Scaling-up the role of housewives peer group activists as an effective promotor in early detection and prevention of malnutrition

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ABSTRAK

Latar Belakang: *Angka kejadian gizi buruk di Indonesia maupun di Provinsi Jawa Tengah dan Kota Semarang masih tinggi. Masalah tersebut disebabkan oleh kurangnya kesadaran dan pengetahuan terkait gizi di kalangan masyarakat, termasuk Aktivis Dasa Wisma. Salah satu alasan lainnya adalah kurangnya promotor gizi di tengah masyarakat, tokoh yang seharusnya berkaitan erat dengan kelompok sasaran, yaitu balita gizi buruk (stunting).*

Tujuan: *Melatih promotor gizi yang dapat melakukan deteksi dini dan pencegahan gizi buruk dengan baik dan efisien di tingkat Dasa Wisma sebagai upaya pencegahan stunting di tingkat masyarakat.*

Metode: *Studi intervensi dengan rancangan kohort time series prospektif pada dua kelompok digunakan dalam penelitian ini. Tahapan kegiatannya adalah persiapan lapangan berupa Training of Trainer (TOT) bagi petugas gizi dan aktivis Dasa Wisma (66 aktivis terpilih), pengadaan sarana antropometrik penentuan status gizi, media, dan pelatihan bagi enumerator.*

Hasil: *Aktivis Dasa Wisma yang dilatih mengalami peningkatan pengetahuan terkait gizi dan malnutrisi sebesar 2,66 poin (p<0,05) dan peningkatan keterampilan terkait pengukuran status gizi sebesar 0,68 poin (p<0,05).*

Kesimpulan: *Peran Aktivis Dasa Wisma sangat penting untuk membantu ibu balita dalam melakukan pemantauan gizi anaknya; Selanjutnya, diharapkan semua ibu balita menyadari dan mempraktekkan keterampilan yang telah diperoleh untuk mencegah kejadian stunting sejak dini.*

KATA KUNCI: *Dasa Wisma; malnutrisi; stunting; pelatihan; promotor kesehatan*

ABSTRACT

Background: *The incidence of malnutrition in Indonesia especially in Central Java Province and in Semarang City is still high. The problem was due to lack of awareness and knowledge related to nutrition in the community, including Housewives Peer Group Activists. Another reason is due to*

the absence of nutrition promotors, persons who are closely related to the target group, under five children who were stunted.

Objectives: *The objective of this study was to train efficient promotors in doing early detection and prevention of malnutrition at Housewives Peer Group Activists level as an effort to prevent stunting at the community level.*

Methods: *An intervention study with a case control design in two groups used in this study. The stages of the activities were field preparation in the form of training of trainers (TOT) for nutrition officers and Housewives Peer Group Activists (66 activists selected), procurement of anthropometric infrastructure for determining nutritional status, media, and training for enumerator.*

Results: *Housewives Peer Group Activists being trained had an increase in knowledge by 2.66 points (p <0.05) and an increase in skills related to measuring nutritional status by 0.68 points (p <0.05).*

Conclusion: *The role of Housewives Peer Group Activists is very important in assisting mothers of children under five in conducting monitoring of their children's nutrition; furthermore, it is hoped that all mothers of children under five realize and practice the skills they have acquired to prevent stunting.*

INTRODUCTION

A good nutritional status, stimulation from the family, adequate housing, sanitation in a healthy environment, and the availability of facilities and infrastructure will support the growth and the development of children who will become potential human resources. However, the development of children's intelligence can be disrupted by environmental or physical conditions that are not supportive, such as malnutrition (as defined by WHO) as well as stimulation from the environment. Severe malnutrition results in smaller head circumference and lower cognitive abilities; besides, it also affects personality causing children to be apathetic. Even after malnutrition is being corrected, lags in cognitive abilities are still reported (1-4).

Based on this background, it is necessary to take an immediate action outside the program (out of the box) by conducting community empowerment. So far, community empowerment has mostly focused on health cadres. Assisting or monitoring related to nutritional status by cadres has been carried out a lot even though community leader closest to the family is the head of Housewives Peer Group Activists. Housewives Peer Group consists of about 10 families joining in an association led by a leader (5,6).

The problem of this study is the high incidence of malnutrition in Indonesia as well as in Central Java Province and in Semarang City while Indonesia has a target in the field of improving community nutrition. These targets include a reduction in the prevalence of malnutrition among children under five from 19.6% to 17% in 2019; and a decrease in the prevalence of stunting in children under 2 years from 33% to 28% in 2019 (7,8).

Another problem is the lack of awareness and knowledge of the community, including the leader of Housewives Peer Group Activists about nutrition, and there has never

been a community group caring about nutrition. In fact, the community should have an awareness that good nutrition is their own need (9,10)..

MATERIALS AND METHODS

This study was approved by the Ethics Commission for Health Research, Faculty of Public Health, Diponegoro University No. 498/EA/KEPK-FKM/2019.

` This quasi-experimental research was conducted by doing interventions in the form of training Housewives Peer Group Activists as nutrition promotors with early detection and prevention of malnutrition capabilities. The pretest and post-test control group design carried out by applying prospective observations in two groups of Housewives Peer Group Activists. The intervention group (IG) was trained, while the control group (CG) was not. The 132 Housewives Peer Group Activists (each 66 of both IG and CG) was selected based on inclusion criteria: housewives who is active as a peer group activist in their region, have pregnant woman around their region, and is aged between 20-55 years old; whereas, the group was selected based on location and high levels of malnutrition.

Prior to the intervention, nutritional anthropometric instruments, booklet, and Training of Trainer (TOT) for nutrition officers as facilitators for Housewives Peer Group Activists in the IG were prepared to be the trainers for the Activists to be as nutrition promotors who later would be the assistance to the community as the target group. At the same time, 4 enumerators from each group were also trained. The enumerators conducted preliminary survey prior to the treatments for Housewives Peer Group Activists regarding knowledge and practices in early detection and prevention of malnutrition in the community. Later, the community, especially mothers who have babies, toddlers, and pregnant women, will be assisted and facilitated by the trained assistance from the Housewives

Peer Group Activists regarding nutrition status monitoring (Community Learning Center/CLC).
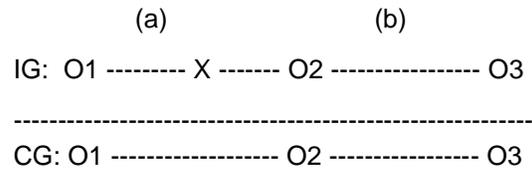
Research Design

(a)   (b)

IG: O1 --------- X ------- O2 ---------------- O3

CG: O1 ------------------ O2 ---------------- O3

Figure 1.

Information:

IG   :   The Intervention Group
CG   :   The Control Group
O1   :   Pretest score of the two groups before being given the intervention by scoring the variable of knowledge and practice of Housewives Peer Group Activists and the community (especially mothers who had babies, toddlers, and pregnant women).

X   :   Training given for Housewives Peer Group Activists immediately after the initial measurement by nutrition officers who had been trained in TOT training as a nutrition promotor facilitator. Anthropometric tools provided to the Activists: (1) weight scale, (2) upper arm circumference tape, (3) microtoise, (4) guidelines for monitoring and nutritional status assistance (5) children growth chart (GPA) for boys under five, (6) GPA for girl under five, and (7) Guidelines for filling in GPA.

O2   :   Measurement of the mean score in both groups approximately three months after the intervention, by trained enumerators.

O3   :   Measurement of the final score (post-test) in both groups approximately six months after the intervention, by trained enumerators.

(a)   :   3 months

(b)   :   3 months

As a pilot project, this research was carried out in collaboration with Lebdosari PHC; the leading health service facility at the community level (partner institutions). The PHC of Lebdosari was selected on the grounds that this PHC had a number of well-organized Housewives Peer Group Activists and quite a number of cases of malnutrition and under-nutrition, which was 2.3% to 3.2% of total children under five in the last few years.

In addition, this research instrument used was a structured questionnaire that had been tested for validity and reliability using Alpha Cronbach method. The research data were analyzed using Wilcoxon and Mann-Whitney test.

RESULTS AND DISCUSSIONS

Characteristics of respondents

Respondents were Housewives Peer Group Activists in the work areas of Lebdosari PHC and Tandang PHC, Semarang City, with the mean of the age distribution of the intervention group was 45 years and the mean age of the control group was 44 years. Beside that, the distribution of the Last Education of the Activists shows that most of both activists group graduated from high school (62.1% in intervention group and 48.5% in control group). The age of the respondents in this study was 21-71 years old, 45 years in average. According to Notoatmodjo's (2012) and Yuliani et al, age is one of the factors affecting knowledge. The older the person is, the more experience the person will be; and the more information they receive, the more understand about the knowledge related to nutritional status and anthropometric measurement skills they have (11-12).

The education level of the respondents was mostly high school, which was 62.1% in the intervention group and 48.5% in the control group. According to the theory, the higher the education a person takes, the easier it is for the person to receive information, and in the end his/her knowledge will increase. In line with the finding of Olsa (2017), someone with a high level of education will be more easily to absorb information compared to those who are less or uneducated; therefore, a person having a sufficient level of education is expected to be willing and able to behave well in an effort to improve nutritional status in preventing stunting (13).

Having high school level education showed that Housewives Peer Group Activists completed basic education. This ability was in accordance with the criteria that must be met by someone who conveyed information to the community, namely being able to read and write in Bahasa (14).

Differences in knowledge and skill in the intervention and control groups

Knowledge Regarding Nutritional Status and Nutritional Status Measurement

Wilcoxon test was performed in this test due to both pretest and posttest data were not normally distributed. The result of the test showed that there was a significant difference in knowledge between before and after the intervention (p=0.0001) with an increase in knowledge by 2.66 points (**Table 1**).

Table 1. Difference score of total knowledge before and after intervention

Knowledge	Activists	
	Mean ± SD	**Min-Max**
Pre test	21.05±2.995	10-25
Post test	23.71±1.412	20-26
p value	0,0001	
delta	2.66	

Furthermore, Man-Whitney test was performed and showed that there was a significant difference in total knowledge between the intervention group and the control group (p=0.0001) (Table 2).

Table 2. Differences in the total knowledge score of the intervention and control groups

Knowledge	Activists	
	Mean ± SD	Min-Max
Intervention Group	23,71±1,412	20-26
Control Group	20,11±3,587	13-27
p value	0.0001	

Practice of anthropometric measurement skill

Because the data were not normally distributed, Wilcoxon test was performed. The result showed that there was a significant difference in practice between before and after the intervention (p=0.013) with an increase in knowledge by 0.68 (**Table 3**). The result of the Man Whitney test also showed that there was a significant difference in anthropometric measurement practices between the intervention group and the control group (p=0.0001) (**Table 4**).

Changes in respondents' knowledge and practices

According to Notoatmodjo, one of the strategies for changing behavior is providing information to increase knowledge so that awareness arises, and in the end people will behave according to their knowledge (10). Providing information to increase knowledge capacity can be done by providing training, as done in this study, namely training on anthropometry to assess the nutritional status of toddlers (15). Nugraheni (2020) stated that mentoring training for Housewives Peer Group Activists is essentially needed, even though it is only a day, to improve the competence of the activists in assisting pregnant women in an effort to prevent the cases of LBW or stunting to happen in one month (16).

Table 3. The difference in total skill score for anthropometric measurement before and after intervention

Skill	Activists	
	Mean ± SD	Min-Max
Pre test	14.00±2.075	0-15
Post test	14.68±0.612	13-15
p value	0.013	
delta	0.68	

In this study, in general, the intervention carried out on Housewives Peer Group Activists showed a difference in knowledge with the control group with a p-value of 0.001. In addition, this study also showed that there were differences in the practice of the intervention group, especially in the anthropometric measurement skills than the control group with a p-value of 0.001. The difference that occurred between the intervention group and control group was due to the fact that the intervention group had gone through a learning process leading to a change effect in the form of increased understanding of nutrition and stunting in a better direction than the control group.

Table 4. The difference in total skill score for anthropometric measurement for intervention and control groups

Skill	Activists	
	Mean ± SD	Min-Max
Intervention Group	14.68±0.612	13-15
Control Group	13.85±2.268	0-15
p value	0,0001	

The finding of this research was in line with previous researches. One of which exploring the participation program in joint nutrition education and supplementary feeding programs in Uganda showed several benefits of the program in providing nutrition to children under five and adequacy children's diets. Thus, nutrition education can be a fairly effective way of increasing knowledge, feeding practices, and increasing the variety and frequency of food for children under five (17).

In Malawi, a trial of supplementary feeding education for children under five concluded that providing nutritional education demonstrates an increasing adoption of the practice of supplementary feeding by both parents and caregivers.[18] In addition, in rural areas of Ethiopia having a high prevalence of stunting, exposure to nutrition education for mothers of children under five is effective in increasing knowledge about child nutrition practices and preventing stunting (19).

The results of this study suggested that the intervention in the form of training to respondents (Housewives Peer Group Activists) was quite effective in increasing the capacity of the respondents in their effort to improve nutrition towards a better direction. Therefore, Housewives Peer Group Activists were expected to be able to contribute to improve community nutrition, especially for pregnant women and toddlers, to prevent stunting. This was in accordance with the research result of Wati which stated that stunting prevention is not only the responsibility of the nutrition program, but also Maternal and Child Health program, a program which can be run on a community-based basis so that an intervention package for human resources is needed (20).

Geogre in Nesra et al. argued that a failure that often occurs in the implementation of a policy is caused by insufficient and incompetent human resources in their fields. However, increasing the number of human resources alone is not sufficient; their capacity of skills must be in accordance with their duties (21). Thus, nutrition education in the form of Housewives Peer Group Activists training might become an effective method to help improve community human resources, especially in terms of preventing stunting through providing assistance to mothers of children under five in fulfilling nutrition, and monitoring nutritional status from an early age.

CONCLUSIONS AND RECOMMENDATION

The results of the Housewives Peer Group Activists training show an increase in knowledge regarding nutritional status and anthropometric measurement skills by 2.66 points and 0.68 points ($p = <0.05$). Thus, the role of Housewives Peer Group Activists is very important to assist mothers of children under five in conducting monitoring of their children's nutrition; furthermore, it is hoped that all mothers of children under five realize and practice the skills they have acquired to prevent stunting. It is also expected that the Public health Center will be more active in conducting programs and activities in their working areas to train Housewives Peer Group Activists, especially regarding stunting prevention.

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