Nasyiyatul Aisyiyah Empowerment as a Motor for Community Care for Non-Communicable Diseases in Adolescents at Patukan Mosque

Yoni Astuti¹, Ardi Pramono², Agus Suharto³ and Fitnaningsih Endang Cahyawati⁴

¹Biochemistry Department, School of Medicine, Faculty of Medicine and Health Sciences, Universitas Muhammadiyah Yogyakarta, Bantul, DI Yogyakarta, Indonesia.  
²Anesthesiology Department, School of Medicine, Faculty of Medicine and Health Sciences, Universitas Muhammadiyah Yogyakarta, Bantul, DI Yogyakarta, Indonesia.  
³Pathology Department, Anesthesiology Department, School of Medicine, Faculty of Medicine and Health Sciences, Universitas Muhammadiyah Yogyakarta, Bantul, DI Yogyakarta, Indonesia.  
⁴Universitas Aisyiyah Yogyakarta, Sleman, DI Yogyakarta, Indonesia.

Abstract. Indonesia is currently facing a double burden of disease, namely communicable diseases and non-communicable diseases. Non-communicable diseases (NCDs) are diseases that are not caused by bacterial infections, including chronic degenerative diseases such as heart disease, diabetes mellitus (DM), cancer, chronic obstructive pulmonary disease (COPD), disorders due to accidents and acts of violence which are the highest causes of death in Indonesia, and increase in recent years. Initially, these diseases primarily affect the elderly due to degeneration, but in reality, they also affect young people. Therefore, increasing awareness to check their health in younger generation is very important. The purpose of this service is to increase the knowledge and skills of adolescents regarding their own health, especially in preventing NCDs in adolescents. The method used was lectures and practice to members of the Nasyiatul Aisyiyah (NA) and Youth of the Al Ikhsan Patukan mosque. The result of this activity was an increase in participants’ knowledge of NCDs. The training activities were enthusiastically followed by the practice of checking blood pressure and reading HB levels. This activity was followed by youth health check-ups at the Patukan mosque. In conclusion, this activity went smoothly and was completed. NA runs monthly health check-ups from mosque to mosque as a monthly agenda.

Keywords: Non-communicable Diseases, Youth Mosque, Nasyiatul Aisyiyah

1 Introduction

Indonesia is currently facing a double burden of disease, namely communicable diseases and non-communicable diseases (NCDs). NCDs are diseases that are not caused by infection of germs, including chronic degenerative diseases such as heart disease, diabetes mellitus (DM), cancer, chronic obstructive pulmonary disease (COPD), disorders due to accidents and acts of violence which are the highest causes of death in Indonesia [1, 2]. Changes in disease patterns are strongly influenced by environmental changes, people's behavior, demographic transitions, technology, economy and socio-culture. The increase in the burden of NCDs is in line with the increase in risk factors which include increased
blood pressure, blood sugar, body mass index or obesity, unhealthy eating patterns, lack of physical activity, and smoking and alcohol [2, 4]. The results of 2018 Indonesia Basic Health Research (RISKESDAS) showed an increase in the prevalence of the non-infectious diseases from 2013. Cancer prevalence increased from 1.4% to 1.8%; stroke prevalence increased from 7% to 10.9%; and chronic kidney disease increased from 2% to 3.8%. Based on blood sugar examination, diabetes mellitus increased from 6.9% to 8.5%; and blood pressure measurement results showed that hypertension also increased from 25.8% to 34.1% [1, 2, 3].

Based on the 5th agenda in the 9-priority agenda (Nawa Cita) to improve the quality of life of Indonesian people, supporting programs are carried out, namely the health paradigm to strengthen health services and national health insurance towards a healthy archipelago [5, 6]. The current public health problem is the increasing number of cases of non-communicable diseases [6].

Initially NCDs was often associated with degenerative diseases, but now these diseases attack many young people [7, 8]. According to the results of the Global School-Based Student Health Survey (GSHS) in 2015, it is known that the current lifestyle of adolescents is at risk of non-communicable diseases. GSHS data showed unhealthy eating patterns such as in one day teenagers consumed ready-to-eat food (53%), consumed less vegetables and fruit (78.4%), drank soft drinks (28%), did little to no exercise (67.9%), smoked (22.5%), and consumed alcohol (4.4%). This is in line with the results of the 2013 RISKESDAS, which showed that 26.1% of adolescents were not physically active. The population aged 10 years and over consumed less vegetables and fruit by 93.5% and the population aged 15 years and over who smoked was around 36.3% [2]. In 2013, RISKESDAS noted that 2.5% of stroke patients had suffered a stroke from the age of 18-24 years. In addition, NCDs found in school-age children and adolescents were cancer by 0.6%, asthma by 5%, and obesity or overweight by 10% [3].

Nasyiatul Aisyiyah (NA) is an activity group which has various activities for teenagers and women aged less than 40 years. NA has members that spread in the village and hamlet levels [7]. One of the targets for NA members is youth under high school. The results of discussions with several NA members in Patukan Ambarketawang and the confirmation with the head of the NA so far showed that there has never been any training or activities regarding knowledge distribution, examinations and general health training to adolescents. Meanwhile, NA leaders in Gamping sub-district confirmed that there is a PASHMINA program (Youth Health Service belonging to NA) that requires training on basic health measurements for its members. Therefore, NA Gamping and Ambarketawang and the members really need activities like this. Moreover, NA is a potential youth community for motorbikes in NCDs care activities among teenagers. Therefore, this activity will continue to be carried out repeatedly and even become a routine monthly activity for NA Gamping.

NA members from their teenage years are in a critical period in their physical, psychological and behavioral growth which has almost reached its peak. This phase is considered a prime health group but it is vulnerable because it experiences changes in risky behavior that will determine their health as adults [8, 9]. Low levels of physical activity and unbalanced eating habits are examples of risky behaviors in adolescents that can increase the risk of developing chronic diseases earlier in adolescents [10, 11].

Based on the confessions from some NA members, they often consume ready-to-eat food and very savory or salty snacks because there are many cheap snack sellers even though those snacks contain a lot of salt and preservatives. Intake like this if consumed in the long term is a risk or one of the causes of hypertension [12, 13]. One of the reinforcements that must be needed in joint health efforts is community empowerment. Community empowerment in health is the main target in health promotion. Community is one of the global health promotion strategies for empowerment. Integrated Development
Post (Posbindu) for NCDs is the role of the community in conducting early detection and monitoring the main NCDs risk factors which are carried out in an integrated, routine and periodic manner [14, 15].

2 Methodology

This activity was carried out in collaboration with partners which was realized by signing a collaboration in community service activities. This activity was carried out with a series of activities using the lecture method and practice/demonstration. The series of activities were:
1. conducting health education/counselling about NCDs in Indonesia.
2. practicing how to measure blood pressure, haemoglobin, and blood glucose level.
3. implementing adolescent health check-ups by PASHMINA Gamping.

The evaluation of the implementation of activities used pretest and posttest to measure participants' increased knowledge regarding NCDs in adolescents.

![Flow of community service activities](image)

Fig. 1. Flow of community service activities

3 Results and Discussion

Socialization activities were carried out for the implementation of counselling and training in order to obtain an agreement on the day, location date and preparation of infrastructure facilities as well as materials. The participants were 19 people. The average age of the participants was 22 years with a standard deviation of 3.9 years. The average was almost equivalent but the education level varied from junior high school to housewives and workers with a Master’s degree. The description of the participants is shown in table 1 below.

**Table 1. The description of the participants**

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>22±3.9</td>
</tr>
<tr>
<td>Education</td>
<td>Total</td>
</tr>
<tr>
<td>S2</td>
<td>1</td>
</tr>
<tr>
<td>S1</td>
<td>7</td>
</tr>
<tr>
<td>D4</td>
<td>1</td>
</tr>
<tr>
<td>D3</td>
<td>3</td>
</tr>
<tr>
<td>SMA/K</td>
<td>5</td>
</tr>
<tr>
<td>SMP</td>
<td>2</td>
</tr>
</tbody>
</table>
Before and after doing counselling, all participants took the pretest and posttest to measure their knowledge about NCDs and women health. The result is presented in figure 2 below.

Fig. 2. Graph of participants' pretest and posttest results

From the graphs of the pretest and posttest results, it appears that there was an increase in knowledge about health in women and other NCDs. Table 2 shows the average pretest and posttest values, respectively, 63.8 and 66.44.

Table 2. The average of participants’ pretest and posttest during the counselling of NCDs in Indonesia

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>63.81578947</td>
<td>66.44736842</td>
</tr>
<tr>
<td>sd</td>
<td>10.11628298</td>
<td>5.969586662</td>
</tr>
</tbody>
</table>

Based on the pretest and posttest averages, there was an increase in knowledge by 4.12% after counselling was carried out.

The relationship between educational level and knowledge of participants is shown in table 3.

Table 3. Spearman correlation between levels of education and knowledge about youth NCDs

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>education</th>
<th>Correlation Coefficient</th>
<th>N</th>
<th>Sig. (2-tailed)</th>
<th>Correlation Coefficient</th>
<th>N</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td></td>
<td>-.289</td>
<td>19</td>
<td>.229</td>
<td>.455</td>
<td>19</td>
<td>.417</td>
</tr>
<tr>
<td>Posttest</td>
<td></td>
<td>.182</td>
<td>19</td>
<td>.455</td>
<td>.417</td>
<td>19</td>
<td>.417</td>
</tr>
</tbody>
</table>
The results of the correlation showed a negative relationship, meaning that participants with higher level of education had low level of knowledge or participants with high level of knowledge had a low level of education. Based on the observations, some of the participants or cadres were very new, while the old cadres with low level of education were more diligent in participating in activities so that they had more knowledge about health. Thus, the new participants with higher level of education had never participated in activities related to health. However, that does not mean they did not know at all because the average value of them able to answer the questions correctly was more than 60%. The level of education or length of education will affect a person's cognitive abilities, where the length of school years can develop effective life capacities which will ultimately affect health, including full-time employment, good job performance, increased well-being, economics, self-control, more social support, and healthy lifestyles [16,17,18]. Higher education teaches people to think more logically and rationally in order to be able to see an issue from various sides so that they can better analyze and solve a problem. In addition, higher education improves the cognitive skills needed to continue learning outside of school [19].

2.b. Skill training to check blood pressure, haemoglobin, and blood glucose level
This activity was divided into 3 groups guided by trained tutors. This activity was very well received where all participants had the opportunity to do a good examination of blood pressure, hemoglobin and blood glucose.

The activity is as shown in the following pictures.

Fig. 3. Training measurement of blood pressure.

Fig. 4. Training measurement of haemoglobin and blood glucose

2.3. 1. Implementation of pashmina activities
The activities would be carried out once a month with assistants from PKU Gamping. This activity was preceded by a lecture on the importance of youth, including a message about the importance of routine health check-ups in adolescence to prevent acquiring NCDs later.

**Fig. 4.** Lecture on the importance of routine health check-ups for adolescents

The activity continued with a youth health check-ups. The implementation of the health check-ups is as follow.

2.3.1.a. Examination of weight and height (nutritional status),

**Fig. 5.** Nutritional status of the participants

The participants who had a normal nutritional status were 69%. In contrast, the participants at risk of mild CED deficiency or mild wasting were as much as 31%.

2.3.1.b. Blood pressure check

**Fig. 6.** Blood pressure check

**Fig. 7.** The blood pressure level of the participants

The systolic and diastolic blood pressure values of the participants were normal. Participants with systolic of 100-110 were 54% and with systolic of 110-120 were 46%.

2.3.1.c. Haemoglobin level check
The results of the examination of the participants' Hb levels were 92% normal with a mean of 12.2 mg% -19.7 mg%. Meanwhile, the category of mild anemia was at 8.9 mg%, and the average diastole was 72.31 ± 6.57.

4 Conclusions

These series of community service activities went very well and one-hundred percent accomplished. Additionally, the enthusiasm of the people for this activity was good. Partners will carry out monthly youth health check-ups in Gamping area with PKU Muhammadiyah Gamping Hospital as the activity companion.

Acknowledgment:
We thank LPM Muhammadiyah for supporting this activity.

References

[7]. Tya Zain, BL. Manajemen Dakwah Nasyiatul Aisyiyah Dalam Meningkatkan Kualitas Keberagamaan Kaum Perempuan (Study Terhadap Gerakan Nasyiatul
Aisyiyah Muhammadiyah Pd Kota Bandar Lampung. Skripsi. Fakultas Dakwah Dan Ilmu Komunikasi Universtas Islam Negeri Raden Intan Lampung 1443 H / 2022


