



# The Effect of Providing Education on Degenerative Diseases on Cleaness and Healthy Behavior in Teenagers

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**Abstract.** Degenerative disease is the leading cause of death in the world that is triggered because of an unhealthy lifestyle at a young age, especially at the high school teens. One way of disseminating information about the prevention of degenerative diseases with a clean and healthy life is by health education. Design of quasi experimental study. From a population of 120 adolescents aged 16–18 years in Senior High School 2 Padangsidempuan, samples taken 93 respondents with simple random sampling technique. These samples were divided into two groups, control and experiment. Pretest-posttest using a questionnaire. Data were analyzed by independent T-test using SPSS Programme. There were differences in the average change score on the behavior of the control and experimental groups before and after counseling with the average - average value of 1.79 increase in the experimental group and control group 0.56. There is the effect of giving counseling on prevention of degenerative diseases of the clean and healthy lifestyle behaviors among adolescents in Senior High School 2 Padangsidempuan.

**Keywords:** Degenerative Disease Counseling · Clean and Healthy Behavior Adolescents

## 1 Introduction

Disease degenerative is disease which arise because decline in the function of body organs due to the aging process and is one of the one of the biggest causes of death in the world, which is the cause of 60% of deaths and 43% of the global disease burden. According to the World Health Organization (WHO), there is almost around 17 million person die world consequence disease degenerative every year (IDHS, 2019).

PTM (Disease Not Infectious) triggered various factor risk, 34.7% of the population aged 15 years and over smoked every day, 93.6% not enough consumption fruit and vegetable as well as 48.2% not enough activity physique. Enhancement PTM impact negative on economy and productivity nation. Treatment and management of PTM often takes a long time and requires large costs, therefore concrete steps are needed to overcome it, therefore prevention with a healthy lifestyle must prioritized (IDHS, 2019).

Based on data in Public health center region Regency Padangsidimpuan, PTM disease in the last five years experienced increase in several types Diseases include diabetes that

is not insulin dependent 26.65%, heart 67.82% and disease hypertension essential 2.3% (Batunadua Health Centre, 2017).

Disease degenerative arise because factor age, no can cured but can be controlled one of them by way of lifestyle clean and healthy. Teenagers are the main target to do effort this by because still often found problem to level health and nutritional status and the presence of unhealthy eating patterns and lifestyles healthy at age young (Didinkaen, 2016).

Modern life now with technological advances will be able to affect a person's diet. Eating patterns that tend to enjoy fast food, if not avoided will increase the incidence of comorbidities, shorten life expectancy, loss of productivity and several other diseases (Prawirohardjo, 2018 and Wipayani, 2018).

Health behavior is basically a person's response (passive or active) to stimuli related to illness and disease, the health care system, food, and the environment. What is important in health behavior is the problem of shaping and changing behavior. Because behavior change is the goal of education or health education as a support for other health programs (Notoatmodjo, 2007).

To improve clean and healthy living behavior in adolescents, it is necessary to provide counseling to adolescents, especially those concerning various kinds of degenerative diseases and their prevention efforts that must be done (Proverawati, 2016 and Rustam, 2017).

Based on a preliminary study of 50 students at SMAN 2 Padangsidempuan, it was found that 45 students of class XI had never received counseling/knowledge about degenerative diseases, and 35 of them had negative lifestyles, including often eating instant noodles, fried snacks, etc. (SMAN 2 Padangsidempuan, 2019).

Given that degenerative diseases are the cause of 60% of deaths in the world and have a tendency to increase, it is necessary to make efforts to reduce and prevent them more intensively since adolescence. Therefore, researchers want to examine "the effect of providing counseling about efforts to prevent degenerative diseases on clean and healthy living behavior in adolescents". This study aims to Analyzing the effect of providing counseling on efforts to prevent degenerative diseases on clean and healthy living behavior in adolescents.

## 2 Research Methods

This research use design study Experiment Quasi with the Pretest – Posttest with Control Group design, in this design randomization, which means grouping the control group and group experiment conducted by random or random. Then pretest was performed on both groups, and followed by intervention on group experiment then conducted posttest on a number of time next on second group. Population and research this is all student in SMAN 2 Padangsidempuan class XI. Taking samples were carried out using technique probability sampling with the Simple method Random Sampling.

The subjects used in this study were one group sample and divided into two, which is half the group for the experiment as much as 47, and the rest for control (without given counseling) as much 46. Grouping sample with method gather data sample, then from

each – each class taken the respondent based on lottery so that each – each class has sample which balanced. The age range of the students who Becomes research respondents between 16–18 years.

The research process was carried out by providing intervention using research instruments. The intervention given in this study was counseling in the treatment group using the lecture method with leaflets and powerpoint media. In the control group not given counseling.

Second group given pre-test on date 22 May 2019 then given a grace period of 16 days then a post-test was carried out which same on date 07 June 2019 for ensure is treatment which applied to group experiment has cause change more big compared group control.

Tool measuring collection data which used for measure healthy living behavior as well as measuring tools for counseling indicators the control group and the experimental group in this study were scale behavior and scale knowledge. Respondent requested for put a check (✓) if it supports the statement item that has been there is.

### 3 Result

Based on data in on so could is known that frequency age the most is age 17 year that is as much 67 person (72.04%) (Table 1).

Based on data in on so could is known that frequency of the sex the most is with the female sex that is as many as 52 people (55.91%) (Table 2).

**Table 1.** Distribution frequency respondent based on age

No	Age (year)	Frequency	Percentage (%)
1.	16 year	26	27.96
2.	17 years	67	72.04
3.	18 years	-	0
	<b>Total</b>	<b>93</b>	<b>100</b>

**Table 2.** Distribution frequency respondents based on type sex

No	Type Sex	Frequency	Percentage (%)
1.	Man	41	44.08
2.	Woman	52	55.91
	<b>Total</b>	<b>93</b>	<b>100</b>

**Table 3.** Knowledge about effort prevention disease degenerative before and after group counseling control

Description	Pretest	Postes
Mean	14.43	14.98
Standard Deviation	2.39	2.14
Score Highest	19,00	20.00
Score Lowest	10.00	11.00

**Table 4.** Knowledge about effort prevention disease degenerative before and after counseling experimental group

Description	Pretest	Postes
Mean	15.72	17.68
Standard Deviation	2.51	1.85
Score Highest	20.00	22.00
Score Lowest	11.00	13.00

### 3.1 Description Knowledge Respondent

#### a. Knowledge about Effort Prevention Disease degenerative Pretest and Posts on Control Group

Based on Table 3 mean knowledge respondent on group control on moment conducted pretest of 14.43 and after done posttest as big as 14.98 which show existence increase as big as 0.55.

#### b. Knowledge about effort prevention disease generative pretest and post on experimental group

Results which obtained respondents before and after conducted counseling is shown in Table 4.

Based on the Table 4, the average knowledge of respondents on the experimental group before counseling was 15.72 and after conducted counseling as big as 17.68 so that show happening an increase of 1.96.

### 3.2 Description Behavior Life Clean and Healthy

#### a. Behavior Life Healthy Pretest and Postes on Group Control

Based on Table 5 mean behavior respondent on the control group at the time of the pretest was 14.61 and after conducted posttest as big as 15,17 which shows existence increase as big as 0.56.

**Table 5.** Behavior Life Clean and Healthy Before and After Counseling Control Group

Description	Pretest	Postes
Mean	14.61	15,17
Standard Deviation	2.37	2.37
Score Highest	19,00	20.00
Score Lowest	9.00	10.00

**Table 6.** Behavior life clean and healthy before and after counseling on experimental group

Description	Pretest	Postes
Mean	15.36	17.15
Standard Deviation	2.39	3.03
Score Highest	20.00	23.00
Score Lowest	11.00	11.00

**b. Clean and Healthy Life Behavior Pretest and Posttest in Group Experiment**

Based on Table 6 mean of behavior respondent on group experiment before conducted counseling as big as 15.36 and after counseling is 17.15 so that it shows an increase of 1.79.

**3.3 Analysis Influence Counseling About Effort Prevention Disease Degenerative to Behavior Clean and Healthy on Teenager**

**a. Analysis Test Precondition**

Calculation of the pre-requisite test analysis is carried out before the assumption test, testing precondition with test normality spread. Test normality scatter meant for knowing is in variable the researched is normally distributed or not.

*Shapiro-Wilk test* technique, data is said to be normally distributed if  $p \{sym sig (2-tailed)\} \geq 0.05$ . Normality test using SPSS program version 16.

Results test normality scatter will explained in the Table 7.

- 1) The results of the pretest normality test for the control group, the *Shapiro-Wilk. Value* is 0.963 with  $p$  as big as  $0.141 \geq 0.05$  including category normal.
- 2) The results of the posttest normality test for the control group, the *Shapiro-Wilk. Value* is 0.971 with  $p$  as big as  $0.309 \geq 0.05$  including category normal.
- 3) The results of the pretest normality test of the experimental group, the *Shapiro- Wilk* is 0.972 with  $p$  of  $0.309 \geq 0.05$  including category normal.
- 4) The results of the posttest normality test of the experimental group, the *Shapiro-Wilk* is 0.967 with  $p$  of  $0.212 \geq 0.05$  including category normal.

**Table 7.** Results Test Normality Behavior Life Healthy About Effort Prevention Degenerative Disease

Group Pretest Experiment	Group Posts Experiment	Group Pretest Control	Group Posts Control
Shapiro-Wilk	0.963	0.971	0.972
Asymp. Sig. (2-Tailed)	0.141	0.309	0.309

**Table 8.** Results Test *Independent T-Test* Among Group Experiment With Group Control

<i>Posttest – Pretest</i>	<i>Mean</i>	<i>T</i>	<i>df</i>	<i>p</i>
Experiment	1.79	3,945	74.394	0.001
Control	0.57			

Thing this means that data on each group have distribution which normal, so that could next with analysis *de ng a n independent T test*.

**b. Hypothesis Testing the Effect of Counseling on Clean Living Behavior and Healthy.**

Test hypothesis in study this conducted with test T with SPSS version 16 program. The hypothesis test of this research is to do *Independent T* test to perform different tests on samples that do not relate, that is test different Among difference *post-test* and *pretest* experimental group with difference group *post-test* and *pretest* control.

*Independent T* test results between the experimental group and the group control is as shown in Table 8.

*Static Group* table, the average difference in behavior scores is obtained Among *post-test* with *pre-test* on group experiment as big as 1.79 whereas mean behavior in the group control as big as 0.57. This shows that both in the experimental group and the control group both have an increase in behavioral scores but when compared descriptively the increase occurred in the experimental group is greater than in the group control.

*The independent sample test* resulted in a t-test value of 3.945 with a *p-value* of 0.001. When compared, it can be seen that  $t_{count} \geq t_{table}$  ( $3.945 \geq 1.671$ ) or significance value (*p-value*) =  $0.001 \leq 0.05$  ( $p - value \leq \alpha$ ) then it can be concluded that there is difference average which very significant Among enhancement score behavior group experiment with enhancement score behavior the control group where the average value of the increase in behavioral scores on group experiment more tall than group control, so that  $H_0$  is rejected, which means that there is an effect of counseling on behavior live clean and healthy on teenager in high school 2 Padangsidimpuan.

## 4 Discussion

### **Counseling on Degenerative Disease Prevention Efforts**

This research was conducted on class XI students of SMAN 2 Padangsidempuan with the average age range of respondents aged 16–18 years where the data collection method in this study was directly from the respondents (primary data) by filling in the measurement scale provided by the researcher. The media used by the researchers in this study were in addition to electronic media in the form of infocuse projector and powerpoint, they also used print media which is one type of mass media, in this case leaflets which are sheets of paper containing writing in short, dense, easy-to-understand sentences. Understandable and simple pictures (Soebroto, 2018 and Director, 2018).

This study shows the average value of knowledge and behavior that has increased after being given counseling. The education level of respondents who are in middle age education is one of the factors that affect the acceptance of information. This is supported by the results of research conducted by Septalia (2010) in Fitria (2019) which states that the level of education by an individual is one of the factors that will support his ability to receive information.

Research conducted by Made (2008) in Rahmawati (2011) states that a low level of education can affect a person's ability to think. Likewise, age can affect a person's level of knowledge. The older you are, the higher your knowledge.

### **Clean and Healthy Life Behavior in Adolescents**

Clean and healthy living behaviors are behaviors related to a person's efforts or activities to maintain and improve their health (Notoatmodjo, 2007).

Factors that influence clean and healthy living behavior include: predisposing factors (knowledge, attitudes, beliefs, values), supporting factors (availability or unavailability of health facilities or facilities) and driving factors (attitudes and behavior of health workers). or other officers who are a reference group of community behavior). These factors interact directly and indirectly in shaping clean and healthy living behavior.

In this study, the behavior in the experimental group showed an average value before counseling was 15.36 and after counseling was 17.15, indicating an increase of 1.79. This increase was supported by an increase in knowledge in the experimental group which also showed a value before counseling was 15.72 and after counseling was 17.68, indicating an increase of 1.96. Lawrence Green (2000) in Rasmaliah (2018) suggests that health status is influenced by behavior, while behavior it self is influenced by predisposing factors, one of which is knowledge.

Knowledge is the result of knowing and this occurs after people sense a certain object (sense of sight, hearing, smell, taste and touch). Most human knowledge is obtained through the eyes and ears (Notoatmodjo, 2007).

### **The Effect of Counseling on Degenerative Disease Prevention Efforts on Clean and Healthy Life Behavior in Adolescents**

By providing counseling about efforts to prevent degenerative diseases in adolescents, adolescents can find out what degenerative diseases are, their impacts and prevention

efforts so that adolescents are motivated to reduce the risk of degenerative diseases by implementing healthy lifestyle behaviors every day. This motivation will emerge when adolescents look to the future and see that they have the opportunity to prevent the emergence of degenerative diseases later and by giving leaflets about efforts to prevent degenerative diseases, it is hoped that they can add information about degenerative diseases, so that they can increase adolescent knowledge.

The results of research on clean and healthy living behavior as in Table 6 which shows an average value of 17.15 and from the results of this study indicate the influence of counseling on behaviour healthy life of adolescents, where clean and healthy living behavior is influenced by good knowledge about efforts to prevent degenerative diseases. This can be seen from the average value of the knowledge of the respondents before counseling was carried out, which was 15.72 then after being given counseling it increased to 17.68.

This study shows the effect of providing counseling about efforts to prevent degenerative diseases on clean and healthy living behavior in adolescents. This can be seen from the results of the analysis test using the t-independent test.

Based on Notoadmodjo (2007) in research conducted by Vanesha (2011) the formation of behavior is influenced by several factors, namely intelligence, motivation, interests, groups and culture. This study was conducted on high school students so that they are more able to receive counseling materials and can increase awareness of the importance of clean and healthy living behavior. After students experience awareness, they will be motivated and an interest will arise to carry out healthy living behaviors. After the students assess the counseling material presented by the researcher, the students will be interested and finally the students will start trying (trial) doing and practicing healthy living in their daily lives because healthy living behavior is considered to be beneficial and very important for their survival in the future, so that the healthy behavior of adolescents at SMAN 2 Padangsidempuan increased.

According to Septalia in a study conducted by Rahmawati (2020), it was stated that the provision of counseling with the help of leaflet media was able to increase knowledge. Counseling involves listening, speaking and seeing activities that make the extension method effective. Information received through print, electronic media, education/counseling, books and so on will increase a person's knowledge so that he will usually improve or change his behavior for the better. This is in accordance with what was conveyed by Arief (2009) on Ratna (2017) that counseling is not only a process of disseminating information and the process of explaining or providing explanations but also as a process of behavior change. This behavior change process is a manifestation of a person's knowledge, attitudes and skills that are observed by other people/parties, either directly (in the form of speech, actions, body language) or indirectly (through their performance or work results). In other words, extension does not stop at disseminating information / innovation, and providing information / knowledge, but is a process that is carried out continuously, with all of one's strength and mind, time consuming and tiring, until there is a change in behavior shown by the beneficiaries of the extension (beneficiaries) who become counseling clients (Nugraheny, 2011).



Research conducted by Vanesha (2011) entitled the effect of counseling on knowledge and behavior of early detection of cervical cancer in women using a quasi-experimental research design with a Non Equivalent Control Group design model. The results showed that there was an effect of counseling on knowledge about cervical cancer and early detection behavior of cervical cancer. Likewise, the research conducted by Nugraheny (2011) also showed a significant/significant effect of providing counseling on behavior to conduct early detection of cervical cancer in high school teachers. The research was conducted in the District of Sanden, Bantul, Yogyakarta. As well as giving lectures and leaflets it is proven to have an effect on increasing behavior, this is in accordance with Adawiyani (2017) shows that the educational method in the form of giving anemia booklets can increase knowledge in pregnant women.

So from this discussion it can be proven that providing counseling about efforts to prevent degenerative diseases can increase adolescent knowledge so that healthy living behavior can increase at SMAN 2 Padangsidimpuan at a 95% confidence level.

The limitations of this study include the presence of uncontrollable confounding variables such as socioeconomic level, customs, respondents' beliefs, however the authors hope that the increase in knowledge can also be followed by an increase in clean and healthy living behavior in a more positive direction.

## 5 Conclusions and Suggestions

Based on the results of research that has been done, the authors can conclude that, before being given counseling, the experimental group had the lowest average score of 11.00 and the highest score of 20.00. The average value of the respondent's behavior before being given counseling was 15.36. After being given counseling, the experimental group had the lowest average score of 11.00 and the highest score of 23.00. The average value of the respondent's behavior after being given counseling is 17.15. There is a significant effect of providing counseling about efforts to prevent degenerative diseases on healthy living behavior in adolescents at SMAN 2 Padangsidimpuan with a value of  $t_{count} \geq t_{table}$  ( $3.945 \geq 1.671$ ).

It is recommended for Health workers to further increase the provision of information about efforts to prevent degenerative diseases with clean and healthy living behavior in adolescents to increase knowledge and behavior of clean and healthy living. Adolescents should be more active in seeking information about health through other media besides counseling and leaflets (print media), both from other print media such as newspapers, tabloids, magazines and other electronic media such as television and radio.

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