners" have formed "after they have followed the learning process in a certain period of time. This formative test is usually carried out in the middle of the course of the teaching program, which is carried out every time the learning unit or subject ends or can be completed. In the world of education, this formative test is commonly known as the "daily test". Follow-up that needs to be done after knowing the results of the formative test is:
 - a) If the material tested has been well mastered, then the learning is continued with a new subject.
 - b) If there are parts that have not been mastered, then before continuing with the new subject matter, it is first repeated or explained the parts that have not been mastered by the students.
 6. Summative test. A summative test is a test of learning outcomes carried out after a set of teaching program units has been completed. Summative tests are carried out in writing, so that all students get the same problem. The items raised in this summative test are generally also more difficult or more severe than the formative items. The main purpose of summative tests is to determine the value that symbolizes the success of students after they take the learning process in a certain period of time. (Daryanto, 2005)

Pre-test, and post-test is one measure that is often used to assess the success rate of a learning process because it is simple. The pre-test is given before the learning process takes place with the measurement objective measuring the respondent's knowledge with the material to be given, while the posttest is given when the learning has been completed with the aim of knowing the level of understanding of the participants on the material given (Purwanto, 1998).

Pre-test and Post-test are made to analyze data in pairs, where the data is measured at different times or at the same time but in different situations, with the aim of knowing how far the participants' knowledge of the material will be and has been taught.

According to Sudijono, the pre-test was given with the aim of knowing or exploring the material and learning materials to be taught that could be mastered by students or trainees. " While the Post-test "is a test used to detect the extent to which the material delivered by the facilitator to students or training has been well mastered. (Sudijono, 2008).

Learning process

The learning process consists of three stages, namely assimilation, accommodation and equilibration (balancing). Assimilation occurs because of the process of integrating (integrating) new information into existing new cognitive structures. Accommodation is the process of adjusting from a cognitive structure into a new situation, while an equilibration process is an adjustment that occurs and takes place continuously between assimilation and accommodation. The results of the pre-test will help integrate (assimilation) from the knowledge of previous students with new information so that the material or material to be taught can be adjusted to the ability of the students themselves, or the cognitive adjustment (accommodation) of students into new material if the material has not been mastered at all by students. (Suciati and Prasetya Irawan, 2001).

Learning outcomes

In the teaching and learning process in class, learning outcomes are one tool to measure whether the educational goals have been achieved well or not. In the teaching and learning process in class, learning outcomes are one tool to measure whether the educational goals have been

achieved well or not. Besides that the teaching and learning process aims to improve and direct the teaching and learning process in accordance with predetermined competencies (Sudjana, 1998).

According to Sri Rumini, learning outcomes are human capacities that are shown in daily behavior. This behavior is an activity shown by students that is related to the learning outcomes obtained during the learning process. (Sri Rusmini, et al, 1993)

The success of learning outcomes can be seen in its development through two perspectives, namely teachers and students. In terms of students or students, learning outcomes are the result of learning processes that can be seen from changes and mental development that lead to better behavior. The level of mental development can be seen from three domains which include behavior, knowledge and attitudes. Whereas from the point of view of the educator or teacher, learning outcomes are the process of transferring knowledge given by the teacher to students according to the prescribed curriculum. The level of understanding of students can be known through evaluation of learning outcomes. The activity of evaluating student learning outcomes can be carried out through evaluation of learning outcomes both conducted at the beginning of the middle or the end of learning. With this basic competency, it can be seen the level of mastery of standard material by students, both concerning social, emotional, spiritual and moral aspects.

From some of the definitions above, it can be concluded that learning outcomes are a series of teaching and learning outcomes obtained by students during their education measured in the form of evaluations (Dimiyati and Mudjiono, 2013).

Education

Education is part of health education that aims to change, grow or develop and lead to better health behaviors. There are three important factors as determinants of behavior change, namely social influence, attitudes and communication skills. Nutrition education is the process of providing information to patients (clients) in order to increase knowledge and skills to regulate food or diet and physical activity that is recommended so that behavior changes occur towards improving their health. Nutrition education emphasizes more on the process of giving knowledge which consists of:

- a. The purpose of nutrition education.
- b. Modification priority.
- c. Information for survival or survival.
- d. Relationship between nutrition and health or disease.
- e. Recommended modifications. (Persagi, 2013)

Counseling

Nutrition counseling is a process of interaction carried out by two people, namely a counselor with a client (counselee), in a personal situation, so that effective communication occurs between the two. The purpose of nutritional counseling is the change in client behavior in order to obtain nutrients according to and recommended by doctors or nutritionists (Cornelia, et al, 2002).

The concept of nutritional counseling is to find out the factors that influence client behavior in choosing food in a simple way, so the results do not disappoint.

In the end, professionals in the field of nutrition realize that a new way is needed to re-establish a theory-based counseling approach and psychotherapy, which comes from research related to food and social psychology, so that it becomes a guide in nutritional interventions (Kathleen D Bauer et al, 2012).

Differences in Nutrition Education and Counseling

Counseling is an activity of giving advice, discussing and exchanging ideas in which giving motivation and encouraging behavior change as the ultimate goal. In nutrition counseling clients are given the opportunity to explore themselves so that there is an increase in knowledge,

understanding and awareness to change behavior. In providing counseling certain strategies are needed which are used as approaches in solving client problems. The purpose of nutritional counseling is to help clients identify and analyze problems encountered, helping clients provide alternative solutions to problems (Persagi, 2013).

The goal in nutritional counseling is individuals, by exploring all information from clients and listening skills well, learning and generating high self-confidence so that clients are expected to be able to deal with and solve health problems that are being faced properly (Persagi, 2013)

Nutrition education is a series of activities carried out by educators with the aim of increasing client knowledge and understanding of nutritional problems. Nutrition education can be done in groups or individually. In individual education in general this activity is put together or varied with counseling activities so that the intended target can be achieved. In interactive group education, it is generally given in the form of nutrition counseling by providing nutritional metrics according to the problem of the target group. Nutrition education is provided through the provision of information, instilling confidence and increasing the client's ability to overcome nutritional problems

The long-term goals to be achieved by providing education include:

- a. Improve knowledge, change attitudes, change behavior and improve compliance and improve quality of life.
- b. So that patients can live longer and in happiness because the quality of life is a necessity for someone.
- c. To help patients so that they can take care of themselves, so that complications that may arise can be reduced and also the length of day the treatment can be suppressed. This is especially for diabetic patients.
- d. So that patients remain productive so that they can function and play their best role in society.
- e. Suppress the cost of care for both personal, insurance and government burdens.

The goal of nutrition education is the patient himself, the family of the patient, and the person who daily moves together with the patient both in the home environment, workplace environment, school environment. The basic concepts in conducting nutrition education include:

- a. Communication: language, observation of perception, non-verbal behavior, active listening.
- b. Motivation:
 - 1) Motivational techniques are persuasively educative,
 - 2) Group pressure motivation techniques,
 - 3) Motivational techniques by way of lighting / awareness,
 - 4) Motivational techniques with compensation / compensation.

Objective: to help the client in an effort to change behavior related to nutrition so as to improve the quality of nutritional status and client health status.

Target:

- a. clients who have health problems related to nutrition.
- b. clients who want to take precautions.
- c. clients who want to maintain and achieve optimal nutritional status.

Benefits of Nutrition Counseling:

- a. Helping clients to recognize health problems and nutrition they face.
- b. Encouraging clients to solve problems.
- c. Encouraging clients to find ways to solve problems.
- d. Directing the client to choose the solution method that is most suitable for him.
- e. Helping to cure the disease through improving client nutrition.

In delivering nutrition education, information that needs to be conveyed includes:

a. Information for patients.

- 1) Basic information includes the disease, its causes, drug therapy, eating arrangements, physical activities and matters related to lifestyle changes.
- 2) In conveying information, the factor that needs to be considered is the condition of the patient both physical conditions depending on the severity of the disease, and psychological conditions.
- 3) A person who has been diagnosed with an illness is usually difficult to accept this fact, so giving information that is excessive or not in accordance with his psychological condition will add to the suffering.
- 4) Encouraging patients that their illness can be controlled provided the patient can accept and want to change his behavior or lifestyle.

b. Information for the environment.

- 1) How to regulate good eating to prevent degenerative diseases.
- 2) Physical activity that is in accordance with the disease carried by the patient.
- 3) Introduction of signs if the patient experiences disorders such as signs of hypoglycemia and also hyperglycemia, or hypertension.

Methodology

This type of research was observational with a cross sectional approach, with the sampling technique being a saturated sample where the scores of the pre-test and post-test scores were obtained from all participants who attended the training. The research instrument used was a literature study and a search for primary data processed. The population in this study were participants in education and nutrition counseling training in non-communicable diseases at the Batam health training center, with the samples taken being total sampling, namely all participants who participated in the training were 30 respondents.

Difficulty level.

To calculate the difficulty level of a question, the formula is used as follows: $P = N_p/N$

Information:

P: item difficulty index number

N_p : there are many students who can answer correctly

N: the number of students taking the learning outcomes test (Sudijono, 2008: 372)

To interpret the level of difficulty of an item can be determined using the difficulty index criteria which can be seen as in the following table:

Table 1. Interpretation of the Difficulty Rate Value

The amount of P	Interpretation
0 - 0,30	Very difficult
0,31 - 0,70	Moderate
0,71 - 100	easy

Source: Sudijono (2008: 372)

The collected data is processed using the SPSS version 22 program and the excel program, which is analyzed analytically and presented in the form of frequency distribution, cross tabulation, percentage, average and standard deviation. To determine the relationship between variables using the Wilcoxon Signed Ranks Test. While the level of error in answering pre-post test questions is presented in the form of the frequency distribution.

Result and discussion

The results of the training pre-test of the 30 questions tested had a mean value of 53.55 with a standard deviation (SD) of 11.04. The lowest pre test value was 22.33 and the highest was 70. The hardest pre test questions answered correctly by participants were numbers 5, 14 and 26. A total of 25 participants (83.33%) gave the wrong answer. While the post-test results from 30

questions have an average value of 67.33, with a standard deviation of 9.44. The lowest post test score was 47 and the highest was 80. The post test question was the hardest question number 5. A total of 27 participants (90.00%) gave the wrong answer. Compared with the pretest value there was a decrease of 6.67%.

Comparison between pre and post-test, then question number 8, is the highest problem in achieving a change from the wrong answer to correct which is 50%.

Error answer between the value of pre test and post-test, obtained the following results: 1 (3.33%) participants experienced a decline, 27 (90.00%) increased and 2 (6.67%) remained.

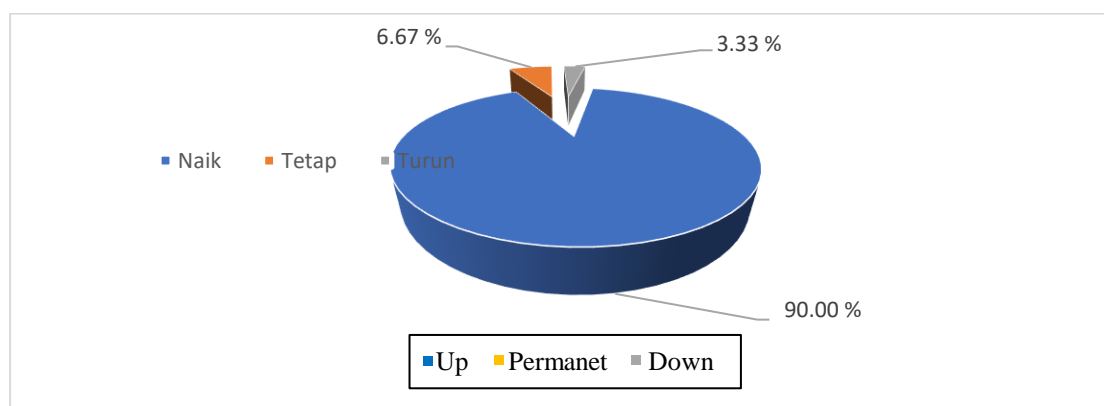
Table 2. Pre post value test

No.	Description	Lowest	Highest	Mean	Median	SD	Information
1	Pre-test	33,33	70,00	53,56	53,33	11,04	P=0,00
2	Post-test	47	80	67,33	70	9,45	P=0,00

Table 3. Wilcoxon Signed Ranks Test

		N	Mean Rank	Sum of Ranks
Post-test – Pre-test	Negative Ranks (decrease)	1 ^a	2,00	2,00
	Positive Ranks (increase)	27 ^b	14,96	404,00
	Ties	2 ^c		
	Total	30		

a. $post-test < pre-test$ b. $post-test > pre-test$ c. $post-test = pre-test$



Graph 1. Changes in error rate from pre-test to post-test

The hypothesis to be tested is "There are differences in the scores of the pre-test and post-test education training and nutritional counseling in non-communicable diseases. The hypothesis is the original hypothesis (H_a). For testing purposes, the hypotheses is changed to zero hypothesis (H_0) so that it becomes "There is no difference in the scores of the pre test and post-test training in education and nutrition counseling in non-communicable diseases

Based on the results of the calculation of the Wilcoxon Signed Ranks Test, the Z value was -4.582 with p value of 0.000 < 0.05, so it can be concluded that there were significant differences in the scores of the pre-test and post-test training in education and nutritional counseling in non-communicable diseases

The results of the pretest and post-test of 30 training participants, the average value was 53.55% (pre-test) and 67.33% (post-test). According to the author, during the pre test the participants' readiness was still lacking because there were some participants who did not have time to open and read books, or perhaps the participants had not been involved in nutrition programs for too long. This unpreparedness is indicated by the presence of participants who have the same value (from pre-test to post-test), which is 2 participants (6.67%), and 1 participant (3.33%) has a declining value (from pre-test to post-test)

This shows that there are still participants who have difficulty in determining the correct answer. So that the readiness of the participants to take the test is very necessary, among others

by giving sufficient time to study for the participants and assistance by the material facilitator or lecturer. Therefore the provision of modules and related materials needs to be given / informed to the participants early before participants take part in the training. Information can be passed through an invitation letter, for example participants are expected to study a guidebook on compiling menus, etc. So that participants are expected to be able to take part in learning well.

The results of the pre-test and post-test there was a change in score from 53.55% to 67.33%, this is because in general participants were better prepared than the pre-test. So it is certain that the readiness of participants during the training will affect the value that will be obtained, with an increase of only 13.78%. This is in line with the results of the study (Fajrizka, 2016), the readiness because it is supported by several factors including the place of training, facilitators, modules, and participant characteristics contribute to the success rate of a training, as well as facilitators who master the material.

The results of the pre-test and post-test changes in scores from 53.55% to 67.33%, this is because participants are generally better prepared than the pre-test. So it has been ensured that the readiness of participants during training will affect the value to be obtained, with an increase of only 13.78%. This is in line with the results of the study (Fajrizka, 2016), because the readiness is supported by several factors including the place of training, facilitators, modules, and the characteristics of participants contributing to the success rate of training, and facilitators who master the topic.

Table 4. Pre test and post-test error rates

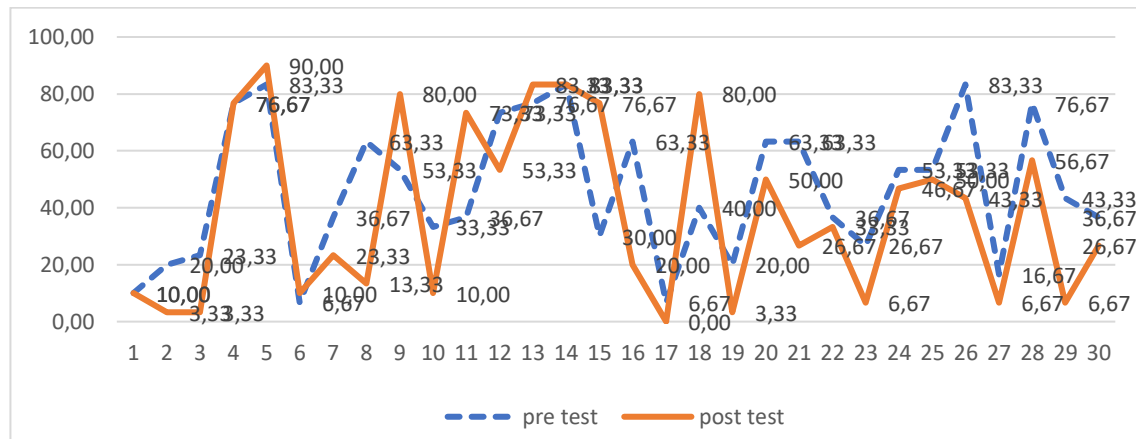
No	Questions	The level of error				Chance
		Pre-test	(%)	Post-test	(%)	
1.	The activities of collecting, verifying and interpreting the data needed to identify problems related to nutrition, causes, signs and symptoms systematically are called as:	3	10.00	3	10.00	0
2.	Nutrition assessment activities are referred to as foundation activities in the standardized nutrition care process because	6	20.00	1	3.33	+ 16.67
3	The activity of identifying and naming actual nutritional problems in the standardized nutrition care process is defined as:	7	23.33	1	3.33	+ 20.00
4	Nutritional Interventions can be grouped into 4 categories / domains namely	23	76.67	23	76.67	0
5	The following are some aspects that must be considered for the readiness for change when negotiating with patients on a Regular Diet, except:	25	83.33	27	90.00	- 6.67
6	The proper education method used in providing nutritional information to certain target groups is.	2	6.67	3	10.00	- 3.33
7	In providing education to clients, they should pay attention to the following, except:	11	36.67	7	23.33	+ 13.34
8	The following are factors that affect diet adherence:	19	63.33	4	13.33	+ 50.00
9	The appropriate educational material for patients who have problems losing weight is:	16	53.33	24	80.00	- 26.67
10	In the process of standardized nutrition	10	33.33	3	10.00	+ 23.33

	care, counseling is an activity carried out in steps.					
11	The function of the counselor in the counseling process	11	36.67	22	73.33	- 36.66
12	The following are factors that affect diet adherence	22	73.33	16	53.33	+ 20.00
13	The foundation used in the skills of counselors to change behavior with 6 stages (ranging from pre-contemplation to Relapse) is theory.	23	76.67	25	83.33	- 6.66
14	The following are some sequences for proper Nutrition Counseling Procedures.	25	83.33	25	83.33	0
15	In making a problem solving plan for nutrition counseling, the counselor must formulate goals with the following elements:	9	30.00	23	76.67	- 46.67
16	Healthy lifestyle that must be done to reduce blood pressure in patients with hypertension, namely:	19	63.33	6	20.00	+ 43.33
17	The following is the possibility of a nutritional diagnosis that will be set on the problem of Gout / Rheumatism.	2	6.67	0	0.00	+ 6.67
18	Food ingredients that should be avoided for sufferers of Gout / Rheumatism are:	12	40.00	24	80.00	- 40.00
19	If someone will lose weight as much as 0.5 kg / week, how much energy should be reduced from food?	6	20.00	1	3.33	+ 16.67
20	A 52-year-old woman with 156 cm Height, 65 kg body weight and BMI 26.7 kg / m ² . Since 3 months ago diagnosed with type 2 diabetes and blood sugar testing results of 245 mg / dl. What is the diet that can be given in this case?	19	63.33	15	50.00	+ 13.33
21	A person with high cholesterol and triglyceride levels, then the right dietary recommendation is:	19	63.33	8	26.67	+ 36.66
22	A 60-year-old RT mother, 158cm TB and 68kg BB came to the Puskesmas. Measurement of blood pressure 139/95 mmHg. Which foods should be avoided?	11	36.67	10	33.33	+ 3.34
23	Clients will be motivated to make healthy behavioral changes when.	8	26.67	2	6.67	+ 20.00
24	Submission of messages orally is easily accepted by targets in interpersonal communication and group communication when.	16	53.33	14	46.67	+ 6.66
25	To maintain effective communication in interpersonal communication between counselors and clients who are not participatory during nutritional counseling include.	16	53.33	15	50.00	- 3.33
26	One of the things that will support the success of the interpersonal communication process are.	25	83.33	13	43.33	+ 40.00
27	Comfortable atmosphere for the target in interpersonal communication in the	5	16.67	2	6.67	+10.00

Distribution of Pre and Post Test Score and the Level of Errors in Answering Questions in the Participants of Education and Nutrition Counseling Training in Non-communicable Diseases

	counseling process is realized when.					
28	A professional Nutritionist in an effort to improve the nutrition knowledge of the community / client needs to master.	23	76.67	17	56.67	+ 20.00
29	Clients will be motivated to make healthy behavioral changes when.	13	43.33	2	6.67	+ 36.66
30	Group communication will increase target knowledge if.	11	36.67	8	26.67	+ 10.00
	Sum	417	46.33	344	38.22	+ 8.11

Source: primary data processed, 2016



Graph 2. The Level of Error level pre-test and post-test

From table 4 and graph 2, in general the participants' mistakes in answering the pre-test and post-test questions decreased by 8.11% from 46.33% to 38.22% with the details of 19 questions (63.33%) positive changes (from wrong be true), 3 questions (10.00%) remain, and 8 questions (26.67%) negative changes (from true to false). During the pre test, the most difficult questions were questions number 5, 14 and 26. The questions revolved around the aspect of negotiating with patients, the order of proper nutrition management and effective communication during nutritional counseling. Of the 30 pre-test questions, 25 participants (83.33%) answered incorrectly. While at the time of the post-test, the questions that are still considered difficult are questions number 14, namely the order of proper nutrition management (the proper order of nutrition procedure) . From 30 post-test questions, 25 participants (83.33%) answered to wrong.

From the results of the pre post-test answers, there were still participants who answered incorrectly at the post test, which was 23.33%. Of the 30 question questions number 5 is the most difficult question, until the end of post test learning only 3 participants (10%) answered correctly, with questions namely aspects that need to be considered for change readiness when negotiating with patients with Ordinary Diet. The highest positive change from wrong in the pre test is correct in the post-test, namely in question number 8, which is equal to + 50% and the lowest in question 22 is equal to 3.34%. Whereas the questions remain number 1, 4 and 14. Furthermore, the highest negative change from the correct answer in the pre-test becomes wrong in the post-test, which is number 15, which is equal to - 46.67% and the lowest in questions number 6 and 25 which is equal to -3.33%

To find out the level of difficulty in the question by comparing the questions answered correctly compared to the participants who took the test divided into three levels, namely Very Difficult, Moderate and Easy, with the results as shown in table 5.

Table 5. The level of difficulty of the pre and post-test questions

Interpretation	Pre-test		Post-test	
	n	%	n	%
Difficult	7	23,33	8	26,67
Moderate	14	46,67	7	23,33
Easy	9	30,00	15	50,00
Total	30	100,00	30	100,00

Source: primary data processed, 2016

At the time of the pre test the highest difficulty level is at the level of Moderate or Moderate, while at the time of the post test on the level Too Easy, so that it can be ascertained that the level of difficulty in the question is in line with the positive results and the difference between the pre test and post test. According to Suciati, 2001, a person's learning process is influenced by three processes, namely assimilation or integration of a new place or atmosphere (training ground) so that there are times when participants are long enough to carry out this process due to several factors including psychological factors. Besides the accommodation process or adjustments from each individual, among others, due to different cultural factors. Then equilibration or a combination of integration and adjustment factors, between individuals and other individuals is very different, some are fast, medium or slow. Therefore in this learning the three factors need to be looked at carefully by the organizers and facilitators, so that the learning objectives can be achieved.

Results

The participant's knowledge score before training was 53.55%, with the highest error rate reaching 83.33%, on questions number 5, 14 and 25 and the lowest reaching 6.67% on questions number 6 and 17, with details of 19 questions (63 , 33%) there was a positive change (from wrong to being right), 3 questions (10.00%) remained, and 8 questions (26.67%) there were negative changes (from right to being wrong).

The participant's knowledge score after training is 67.33%, with the highest error rate reaching 90.00% occurring in question number 5, and the lowest reaching 3.33%, occurring in questions number 2, 3 and 19. There are differences in the score of the pre-test to post-test which is 13.78%

Problem number 5 is the hardest question of the 30 questions, with an error rate reaching 90.00% at the time of the post test.

Suggestion

Pre and post test questions are tested first, before being applied in a training.

Recommendation

The pre-test results should be immediately submitted to facilitator, we hope facilitator can immediately follow up on the shortcomings of the training participants.

Acknowledgment

Acknowledgments are conveyed to the Head of Batam Health Training Center and Staff, who have provided the opportunity for the author to conduct research on training in education and nutritional counseling on non-communicable diseases.

References

- Arikunto, S. (2012). *Dasar-dasar Evaluasi Pembelajaran*. Jakarta: Bumi Aksara.
- Cornelia, et al. (2002). *Konseling Gizi. proses komunikasi, tata laksana serta aplikasi konseling gizi pada berbagai diet*. Jakarta: penebar Plus.
- Daryanto. (2005). *Evaluasi Pendidikan*. Jakarta: Rineka Cipta.

- Fajrizka. (2016). Evaluasi hasil skor pre-test dan post-test peserta pelatihan dengan materi Klasifikasi Penyakit ICD 10 dan Kode Tindakan pada ICD 9-CM di Pusdiklatnakes Jakarta. Retrieved 09 22, 2017, from <http://digilib.esaunggul.ac.id>
- Kathleen, D. B et al. (2012). *Nutrition Counseling and Education Skill Development*. Wadsworth: Cengage Learning.
- Kemendikbud RI. (2003). *Sistem Pendidikan Nasional*. Jakarta.
- Kemendes RI. (2013). Permenkes No. 78 tahun 2013 tentang Pedoman Pelayanan Gizi Rumah Sakit. Jakarta: Kementerian Kesehatan RI.
- Persagi. (2013). *Konseling Gizi*. Jakarta: Penebar Plus.
- Purwanto, M. (1998). *Prinsip-prinsip dan Teknik Pengajaran*. Bandung: CV Remaja Karya.
- Sri, R, et al. (1993). *Psikologi Pendidikan*. Yogyakarta: Universitas Negeri Yogyakarta.
- Suciati., & Prasetya, I. (2001). *Teori Belajar dan Motivasi*. Jakarta: PAU-PPAI, Universitas terbuka.
- Sudijono, A. (2008). *Pengantar Evaluasi Pendidikan*. Jakarta: Raja Grafindo Persada.
- Sudjana, N. (1998). *Dasar-dasar dan Proses Belajar Mengajar*. Bandung: PT. Sinar Baru.