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KNOWLEDGE AND ACTIVITY OF COMMUNITY HEALTH WORKERS REGARDING HYPERTENSION AND ITS MANAGEMENT IN MALANG

Mifetika Lukitasari\textsuperscript{1,*}, Dwi Adi Nugroho\textsuperscript{2}, Budi Satrijo\textsuperscript{3}, Mohammad Saifur Rohman\textsuperscript{2,*}, Cholid Tri Tjahjono\textsuperscript{3}

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ABSTRACT

Community health workers have had an increasing role in CVD prevention and control. Their knowledge and activity contributed to hypertension management in community. Hence, this study aimed to assess the knowledge of community health workers in community. This cross sectional study was conducted in 94 community health workers. All of the participants worked in primary geriatric community health service (posyandu lansia). Hypertension knowledge and management activity in the community was assessed by questionnaire. Most of the community health workers (57\%) had high knowledge level. Participants with high knowledge had significant awareness of hypertension and higher knowledge on hypertension therapy, medication adherence, lifestyle, diet, and hypertension complication compared to those of low knowledge level. Moreover, both groups had similar activities in community regarding hypertension management, such as blood pressure measurement, health education, and body mass index measurement. This study suggested that all health care workers shared similar activity in community hypertension management regardless their knowledge level.

Keywords: Knowledge, community health workers, hypertension.
It is essential to control hypertension to minimize the side effects of hypertension. The prevalence of controlled hypertension was still low (Chmiel et al., 2012). It was suggested that the control rate of hypertension was 13 to 56 percent around the world (Lee et al., 2010; Rodríguez Roca et al., 2005; Wu et al., 2008b; Xu et al., 2010). An important component to control hypertension is knowledge, which is relative to lower rates of ceasing interventions, following the interventions behavior and better control on disease by patients. As a result, careful evaluation of hypertension has been considered as an inseparable part of general care of the patients.

Studies suggested low levels of knowledge on hypertension among patients (Sanne et al., 2008), and lack of correct information and improper understanding of hypertension did not appertain to rural sites; it has been widely reported in urban environments and industrial countries, too. In Isfahan healthy heart program, the effects of comprehensive self-care programs on improving knowledge, attitude, and treatment among patients with hypertension were investigated. The results from the program showed that factors such as knowledge, treatment pursuit, and hypertension control were 49.9, 43.8, and 15.8 percent, respectively (Li et al., 2013). Another study reported treatment and hypertension control as 33.35 and 35.10 percent. Considering factors related to knowledge and hypertension management is an essential starting point to prevent high rates of cardiovascular mortality due to hypertension. However, there is little information available on knowledge and activity of community health workers.
regarding hypertension management in community.

METHODS

Participants. This cross-sectional study was conducted on 94 community health workers in Malang. All of the participants worked in primary geriatric community health service (posyandu lansia).

Measures. Questionnaire included three sections that comprised the following questions: sociodemographic characteristics, hypertension-related information, and hypertension knowledge.

Sociodemographic Characteristics Variables. Sociodemographic data included data on age, gender, educational level (elementary school, middle school, high school, diploma, and university),

Community Health workers activity. Community health workers activity included their regular activities in controlling hypertension in communities.

Hypertension Knowledge. Hypertension knowledge was ascertained by using Hypertension Knowledge Level Scale (HK-LS). This tool was developed from the Hypertension Knowledge Level Scale (HK-LS), a 22-item scale prepared by Erkoc et al. [37]. Hypertension Knowledge Level Scale (HK-LS) assessed respondents' knowledge in defining hypertension, lifestyle, medical treatment, drug compliance, diet, and complication of hypertension. Each item was a full sentence that was either correct or incorrect. And each item was prepared as part of a standard answer (correct, incorrect, or do not know).

Statistical Analysis. Statistical analyses were performed using SPSS windows version 21.0 software (SPSS Inc., Chicago, Illinois, USA). value < 0.05 was considered significant.

RESULTS

Characteristics of Community Health Workers Table 1. Characteristics of community health workers

<table>
<thead>
<tr>
<th>Variables</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>51.39±8.61</td>
</tr>
<tr>
<td>Gender (women)</td>
<td>94 (100)</td>
</tr>
<tr>
<td>Educational background</td>
<td></td>
</tr>
<tr>
<td>Elementary school</td>
<td>2 (2.1)</td>
</tr>
<tr>
<td>Junior high school</td>
<td>1G (17)</td>
</tr>
<tr>
<td>Senior high school</td>
<td>62 (66)</td>
</tr>
<tr>
<td>Diploma degree</td>
<td>5 (5.3)</td>
</tr>
<tr>
<td>Bachelor degree</td>
<td>7 (7.4)</td>
</tr>
<tr>
<td>Duration of being community health worker</td>
<td>9.63±7.62</td>
</tr>
<tr>
<td>Number of hypertensive patients in their areas</td>
<td></td>
</tr>
<tr>
<td>1-10 persons</td>
<td>28 (29.8)</td>
</tr>
<tr>
<td>11-20 persons</td>
<td>37 (39.4)</td>
</tr>
<tr>
<td>21-30 persons</td>
<td>20 (21.3)</td>
</tr>
<tr>
<td>&gt;30 persons</td>
<td>9 (9.6)</td>
</tr>
</tbody>
</table>

Sumber: data primer yang diolah

The mean age of respondents was 51.39 years [SD: 8.61], ranging from 30 to 69 years. All of the participants were female (100%). In addition, most of the participants were graduated from senior high school 62 (66%), 2 (2.1%) were at elementary levels, 16 (17%) were graduated from junior high school, 5 (5.3%) were graduated from diploma degree, and 7 (7.4%) were graduated from bachelor degree. The duration of being community health worker was 9.63 (SD: 7.62). Furthermore, mostly, the number of hypertensive hypertensive patients in tehir area was 11-20 people per primary geriatric community health service (posyandu lansia)
Knowledge

Table 2 represents community health care knowledge regarding hypertension. In general, 57 percent of participants showed high knowledge on hypertension (definition of hypertension, treatment pursuit, lifestyle, nutrition, and hypertension complication). This parameter was higher in participants with higher educational background compared to those of lower educational background.

Table 2. Community health care knowledge regarding hypertension

<table>
<thead>
<tr>
<th>Hypertension knowledge sub scale</th>
<th>Low knowledge level</th>
<th>High knowledge level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness</td>
<td>1.49±0.60</td>
<td>1.95±0.55*</td>
</tr>
<tr>
<td>Therapy</td>
<td>1.89±0.91</td>
<td>2.1±0.69*</td>
</tr>
<tr>
<td>Medication adherence</td>
<td>2.81±0.99</td>
<td>3.41±0.78*</td>
</tr>
<tr>
<td>Life style</td>
<td>4.43±0.73</td>
<td>4.81±0.44*</td>
</tr>
<tr>
<td>Diet</td>
<td>0.49±0.81</td>
<td>1.76±0.94*</td>
</tr>
<tr>
<td>Complication</td>
<td>4.49±0.84</td>
<td>4.79±0.67*</td>
</tr>
</tbody>
</table>

Sumber: data primer yang diolah

Values presented as mean ± SD. *significant compared to that of low knowledge level group (p<0.05)

Community Health Care Motivation Regarding Hypertension Management

Table 3 the comparison of motivation score of community health care based of knowledge level

<table>
<thead>
<tr>
<th>Low knowledge level</th>
<th>High knowledge level</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.08±0.983</td>
<td>8.96±1.25</td>
<td>0.479</td>
</tr>
</tbody>
</table>

Sumber: data primer yang diolah

Table 3 represents the comparison of community health care motivation score on managing hypertension in their community. Most of the participants had high motivation regardless their knowledge level. This study showed that there was no significant difference in motivation score between community health care with high and low knowledge level.

Community health care activity in primary geriatric community health service (posyandu lansia)

Table 4. Community health care activity in primary geriatric community health service (posyandu lansia)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Low knowledge level</th>
<th>High knowledge level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood pressure measurement</td>
<td>36 (97.3)</td>
<td>55 (98.3)</td>
</tr>
<tr>
<td>Health education</td>
<td>33 (89.2)</td>
<td>53 (94.7)</td>
</tr>
<tr>
<td>Body mass index measurement</td>
<td>32 (86.5)</td>
<td>52 (92.9)</td>
</tr>
</tbody>
</table>

Sumber: data primer yang diolah

This study showed that there were no significant different in community health care activity between between community health care with high and low knowledge level.

DISCUSSION

Improving knowledge, treatment, and control on hypertensi on could decrease high rates of mortality by cardio vascular diseases (Barengo, Kastarinen, Antikainen, Nissinen, & Tuomilehto, 2009). Results from our study showed that over half of the participants in the study were over 60 years old. Several studies reported a direct significance in the prevalence of hypertension and age, which corresponded to the results from the present study (Azizi, Abasi, & Abdoli, 2008; Jonas, Nangia, Matin, Joshi, & Ughade, 2010; Ko-Ko-Zaw, Tint-Swe-Latt, Phyu-Phyu-Aung, Thein-Gi-Thwin, & Tin-Khine-Myint, 2011; Ulasi et al., 2011; Wang et al., 2013). The results, also, suggested higher hypertension...
risk with elders. Therefore, it seem essosomal to plan preventive interventions to control hypertension among older people. Previous study reported that hypertension remains mostly undiagnosed during the early years of prevalence so that over 45 percent of patients over 60 were diagnosed for hypertension less than 5 years ago, which suggest the careful consideration of screening and increasing public knowledge on hypertension and its symptoms.

Program aimed at educating grassroots communities on non-communicable diseases, such as high blood pressure, are very important as most people in such communities do not have access to healthcare facilities, because of ignorance or poverty. Low levels of awareness of hypertension in communities have been attributed to the quality of advice given and the lack of time investment.

Unavailability of information may lead people to believe and accept incorrect information about their health status. Therefore, primary healthcare centres nearest to grassroots communities should be empowered with medical personnel with time to listen and to provide communities with necessary information on the disease before the development of complications leads to organ damage, which suggested the necessity of efficient implementation of proper training programs and offering essential services to health care services by doctors and health experts, while majority of patients with diagnosed hypertension showed poor control on their disease. This gap has also been reported in several other studies (Krousel-Wood, Muntner, Islam, Morisky, & Webber, 2009; Sanne et al., 2008; Wang et al., 2013). It seemed that the only way used to control hypertension by patients was taking prescribed medicines; they avoided self-care behaviors such as regular physical activities, good nutrition, and weight control. As the patients grew older, the treatment of hypertension improved. It seems that patients were more sensitive to their disease when they grew older and tried medicines to treat their disease. It related to the results from other studies (Krousel-Wood et al., 2009; Sanne et al., 2008; Wang et al., 2013). Another finding from the present study suggested a statistically significant correlation between hypertension control and patients education. More than half of the participants reported high knowledge level on hypertension, treatment pursuit, lifestyle, nutrition, and complication of hypertension. Only 43 percent of participants showed low knowledge on the disease. In comparison with other studies, the present study reported lower rates on the issue. Previous study showed good rates of knowledge on hypertension among participants (Bollu, Koushik, Prakash, Lohith, & Venkataramarao, 2015). The difference could result from different duration of being community health workers.

CONCLUSION

This study suggested that all health care workers shared similar activity in community hypertension management regardless their knowledge level.
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