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# Effectiveness of the Elderly Caring Model as an Intervention to Prevent the Neglect of the Elderly in the Family

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**Abstract**

**BACKGROUND:** The increasing number of older people is racing against diseases and problems that accompany the elderly, so it is very important to check the care of the elderly. Family concern as a caregiver is needed in carrying out care for the elderly to ensure that the elderly are not neglected.

**AIM:** The study aims to determine the effectiveness of the elderly caring model as an intervention to prevent the neglect of the elderly in the family.

**MATERIAL AND METHODS:** The quasi-experimental design with the pre-control group non-equivalent test post-test was the provision of training in the elderly caring model by comparing 2 groups namely the intervention group using the module and control group without using the module. The sample is a family that has an elderly (age ≥ 60 years) who are the main caregivers of the elderly with a total of 50 people each for each group taken by multistage cluster sampling. Data collection through questionnaires to determine the variables of family older people about family support, family health assignments, social relations, and elderly social activities and preventive behavior of elderly neglect. Data analysis used the independent sample t-test and general linear model report measure (GLM-RM) test for repeated measurements.

**RESULTS:** The results showed that there was an influence of the caring elderly model on increasing family support in the elderly, increasing family health duties on the elderly towards increasing social relations and social activities in the elderly and neglecting the neglect behaviour of the elderly in the family (p-value = 0,000). Improve the behaviour of preventing neglect of the elderly in the family compared to groups that do not use modules where the value of p = 0,000.

**CONCLUSION:** It can be concluded that the elderly caring model effectively prevents my employees from neglecting the elderly in the family.

## Introduction

Entering the 2000 era, the elderly population in the world has increased by an average of 795,000 per month [1]. This figure is expected to increase steadily and reach double in 2030, including the population of Indonesia. The phenomenon of ageing in both developed and developing countries raises concerns, so demographers pay more attention to the issue of ageing. Meanwhile, the increasing mobility of productive age workers has made the care of the elderly in families more difficult. Similarly, the shift in family structure from extended families to small families has an impact on the reduction or loss of certain functions in the family such as care functions for the elderly, family support and the participation of the elderly to engage in social activities.

Given that the elderly are a group of vulnerable people who experience various changes due to ageing processes such as a decrease in physical, economic, social and psychological changes, the family as the biggest insurance for the elderly needs to be empowered so that the elderly are not neglected at home [2], [3]. Abandonment is an act of failure or negligence by the caregiver in carrying out obligations to the elderly to provide the fulfilment of physical, mental social needs so that it threatens the danger and welfare of the elderly. Neglect on the elderly is 3 aspects that are not separate, namely

physical, psychological and financial neglect. This is in line with the research conducted by Sijuwade [4] and Roobert [5] that the low quality of care for the elderly causes the elderly to be neglected by the family both physically, economically, and emotionally. The study done by Sijuwade [4] found 48% physical neglect, 20% economy neglect. The study done by Miko [7] found that elderly who entered the institution because the children felt burdened with economy 69.03%, family were often angry with the elderly 14.64% Then, the study done by Saadah [8] found that there are still many about 5.51%, elderly people who are under the poverty line and live in uninhabitable residences.

According to Miller [9], families who care for the elderly need to run a training program first. Families need to take part in activities in support groups and training education programs. The results of Wangmo [6] study found that neglect in the elderly is mostly done by caregivers who lack experience, lack of good education and training, and lack of individual to think critically who cannot understand what right to do. Families who care for the elderly need an initial understanding of the condition of the elderly with the right response [10]. Through training, it is expected that family knowledge and skills in caring for the elderly can be applied so that the elderly who have been repaired are cared for by the family. The purpose of the study, in general, is to determine the effectiveness of the elderly caring model to prevent the neglect of the elderly behaviour in the family. While the specific purpose of the study was to determine the effect of the caring elderly model on increasing family support, increasing family health tasks, increasing relationships and social activities of the elderly, and preventing the neglect of the elderly in the family.

## Methods

### *Research Design*

The study was quasi-experiment with a pre-test post-test group design approach. The intervention group is the group that gets the module and the control group without using the module. The module is a guide for changing behaviour, namely the elderly caring module [9]. Measurements of family support, family health assignments, and family social engagement and prevention behaviour for neglecting the elderly in the family were carried out before and after training (1 month and 3 months). To assess the effectiveness of the caring elderly model in the family in monitoring the evaluation of researchers assisted by health cadres in the community as a sustainable model, where researchers meet with cadres to ask about the progress and obstacles found in monitoring families, namely the ability of families to carry out support, health assignments, social engagement, and prevention behaviour for neglecting the elderly.

### *Population and Samples*

The population in the study was all families caring for the elderly (> 60 years). Calculation of sample size using hypothesis testing is the average difference in two independent groups using formula [11]:

$$n1 = n2 = \frac{Z\sigma^2 \left(Z_1 - \alpha/_{2+} Z_1 -_{\beta}\right)^2}{(\mu_1 - \mu)^2}$$

The sampling strategy is a multistage cluster, which is random sample selection in groups of individuals in naturally occurring populations by region. From the selected sub-districts obtained randomly one sub-district as the research area, from 7 sub-districts in the subdistrict, the new West Labuh sub-district was obtained as the intervention group (RW 10) and the Bandar Raya village (RW 3) as the control group. Based on the use of the formula by entering numbers into the formula, a sample for each group in each village of 50 caregivers was obtained.

The family criteria as the primary caregivers and responsible to the elderly, the family lives with the elderly or is elderly with the elderly but still in one city, families with elderly who are not lying alone are willing to be respondents during the study. The population in the study was all families had elderly (60 years) with the criteria of the family as the primary caregivers and responsible to the elderly family lives with the elderly or separated from the elderly but still in one city families with elderly people who are not bedridden willing to be a respondent during the research. The sampling strategy is multistage cluster sampling.

### *Data collection using a questionnaire*

The questionnaire used is the development of caring theory (caring behaviour inventory for elders) by Watson [12]. Data on family characteristics consist of age, sex of caregiver, education, ethnicity, elderly who are treated (biological parents/in-laws). Specific data is the behaviour of preventing neglect of the elderly (physical, psychological, and financial neglect). Family support data (information support, award support, instrumental support, and emotional support). Family health assignment data and data on the participation of the elderly to engage in social activities (social engagement). Data were collected through questionnaires. Data validity and reliability tests were tried on 25 elderly people using direct interview instruments consisting of 4 parts, namely: 1) questionnaire about neglect of the elderly consisting of physical neglect with validity value 0.588-0.910 and reliability 0.936; psychological neglect with a validity value 0.699-0.88 and reliability 0.912; financial waiver

with validity value 0.668-0.88 and reliability 0.912; 2) questionnaire about family health duties with validity value 0.674-0.9959 and reliability 0.958; 3) questionnaire about family support consisting of information support with validity values 0.848-0.944 and reliability 0.988; award support with validity value from 0.727 to 0.966; emotional support with validity values 0.851-0.920 and reliability 0.964; instrumental support with validity value 0.755-0.951 and reliability 0.964; 4) questionnaire about social relations with validity value 0.685-0.936 and reliability 0.969.

### *Data analysis*

For bivariate analysis knowing the effectiveness of the intervention between the intervention group and the control group using an independent test analysis using independent sample t-test. Multivariate analysis was used to determine behaviour change through repeated measurements (1 month and 3 months) using the General Linear Model Repeated Measure (GLM-RM). The purpose of the data analysis was to determine the difference in the increase in the mean score between the intervention group and the control group before and after 1 month and 3 months of the training intervention.

## Results

### *Characteristics of respondents*

For the age of caregiver, both the intervention group and the control group were more in the age range of 25-35 years, for the sex of the nurses there were more women both intervention groups and control groups, more high school family education, mostly Malay tribes, elderly who were treated by most biological parents.

### *Family Support, Family Health Task, Elderly Social Relationship, Elderly Neglect Between Intervention Groups and Control Groups*

From Table 1, there is no difference in mean or score of family health task between the intervention group and the control group at the time before the intervention, where the value of p = 0.399 with the difference in the difference between the two groups is 0.40%. But there were differences in mean values after 1 month of intervention (p = 0.000 and difference in differences of 4.39%) and after 3 months of intervention (p = 0.000 and difference in the difference of 8.21%) between the intervention group and the control group. The multivariate results based on GLM-RM analysis found that there were differences in the increase in the mean value between the intervention group and the control group before intervention, 1 month and 3 months after the intervention.

**Table 1: Value of Average Family Support Between Prior Intervention and Control Groups, after 1 Month, and After 3 Months Awarded Elderly Caring Model Training (n = 100)**

| Time | Number | Group | n | Mean | Sd | Minimum Maximum | Δ (%) | *P t-test* | *P* Multivariate |
|---|---|---|---|---|---|---|---|---|---|
| Pre | 1. | Intervention | 50 | 55.49 | 1.703 | 53-62 | 0.40 | 0.399 | |
| | 2. | Control | 50 | 55.10 | 2.626 | 50-61 | | | |
| Post 1 | 1. | Intervention | 50 | 70.02 | 2.323 | 66-75 | 4.39 | 0.000 | 0.000 |
| Month | 2. | Control | 50 | 64.14 | 2.545 | 61-69 | | | |
| Post 3 | 1. | Intervention | 50 | 78.01 | 2.303 | 74-83 | 8.21 | 0.000 | |
| Months | 2. | Control | 50 | 66.16 | 2.151 | 64-78 | | | |

From Table 2, there is no difference in mean or score of family health task between the intervention group and the control group at the time before the intervention, where the value of p = 0.551 with the difference in the difference between the two groups is 0.15%. But there were differences in mean values after 1 month of intervention (p = 0.000 and difference in differences of 7.11%) and after 3 months of intervention (p = 0.000 and difference in the difference of 13.81%) between the intervention group and the control group. The multivariate results based on GLM-RM analysis found that there were differences in the increase in the mean value between the intervention group and the control group before intervention, 1 month and 3 months after the intervention.

**Table 2: Value of the Family Health Task Mean Between the Intervention Group and the Control Group Before, after 1 Month, and After 3 Months Awarded Elderly Caring Model Training (n = 100)**

| Time | Number | Group | n | Mean | Sd | Minimum Maximum | Δ (%) | *P t-test* | *P* Multivariate |
|---|---|---|---|---|---|---|---|---|---|
| Pre | 1. | Intervention | 50 | 19.90 | 1.713 | 17-22 | 0.15 | 0.551 | |
| | 2. | Control | 50 | 19.96 | 1.616 | 17-22 | | | |
| Post 1 | 1. | Intervention | 50 | 24.08 | 2.308 | 20-29 | 7.11 | 0.000 | 0.000 |
| Month | 2. | Control | 50 | 20.88 | 1.547 | 18-24 | | | |
| Post 3 | 1. | Intervention | 50 | 29.00 | 2.372 | 25-34 | 13.81 | 0.000 | |
| Months | 2. | Control | 50 | 21.96 | 1.795 | 19-29 | | | |

Table 3 shows that there is no difference in mean or score of the average social relations and social activities of the elderly between the intervention group and the control group at the time before the intervention, where the p-value is 0.147 with the difference between the two groups of 1.11%. But there were differences in mean values after 1 month of intervention (p = 0,000 and difference in differences of 5.15%) and after 3 months of intervention (p-value = 0,000 and difference in difference of 10.07%) between the intervention group and the control group.

**Table 3: Value of Average Social Relations and Elderly Social Activities Between Control and Intervention Groups Before, after 1 Month, and After 3 Months Awarded Elderly Caring Model Training (n = 100)**

| Time | Number | Group | n | Mean | Sd | Minimum Maximum | Δ (%) | *P t-test* | *P* Multivariate |
|---|---|---|---|---|---|---|---|---|---|
| Pre | 1. | Intervention | 50 | 23.00 | 1.245 | 21-25 | 1.11 | 0.147 | |
| | 2. | Control | 50 | 23.52 | 1.111 | 21-25 | | | |
| Post 1 | 1. | Intervention | 50 | 28.00 | 2.279 | 24-33 | 5.15 | 0.000 | 0.000 |
| Month | 2. | Control | 50 | 25.26 | 2.193 | 22-30 | | | |
| Post 3 | 1. | Intervention | 50 | 32.00 | 2.279 | 28-37 | 10.07 | 0.000 | |
| Months | 2. | Control | 50 | 26.14 | 2.450 | 22-32 | | | |

The multivariate results based on GLM-RM

analysis found that there were differences in the increase in the mean value between the intervention group and the control group before intervention, 1 month and 3 months after the intervention.

From Table 4 it was found that there was no difference in the mean or average score of prevention behaviour for neglecting the elderly in the family between the intervention group and the control group at the time before the intervention, where the p-value was 0.465 with the difference between the two groups 0.68%. But there were differences in mean values after 1 month of intervention (p-value = 0.000 and difference in difference of 5.87%) and after 3 months of intervention (p-value = 0.000 and difference in difference of 13.79%) between the intervention group and the control group. The multivariate results based on GLM-RM analysis found that there were differences in the increase in the mean value between the intervention group and the control group before intervention, 1 month and 3 months after the intervention.

**Table 4: Mean Prevention of Elderly Neglect between Intervention and Control Groups Before, after 1 Month, and after 3 Months Awarded Elderly Caring Model Training (n = 100)**

| Time | Number | Group | n | Mean | Sd | Minimum Maximum | Δ (%) | *P* *t-test* | *P* Multivariate |
|---|---|---|---|---|---|---|---|---|---|
| Pre | 1. | Intervention | 50 | 55.50 | 1.821 | 53-60 | 0.68 | 0.465 | |
| | 2. | Control | 50 | 55.00 | 0.782 | 54-55 | | | |
| Post 1 | 1. | Intervention | 50 | 65.30 | 2.023 | 62-70 | 5.87 | 0.000 | 0.000 |
| Month | 2. | Control | 50 | 58.06 | 2.683 | 53-65 | | | |
| Post 3 | 1. | Intervention | 50 | 78.28 | 2.382 | 74-83 | 13.79 | 0.000 | |
| Months | 2. | Control | 50 | 59.30 | 3.321 | 55-78 | | | |

## Discussion

Abandonment is a decrease in the quality of care provided by the family to the elderly in fulfilling physical, emotional, and economic needs. Alavi's [14] research on the relationship between adult children, parents, and grandparents is getting weaker because of the generation gap that causes conflict and tension in the family that can bring unhealthy consequences so that the elderly is no longer productive and neglected. Research conducted by Raphael et al., [15] on the impact of educational training on family caregivers of elderly living with dementia to assess the level of care in maintaining the well-being of recipients at home in getting results that educational interventions through elderly caregivers at home were obtained results were significant differences between the intervention groups (self-care assistance to trained caregivers) and untrained family caregivers after 1 month and 3 months of training. The results showed that nursing education interventions in the form of self-care assistance and training to families as caregivers could improve the process of caregiving in elderly care at home. The results of a similar study conducted by Miller et al., [9] was found that family training programs as carers were the right way for health practitioners and researchers who wanted to educate families who care for elderly where there was an increase in knowledge and changes in participants' skills before and 3 months after training. The family training program is the right way for researchers who want to educate families who care for the elderly.

The results of the model effectiveness test have shown that the application of an effective elderly caring model can change family behaviour in preventing neglect of the elderly in the family. This can be seen from the significant difference in the behavior of preventing the neglect of the elderly before and after being given training between the intervention group and the control group.

### *The elderly caring model effective in increasing family support for the elderly*

Social support is a condition, the availability of care from reliable people who respect and love individuals. Social support can come from partners, family, and friends. The results of the Desiningrum study [16] showed that the most dominant social support affecting the psychology of parents was emotional support from the family then followed by award support from the family, support for information and finally instrumental support. The results of the study of Kaur & Venkateashan [17] showed parents who received support from family members had a better quality of life than those who received support from a partner or did not get any support

Family support is a process of relationship between a family and its social environment. Family support is also an attitude, action, and family acceptance towards its members. There are 3 dimensions of family support: reciprocity, advice or feedback, and emotional involvement in social relations [16]. Reciprocity is someone's response or action to us from what we have given. In this study, reciprocity is a response from the family to the elderly for what has been given, e.g. child reciprocity to his/her parents. In the past, parents took care of their children from childhood to adulthood; then, when parents step on the elderly, the children should have been able to treat them properly. Feedback is the effect of how parents have treated their children. Emotional involvement is the presence of harmonious learning and positive social relations between an individual and others. Family relations and social support are significantly related to the quality of life of the elderly, where problems of adjustment to health, economy, and social have a long-term impact on the quality of life of the elderly, meaning that older people who have no problems have better quality of life because healthy parents do daily activities independently. The ability of the elderly to implement ADL is influenced by the role of the family through the support provided parents are expected to remain

useful in their old age such as the ability to adapt, accept all changes and setbacks experienced, as well as appreciation and fair treatment from the environment and family so that the elderly are far from lonely [18].

***The elderly caring model effective in increasing the task of family health in the elderly***

Family health tasks are needed to improve the health status of the elderly by family functions like health care for the elderly. According to Friedman [13] families have 5 tasks in the health sector that need to be understood and carried out, namely: the ability to recognize problems, be able to make the right decisions, be able to carry out simple treatments when the elderly are sick, able to maintain a home environment that supports the health of the elderly, and can utilize health services in the neighbourhood. The family is the most important source of assistance for its members which can influence lifestyle or change the lifestyle of its health-oriented members. Families are groups that can cause, prevent, ignore or correct health problems in their groups.

Research conducted by Griffin [19] found that families as a care giver in providing health care interventions effectively improved the results of health status in the elderly who experienced memory and cancer disorders. Likewise, the results of Dobrzyn's [20] study that the health aspects of the elderly varied depending on the form of care provided where the lowest health status was found in the elderly with limitations for ADL who were treated at home related to loneliness due to being left alone by the family. Similarly, the results of Yulianti's [21] study were that there was an influence on family health duties before and after family nursing care was carried out on the health status of the elderly. In research conducted on the implementation of family health tasks to the elderly is a process that must be known and carried out by the family when the elderly experience changes in health conditions and a series of activities that must be carried out so that changes in the condition of the elderly are quickly handled. Family health assignments describe the ability of the family to recognize health problems that occur in the elderly and respond quickly to care when the elderly is sick [22].

***The elderly caring model effectively impreves social relations and social activities of the elderly***

Aging in the elderly can cause various problems both physical, mental, and changes in socio-economic conditions that can lead to a decrease in social roles. This has resulted in the elderly slowly withdrawing from relations with surrounding communities so that it can influence social interaction [24]. Research shows that social involvement and the maintenance of various social relationships have a positive effect on the emotional well-being and physical health of the elderly and are predicted to reduce the risk of death [25]. Research conducted by Glass [26] through a 13-year cohort study on 5573 elderly people aged 65 years to elderly social engagement activities, namely: 1) Social activities undertaken (religious attendance, visits to cinemas, restaurants, sports events, playing cards, participation in social groups); 2) Fitness (swimming, walking, physical exercise), and 3) Productivity (gardening, preparing food, work, community). The results obtained by social activities and productivity with little or no increase in fitness can reduce the risk of causing death, improve cardiopulmonary fitness and musculoskeletal strength and benefit in survival through psychosocial relationships. It can be understood that the elderly who carry out social activities and relationships will avoid feeling lonely so that they are more confident and independent because the memory is still honed and can exchange information and share experiences with the surrounding environment [24].

In conclusion, the effective elderly caring model can prevent the neglect of the elderly in the family, so that the caring model is suitable for the family to prevent neglected elderly people. The caring model that is applied is the provision of family support to the elderly, carrying out family health tasks, and the participation of the elderly to engage in social activities.

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