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The Influence Of Health Promotion On Controlling Risk Factors For Non-Communicable Diseases

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ABSTRACT

Non-communicable diseases (NCDs) are the leading cause of death and morbidity worldwide, including in Indonesia. NCD risk factors such as smoking, unhealthy diet, lack of physical activity, and excessive alcohol consumption are strongly influenced by individual behavior. Health promotion is an important strategy in efforts to control NCD risk factors by improving public knowledge, attitudes, and behavior. This study aims to determine the effect of health promotion on controlling NCD risk factors. The study used an observational analytical design with a cross-sectional approach. The study sample consisted of 150 respondents selected using a purposive sampling technique. Data were collected through a health promotion questionnaire and a NCD risk factor questionnaire, then analyzed using the Chi-Square test and odds ratio analysis. The results showed that health promotion had a significant effect on controlling NCD risk factors ($p < 0.05$). It was concluded that intensive and sustainable health promotion plays an important role in controlling NCD risk factors.

Keywords: Health Promotion, Non-Communicable Diseases, Risk Factors, Health Behavior

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1. Introduction

Non-communicable diseases (NCDs), such as heart disease, stroke, diabetes mellitus, and cancer, are a growing public health problem. NCDs contribute significantly to mortality and the healthcare cost burden. Unlike infectious diseases, NCDs develop slowly and are closely linked to individual lifestyle and behavior.

The main risk factors for NCDs include smoking, consuming foods high in sugar, salt, and fat, physical inactivity, and obesity. These factors are preventable and controllable through changes in health behavior. Therefore, promotive and preventive interventions are crucial.

Health promotion is a process of empowering communities to increase their ability to control the determinants of health. Through health promotion, communities are expected to recognize risk factors for NCDs and adopt healthy lifestyles. However, the effectiveness of health promotion is greatly influenced by the intensity, methods, and continuity of its implementation.

Based on these conditions, this study aims to analyze the influence of health promotion on controlling risk factors for non-communicable diseases as a basis for strengthening NCD prevention programs.

2. Research Methods

a. Types and Design of Research

This study is a quantitative, observational, analytical study with a cross-sectional design. This design was used to analyze the effect of health promotion on controlling risk factors for non-communicable diseases (NCDs) at a single observation point. This approach was chosen because it is effective in describing relationships between variables within a population and is appropriate for behavior-based public health research.

b. Conceptual Framework of the Research

Health promotion in this study is viewed as a promotional intervention encompassing the frequency, medium, and quality of health message delivery. Health promotion is expected to influence individual behaviors in controlling NCD risk factors, such as smoking habits, diet, physical activity, and weight management. This relationship is influenced by individual characteristics and the social environment.

c. Location and Time of Research

The research was conducted in the working area of Community Health Center X, which actively implements the NCD health promotion program. The research period took place from February-April 2025, covering the preparation stage, data collection, data processing, data analysis, and reporting of research results.

d. Population and Research Sample

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1) Population

The population in this study was people aged ≥18 years who lived in the working area of Health Center X.

2) Sample

The research sample size was 150 respondents, determined based on considerations of sample adequacy for bivariate analysis. The sampling technique used purposive sampling, namely selecting respondents based on certain criteria relevant to the research objectives.

3) Inclusion Criteria
   a) Age ≥18 years
   b) Residing in the research area for at least 6 months
   c) Have you ever received health promotion related to NCDs (counseling, print media, or digital media)
   d) Willing to be a research respondent
4) Exclusion Criteria
   a) Respondents with communication disorders
   b) Respondents who did not complete the questionnaire completely

e. Research Variables

- Independent variable: Health promotion
- Dependent variable: Control of risk factors for non-communicable diseases

f. Operational Definition of Variables

Variables	Operational Definition	Indicator	Measuring instrument	Scale
Health promotion	Exposure to NCD health information received by respondents	Frequency, media, understanding of material	Questionnaire	Ordinal
Control of NCD risk factors	Respondents' efforts to control NCD risk factors	No smoking, physical activity, healthy diet, normal BMI	Questionnaire	Ordinal

g. Research Instruments

The research instruments consist of:

1) Health promotion questionnaire, which measures the frequency of receiving information, type of media (education, posters, social media), and respondents' understanding of PTM material.
2) NCD risk factor control questionnaire, which assesses smoking behavior, physical activity, diet, and weight control

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The instrument was prepared based on health promotion and NCD control guidelines, and has undergone validity and reliability testing before use.

h. Data Collection Procedures

Data collection is carried out through the following stages:

1) Processing research permits to relevant agencies
2) Coordination with Community Health Center officers and health cadres
3) Explanation of research objectives and procedures to respondents
4) Signing of informed consent
5) Completion of questionnaires by respondents with researcher assistance
6) Data completeness and consistency check

i. Data Processing Techniques

The data that has been collected is processed through several stages:

1) Editing – checking the completeness and clarity of answers
2) Coding – assigning a numeric code to each variable
3) Data entry – entering data into statistical software
4) Cleaning – ensuring data is free from input errors

j. Data Analysis Techniques

1) Univariate Analysis

   Univariate analysis was used to describe the frequency and percentage distribution of each variable, both health promotion and control of NCD risk factors.

2) Bivariate Analysis

   Bivariate analysis was conducted using the Chi-Square test to determine the effect of health promotion on controlling NCD risk factors with a significance level of $\alpha = 0.05$.

3) Advanced Analysis

   To determine the magnitude of the influence, an Odds Ratio (OR) calculation was carried out to see the chances of respondents with good health promotion in controlling NCD risk factors compared to respondents with poor health promotion.

k. Bias Control

Bias control is done through:

1) Use of clear inclusion and exclusion criteria
2) Structured and standard questionnaire instruments
3) Respondent assistance when filling out the questionnaire

l. Research Ethics

This research was conducted in accordance with the ethical principles of health research, including:

1) Informed consent

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2) Confidentiality of respondent identity
3) Anonymity
4) The principle of justice and nonmaleficence

3. Research Results And Discussion

a. Result

1) Health Promotion Exposure

Health Promotion	f	%
Good	92	61.3
Not enough	58	38.7
Total	**150**	**100**

2) Controlling NCD Risk Factors

Risk Factor Control	f	%
Good	88	58.7
Not enough	62	41.3
Total	**150**	**100**

3) The Influence of Health Promotion on Controlling NCD Risk Factors

Health Promotion	Good Control	Lack of Control	Total
Good	68	24	92
Not enough	20	38	58

The results of the Chi-Square test show a p value = 0.001 (< 0.05), which means that there is a significant influence of health promotion on controlling NCD risk factors.

OR analysis:

Respondents with good health promotion have a ±5.4 times greater chance of controlling NCD risk factors compared to respondents with poor health promotion.

b. Discussion

The research results show that health promotion has a significant impact on controlling risk factors for non-communicable diseases. Respondents who frequently receive health promotion tend to have healthier lifestyles, such as not smoking, being more physically active, and paying attention to their diet.

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Sustainable health promotion can increase public knowledge and awareness of the dangers of NCD risk factors. Furthermore, the use of various promotional media strengthens understanding and encourages behavioral change.

These findings support the concept that NCD control should focus on promotive and preventive efforts through behavioral change. Effective health promotion can be a key strategy in reducing the increasing prevalence of NCDs in the community.

4. Conclusion And Suggestions

a. Conclusion

Health promotion has a significant impact on controlling risk factors for non-communicable diseases. The intensity and quality of health promotion increases the community's chances of adopting healthy lifestyles.

b. Suggestion

1) Community health centers need to increase the intensity and variety of health promotion media for NCDs.
2) The community is expected to actively participate in health promotion activities.
3) Further research is recommended using intervention designs to assess the effectiveness of health promotion causally.

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