



## Nutrition Education for the Prevention of Non-Communicable Diseases Among the Elderly at the Community Health Post

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*ABSTRACT*

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*Non-communicable diseases (NCDs) such as hypertension, diabetes mellitus, and cardiovascular disorders are increasingly prevalent among the elderly and are closely linked to unhealthy eating habits and poor nutritional knowledge. This community service program, titled "Nutrition Education for the Prevention of Non-Communicable Diseases Among the Elderly at the Community Health Post," aimed to improve the nutritional awareness and behavior of elderly participants through structured educational interventions. The program was conducted at a posyandu lansia and involved 30 elderly participants. The implementation consisted of three stages: preparation, execution, and evaluation. Educational activities included lectures, discussions, and cooking demonstrations using locally available food ingredients. The effectiveness of the program was measured using pre-test and post-test assessments of participants' nutritional knowledge. The results showed a significant improvement, with the average score increasing from 53.3% to 88.7%, indicating a 35.4% enhancement in knowledge. Participants also showed higher enthusiasm and engagement during the sessions, demonstrating that participatory learning and practical approaches are effective for elderly education. In conclusion, this program successfully increased the understanding and awareness of balanced nutrition among the elderly, promoting healthier eating habits as a preventive measure against NCDs. The involvement of posyandu cadres and local health workers contributed to the sustainability of the program, highlighting the potential of community-based nutrition education as an effective public health strategy to support healthy aging.*

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### 1. INTRODUCTION

The elderly population is one of the most vulnerable groups to non-communicable diseases (NCDs), including hypertension, diabetes mellitus, cardiovascular disorders, and obesity.<sup>1</sup> These health problems are strongly associated with changes in metabolism, decreased physical activity, and improper dietary habits.<sup>2</sup> As people age, their physiological functions tend to decline, making them more susceptible to diet-related diseases.<sup>3</sup> In

Indonesia, the incidence of NCDs among older adults continues to rise, posing serious public health challenges that demand preventive actions focusing on lifestyle and nutrition.<sup>4</sup>

Nutritional balance plays a critical role in maintaining the health and well-being of the elderly.<sup>5</sup> However, many older adults often have limited understanding of what constitutes a balanced diet. The excessive consumption of foods high in salt, sugar, and saturated fats, combined with a lack of fruits, vegetables, and

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fiber, contributes to the increased risk of NCDs.<sup>6</sup> Poor dietary knowledge is further compounded by limited access to nutrition education and low motivation to change eating behaviors. Therefore, education on balanced nutrition is essential to help older adults adopt healthier dietary patterns and prevent disease complications.<sup>7</sup>

Community health posts (*posyandu lansia*) serve as an effective medium for promoting health and nutrition education among the elderly at the grassroots level.<sup>8</sup> These centers provide regular health check-ups and counseling, making them ideal for the implementation of nutrition-based community service programs. Nevertheless, previous observations show that most elderly participants still have low awareness of healthy eating practices.<sup>9</sup> Hence, targeted educational interventions are needed to enhance their knowledge and encourage behavioral changes related to daily food intake.<sup>10</sup>

The community service program titled "Nutrition Education for the Prevention of Non-Communicable Diseases Among the Elderly at the Community Health Post" was designed to address this issue. This activity focuses on increasing the knowledge and awareness of balanced nutrition among elderly participants through engaging and practical approaches.<sup>11</sup> The program combines counseling, demonstrations of healthy menu preparation, and discussions on appropriate dietary choices for preventing chronic diseases. These methods are expected to make learning more meaningful and encourage active participation from the elderly.<sup>12</sup>

Through this program, it is expected that the elderly can understand the importance of balanced nutrition and its direct impact on preventing non-communicable diseases. Increased awareness and behavioral changes in food selection are anticipated to contribute to better health outcomes and improved quality of life.<sup>13</sup> In a broader context, this initiative also supports national health promotion efforts and aligns with the government's agenda to reduce the prevalence of NCDs through community-based interventions. Thus, this community service activity not only provides immediate

educational benefits but also contributes to sustainable public health improvement at the community level.<sup>14</sup>

## 2. METHODE

This community service activity was conducted using a participatory and educational approach involving elderly participants at the community health post (*posyandu lansia*). The program implementation consisted of three main stages: preparation, implementation, and evaluation. Each stage was designed to ensure that the activities were well-planned, effectively delivered, and provided measurable outcomes for the target participants.<sup>15</sup>

In the preparation stage, coordination was carried out with local health authorities, *posyandu* cadres, and community leaders to identify participants and determine the appropriate time and venue for the activity. A preliminary survey was also conducted to assess the participants' initial knowledge, dietary habits, and health conditions related to non-communicable diseases. Educational materials, including leaflets, posters, and presentation slides, were developed using simple language and visual aids to ensure better understanding among the elderly.

The implementation stage involved a series of interactive educational sessions delivered by nutritionists and health educators. The sessions covered topics such as the concept of balanced nutrition, the role of macronutrients and micronutrients, and practical dietary recommendations for preventing non-communicable diseases. In addition to lectures, the program incorporated group discussions, Q&A sessions, and hands-on demonstrations of healthy menu preparation using locally available food ingredients. Participants were encouraged to share their daily eating habits and discuss alternative healthier food choices.

During the evaluation stage, both formative and summative assessments were carried out. Formative evaluation was conducted during the sessions to gauge participants' understanding through interactive questioning and short



quizzes. Summative evaluation was performed at the end of the program using pre- and post-tests to measure the improvement in knowledge levels. In addition, feedback was collected from participants regarding the usefulness and clarity of the materials presented. Observations on participation, enthusiasm, and interaction were also recorded as qualitative indicators of success.

Overall, this community service activity emphasized active participation, contextual learning, and sustainability. By engaging participants through practical education and continuous motivation, the program aimed not only to enhance the knowledge of balanced nutrition among the elderly but also to promote long-term behavioral changes in their dietary practices. The involvement of *posyandu* cadres and local health workers ensured that the program outcomes could be sustained and replicated in future community health initiatives.

### 3. RESULTS AND DISCUSSION

#### Result

The community service activity titled *“Nutrition Education for the Prevention of Non-Communicable Diseases Among the Elderly at the Community Health Post”* was successfully carried out at the local *posyandu lansia* with a total of 30 elderly participants. The activity received strong support from community leaders, *posyandu* cadres, and local health workers. The educational sessions were conducted in an interactive manner, combining lectures, discussions, and demonstrations to ensure that the information was effectively understood and retained by participants.

Prior to the intervention, most participants showed limited understanding of the principles of balanced nutrition and the relationship between diet and the prevention of non-communicable diseases. Many of them were still unaware of the recommended daily intake for fruits, vegetables, and water, and continued to consume foods high in salt and sugar. After the educational sessions, there was a significant improvement in participants' knowledge and awareness of healthy eating practices, as indicated by the post-test results.

Table 3.1 Comparison of Participants' Knowledge Before and After Nutrition Education

No.	Indicator of Knowledge	Pre-Test (Correct %)	Post-Test (Correct %)	Improvement (%)
1.	Understanding of Balanced Nutrition Concept	56.7	93.3	+36.6
2.	Knowledge of Food Sources of Macronutrients	60.0	90.0	+30.0
3.	Identification of Foods High in Salt, Sugar, and Fat	50.0	86.7	+36.7
4.	Awareness of Daily Fruit and Vegetable Intake	46.7	83.3	+36.6
5.	Knowledge of Diet for Disease Prevention (e.g., Hypertension, Diabetes)	53.3	90.0	+36.7
Average		53.3	88.7	+35.4

The table above shows that participants' average knowledge scores increased from 53.3% before the program to 88.7% after its implementation. The highest improvement was observed in the understanding of foods high in salt, sugar, and fat (+36.7%), indicating that the educational session effectively addressed common dietary misconceptions among the elderly. This improvement demonstrates the effectiveness of interactive and visual-based



learning methods, which made complex nutrition concepts easier to grasp.

Qualitative observations during the activity also supported these findings. Participants were highly engaged during discussions and actively shared their personal experiences regarding dietary habits and health problems. They expressed enthusiasm during the cooking demonstration and showed interest in applying the balanced nutrition principles at home. Furthermore, *posyandu* cadres reported that participants were more motivated to monitor their weight and blood pressure regularly after the program.

Overall, the results of this community service program indicate that nutrition education at the community level can significantly improve knowledge and awareness among the elderly. The combination of participatory methods, contextual examples, and hands-on demonstrations proved to be an effective strategy in promoting healthy behavior change. These findings align with previous studies emphasizing that consistent nutrition education contributes to better prevention of non-communicable diseases and improved quality of life for older adults.

#### **Discussion**

The results of this community service activity indicate that providing structured nutrition education significantly improved the knowledge and awareness of the elderly regarding balanced diets and the prevention of non-communicable diseases (NCDs).<sup>16</sup> The pre-test and post-test data revealed a substantial increase in understanding across all indicators, with an average improvement of 35.4%. This outcome suggests that interactive learning methods, combined with practical demonstrations and visual aids, can effectively enhance comprehension among older adults, who may otherwise face challenges in absorbing complex health information through traditional lectures alone.<sup>17</sup>

These findings align with previous research indicating that health education tailored to the elderly's cognitive and social characteristics leads to better retention and behavioral change.<sup>18</sup> The use of culturally familiar examples and locally

available food ingredients during the sessions likely contributed to participants' enthusiasm and engagement.<sup>19</sup> Furthermore, active participation during discussions and cooking demonstrations fostered a sense of ownership and self-efficacy, motivating participants to apply what they had learned in their daily routines.<sup>20</sup> This supports the idea that empowerment-based education—where participants are directly involved in learning—has a stronger impact on health outcomes than passive information delivery.<sup>21</sup>

In addition, the success of this program underscores the vital role of community-based health institutions such as *posyandu lansia* in promoting preventive nutrition practices.<sup>22</sup> These local platforms provide accessible and trusted environments for continuous health education. By involving *posyandu* cadres and local health workers, the program not only improved participants' knowledge but also strengthened the community's capacity to sustain long-term health promotion efforts.<sup>23</sup> Thus, community service initiatives like this serve as effective models for integrating clinical nutrition knowledge into grassroots public health strategies, supporting national goals to reduce the burden of non-communicable diseases among Indonesia's aging population.<sup>24</sup>

#### **4. CONCLUSION**

This community service program demonstrated that nutrition education effectively increased the knowledge and awareness of the elderly regarding balanced diets and the prevention of non-communicable diseases. The significant improvement in post-test scores indicates that interactive and participatory learning methods are suitable for older adults, particularly when supported by visual materials and hands-on demonstrations. The activity also succeeded in creating a positive learning environment where participants were actively engaged and motivated to apply healthier dietary habits in their daily lives.

The results highlight the importance of continuous community-based nutrition education, especially through accessible platforms such as *posyandu lansia*. Strengthening



the role of community health workers and *posyandu* cadres in disseminating practical nutrition information can ensure the sustainability of such programs. Moreover, collaboration between academic institutions and local health authorities is essential to develop evidence-based, culturally relevant education materials that meet the needs of the elderly population.

In conclusion, the implementation of nutrition education at the community level not only improves individual knowledge but also contributes to the broader public health goal of preventing non-communicable diseases. The success of this program demonstrates the potential of community engagement as an effective strategy for promoting healthy aging and enhancing the overall quality of life among older adults.

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