
The Effect of Home Visits and Aromatherapy on The Level of Family Independence and The Fulfillment of Family Health Tasks With Non-Communicable Diseases

Ria Roswita¹, Nurhayati²

Poltekkes Kemenkes Banjarmasin

Email : roswitaria@gmail.com

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Abstract (Times New Roman 10 pt, bold, italics)

Non-communicable diseases are the main cause of death in the world. Home visits need to be combined with aromatherapy so that they can increase the effectiveness of the intervention. This study aims to assess the effect of home visits and aromatherapy on the level of independence and fulfillment of family health tasks with non-communicable diseases. The study was conducted in the Working Area of Martapura 1 Health Center, Banjar Regency. The sample of this study was 20 families with non-communicable diseases selected using purposive sampling techniques. The results of the research analysis showed that home visits and aromatherapy had an effect on the level of family independence and fulfillment of family health tasks with a p value of $0.00 < 0.05$. This indicates that the implementation of home visits and aromatherapy can increase the level of family independence and fulfillment of family health tasks with non-communicable diseases in Indonesia.

Background

Non-communicable diseases are the main cause of death in the world (WHO, 2023). According to WHO, non-communicable diseases cause 74% of deaths or 41 million people die from non-communicable diseases (WHO, 2023). Non-communicable diseases are more common in low and middle income countries (WHO, 2023). One of them is in Indonesia, which is currently facing a double burden of disease, namely infectious diseases and non-communicable diseases (Kemenkes, 2019a). Based on the results of the 2018 Riskesdas, there was an increase in diseases that are key indicators of non-communicable diseases such as hypertension and diabetes mellitus (Kemenkes, 2019b).

The prevalence of indicator diseases of non-communicable diseases such as hypertension increased from 25.8% to 34.1% and the prevalence of diabetes mellitus increased from 6.9% to 10.9% (Kemenkes, 2019a). In addition, the prevalence of factors that influence non-communicable diseases also increased, including an increase in the prevalence of obesity, smoking, lack of activity and low fruit/vegetable consumption (Kemenkes, 2019a). The prevalence of hypertension in South Kalimantan Province ranks first in Indonesia, namely 44.13% (Kemenkes, 2019b). The increase in non-communicable diseases requires large treatment costs, which will increase the burden on society and the government (Kemenkes, 2019a). According to the Indonesian Ministry of Health, 21.8% of all BPJS financing in 2017 was financing for catastrophic diseases, most of which were non-communicable diseases (Kemenkes, 2019a). Therefore, an appropriate control strategy is needed to control non-communicable diseases.

Management of non-communicable diseases includes detection, screening and treatment of the disease (WHO, 2023). The focus of effective non-communicable disease intervention can be done through a primary health care approach to strengthen early detection and timely treatment (WHO, 2023). Home visits are an effective follow-up strategy in the prevention and control of non-communicable diseases (Ma et al., 2021). Home visits aim to improve services for people at risk of experiencing health problems and people who are far from health facilities (Krisliani et al., 2022). This is in accordance with the results of previous studies, which state that home visits can improve family health (Kemp et al., 2019; Sun et al., 2022).

Home visits need to be combined with aromatherapy so that they can increase the effectiveness of the intervention. Based on the results of the study conducted (Kemp et al., 2019), data obtained from the use of aromatherapy when providing nursing care can reduce stress levels in nurses and patients. Aromatherapy can also improve a person's ability to work (Johnson et al., 2017). In addition, aromatherapy can increase a person's level of attention and cognition (Malloggi et al., 2022). Based on this, researchers are needed to see the effectiveness of implementing home visit interventions and providing aromatherapy by nurses on the level of independence and family health tasks in families with non-communicable diseases.

Methods

This study is a quasi-experimental study with a pretest-posttest one group test design. This study will be conducted in Banjar Regency in the working area of Martapura 1 Health Center. The independent variables in this study are home visit interventions and aromatherapy while the dependent variables consist of the level of family independence and fulfillment of family health tasks. Each variable will be assessed and analyzed using the Wilcoxon test. Data collection for the dependent variable using a questionnaire sheet which has been tested for validity and reability. The population in this study were families with non-communicable diseases in the working area of Martapura 1 Health Center with a total of 20 samples taken in this study using a non-probability sampling technique with purposive sampling. The sample in this study was a family who had family members with non-communicable disease health problems, especially hypertension. Home visit interventions and aromatherapy were carried out for 1 week with 3 visits to 20 families. Aromatherapy was given for 30 minutes 3 times a week using a diffusion device (reed diffuser) containing lavender aromatherapy oil which has a therapeutic grade.

Result and Discussion

Table 1. Respondent Demographic Characteristics

Variables	n	%
Age		
Adult	7	35%
Elderly	13	65%
Gender		
Male	12	60%
Female	8	40%
Education		
Elementary School	11	55%
Junior High School	5	25%
Senior High School	3	15%
University	1	5%

Job		
Unemployment	10	50%
Private Employed	4	20%
Civil Servant	3	15%
Self Employed	2	10%
Housewife	1	5%

Based on the research results, data was obtained that the majority of respondents in this study were in the elderly age range, namely 65%, which is an age group vulnerable to various non-communicable diseases such as hypertension, diabetes mellitus, and heart disease. This is consistent with previous studies showing that the risk of non-communicable diseases tends to increase with age, which can be associated with decreased metabolic function and lifestyle changes.

In terms of gender, it was found that the proportion of men was slightly higher at 12% compared to women in families with non-communicable diseases. One of the main factors contributing to the high rate of non-communicable diseases in men is unhealthy lifestyle behavior. Men are known to have a higher tendency to smoke, consume alcohol, lack physical activity and eat a high-fat diet (Kemenkes, 2019b). In addition, men tend to utilize preventive health services less than women. They usually only access health services when the condition is quite severe (Courtenay, 2000). This causes many cases of non-communicable diseases in men to go undiagnosed early, making them more difficult to treat effectively.

The education level of respondents was dominated by elementary school graduates, which was 55%. Lower education levels can be a barrier to understanding health information, managing chronic diseases, and making decisions in maintaining family health. In contrast, higher education levels are generally associated with healthy living behaviors, awareness of the importance of regular health checks, and compliance with treatment.

Most respondents do not have permanent jobs (50%) and work in the private sector (20%). Job instability can affect the family's economic ability to access health services, buy medicine, or adopt a healthy lifestyle (Marmot et al., 2008). In addition, jobs with low physical activity and high stress levels, such as office work or self-employment without sufficient physical activity, have also been found to correlate with an increased risk of non-communicable diseases.

Table 2. Level of Family Independence

Variable	Pre		Post	
	n	%	n	%
Level 1	6	30%	0	0
Level 2	6	30%	9	45%
Level 3	2	10%	2	10%
Level 4	6	30%	9	45%
Total	20	100%	20	100%

The level of family independence includes the family's ability to receive nursing care, receive health services, express health problems, utilize health facilities, carry out simple nursing actions, preventive actions and carry out promotive actions (Riasmini, 2017). Factors that influence the level of independence include education, knowledge of the disease, social support, and family economy (Rosidin et al., 2018). The results of the study showed that the level of

family independence in families with non-communicable diseases (NCDs) before the intervention was at level 1 to level 4.

This is in line with the findings of several studies stating that families often do not have optimal capacity in managing the health care of family members suffering from non-communicable diseases (Kertapati, 2019). After the intervention, the level of family independence was at level 2 to level 4. This indicates an increase in the level of family independence. Home visit interventions that include family health education interventions and aromatherapy can increase the level of independence of simple nursing action criteria, preventive actions and family promotive actions.

Table 3. The Influence of Home Visits on Family Independence Levels and Family Health Task Fulfillment

Variable	Pre		Post	
	n	%	n	%
Very Poor	1	5%	0	0
Poor	1	5%	1	5%
Enough	5	25%	2	10%
Good	13	65%	17	85%
Very Good	0	0	0	0
Total	20	100%	20	100%

The results of the study showed that the fulfillment of family health tasks in families with non-communicable diseases (NCDs) before the intervention was still not optimal and was in the criteria of very poor to good and most were in the good criteria (65%). The family health tasks in question include recognizing health problems, making decisions, caring for sick family members, maintaining a healthy environment, and utilizing health facilities (Friedman et al., 2010). After the intervention, the criteria for fulfilling family health tasks mostly remained in the good criteria, but increased to 85% and there were no families with very poor criteria.

Most families in this study still have difficulty in carrying out the task of caring for sick family members, maintaining a healthy environment and utilizing health facilities. This condition reflects the low ability of families to care for family members with non-communicable diseases. Through the intervention carried out, families can obtain health education regarding non-communicable diseases, especially hypertension and treatment methods in the form of complementary therapy with aromatherapy. This can increase family knowledge about the care and prevention of non-communicable diseases. The implementation of care tasks at home appears better, especially in families who have previous experience or education from health workers. This supports previous findings which state that family health education can increase their participation in caring for chronically ill family members (Wisnasari et al., 2023)

Table 4. The Influence of Home Visits and Aromatherapy on the Level of Family Independence and Fulfillment of Family Health Duties

Variable	Level of Family Independence		Fulfillment of Family Health Duties	
	z	p value	z	p value
Home Visit and Aromatherapy	-2,762	0,006	-2,121	0,034

Based on data analysis, it was found that there was a relationship between home visits and aromatherapy with the level of family independence with a p value of $0.000 < 0.05$. The results of the statistical test showed a p-value of 0.006 for the level of family independence and 0.034 for the fulfillment of family health tasks, which means that there was a significant difference before and after home visits were carried out. This is in accordance with the results of research conducted by (Haris et al., 2020), which shows that implementing home visits can increase the Healthy Family Index and the level of family independence.

In addition, a study by (Novera et al., 2021), also found that home visits involving family nursing care and health education can improve family knowledge, which in turn increases family independence in caring for sick family members. Aromatherapy is one intervention that families can use in caring for sick family members. Aromatherapy is the use of essential oils to improve physical and emotional health. Although there have been few studies that directly examine the effect of aromatherapy on family independence in the context of health care, several studies have shown that aromatherapy can help reduce stress and improve sleep quality.

Research by (Safinatunnajah et al., 2023), shows that aromatherapy can improve sleep quality in elderly patients with hypertension. This is supported by research conducted by (Allard & Katseres, 2018), aromatherapy can also relieve physical symptoms, improve emotional health and create comfort for patients and families. In addition, aromatherapy can also improve cognitive skills, especially the ability to pay attention (Huang & Capdevila, 2016; Malloggi et al., 2022). Aromatherapy plays a role in improving cognitive function through specific neuroanatomical pathways triggered by the olfactory nerve (Malloggi et al, 2022). According to Zelano et al (2016) in Malloggi et al, (2022), there is a relationship between the olfactory and subcortical nervous systems that shows an indirect role in arousal, learning rewards, emotions and memory. In addition, there is a relationship between olfactory stimulation and modulation of cognitive function (Malloggi et al, 2022).

Aromatherapy not only affects cognitive function but also physical and emotional conditions. Better physical and emotional conditions allow families to be more independent in caring for sick family members. This in turn can support family independence in caring for sick family members. Integration of home visits and aromatherapy can be an effective approach to increasing family independence. Home visits provide direct education and support to families, while aromatherapy can be used as an additional intervention to reduce stress and increase comfort for sick family members.

Conclusion

Based on the results of the existing research, it can be concluded that both home visits and aromatherapy have an important role in increasing the level of family independence and the fulfillment of family health tasks. Home visits provide education and direct support to families, while aromatherapy can be used as an additional intervention to reduce stress and increase the comfort of sick family members. The integration of these two approaches can be an effective strategy in increasing family independence in caring for sick family members.

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