



Community empowerment program to increase individual empowerment of cadres in stunting prevention

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ARTICLE INFO

Article history:

Received 19 March 2023

Accepted 15 June 2023

Published 30 June 2023

Keyword:

Cadre
community empowerment
individual empowerment
stunting

ABSTRACT

The stunting management program must be carried out by multi-sectoral collaboration and involving community engagement. Individual empowerment of cadres can improve program outcomes. This study aimed to analyze the individual empowerment of cadres in community empowerment programs to overcome stunting. This study used quasi-experimental study with 40 respondents that selected by purposive sampling method. The data collection carried out by focus group discussion interview and individual community-related empowerment (ICRE) questionnaires. Statistics analysis using Paired t-test and 95% confidence intervals. The results of the analysis showed that all component in individual empowerment indicated that there was significant influence in empowerment program on improving individual empowerment cadre with p-value 0,000 in intention, participation, and critical awareness. Meanwhile the self-efficacy component obtained a p-value 0,001 and motivation 0,003. The results proves that the involvement of cadres in the stages of community empowerment can effectively improve community engagement and individual empowerment for the community health cadres. The provision of adequate training and supervision for health cadres is important in order to improve their role in community.

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Kata kunci:

Kader
pemberdayaan masyarakat
pemberdayaan individu
stunting

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DOI: 10.30604/jika.v8i2.2069

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ABSTRAK

Program penanggulangan stunting harus dilakukan dengan melibatkan kerjasama multisector dan keterlibatan masyarakat. Pemberdayaan kader secara individu dapat meningkatkan luaran dan keberhasilan program. Penelitian ini bertujuan untuk menganalisis tingkat pemberdayaan individu kader dalam program pemberdayaan masyarakat untuk mengatasi stunting. Penelitian ini menggunakan penelitian quasy-experimental dengan 40 responden yang dipilih dengan metode purposive sampling. Pengumpulan data dilakukan dengan wawancara focus group discussion dan kuesioner individual community-related empowerment (ICRE). Analisis statistik menggunakan Paired t-test dengan interval kepercayaan 95%. Hasil analisis menunjukkan bahwa semua setelah mengikuti program pemberdayaan masyarakat, terdapat pengaruh yang signifikan terhadap peningkatan semua komponen pemberdayaan individu dengan p-value 0,000 pada intensi, partisipasi, dan kesadaran kritis. Sedangkan komponen self-efficacy diperoleh p-value 0,001 dan motivasi 0,003. Hasil penelitian membuktikan bahwa keterlibatan kader dalam tahapan pemberdayaan masyarakat dapat secara efektif meningkatkan keterlibatan masyarakat dan pemberdayaan individu bagi kader kesehatan masyarakat. Pemberian pelatihan dan pengawasan yang memadai bagi kader kesehatan penting untuk meningkatkan peran mereka di masyarakat

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INTRODUCTION

Indonesia is one of the countries with a high prevalence of stunting in the Southeast Asian region. This is evidenced by the results of the basic health research data which stated that there was an increase in stunting conditions in 2016 from 27.5% to 29.6% in 2017 (Riskesmas, 2018). Meanwhile, according to the 2021 Indonesian Toddler Nutrition Status Survey (SSGBI) data, the prevalence of stunting is currently still at 24.4 per cent or 5.33 million children under five (RI, 2021). Stunting is an indicator of poor child development. The effect of stunting on children under two years of age is predicted to cause low cognitive abilities and learning outcomes in children and adolescents. The World Bank also said that 1% of height loss in adults caused by stunting is associated with a 1.4% loss of work productivity (Organization, 2014). If this condition is not resolved, it will have a long-term impact on reducing the quality of human life which will affect economic growth, increase poverty and decrease productivity (Nisa, 2018).

The cause of stunting is associated with socio-economic and genetic factors, although socio-economic factors predominate. The role of genetics is mentioned only around 4-7%, while socio-economic factors affect as much as 74-87% (Indra & Khoirunrofik, 2022). These socio-economic factors include poverty which causes low health and nutritional status in maternal and the practice of providing inadequate nutrition during infancy. The presence of infection caused by exposure to a contaminated environment and poor hygiene is also associated with the prevalence of stunting (Prendergast et al., 2014). Therefore, the stunting management program must be carried out by multi-sectoral collaboration to increase the efficiency. The role of policymakers is very important to make program interventions that can help reduce the prevalence of stunting. By 2025, WHO is targeting a reduction in the prevalence of stunting by 40% which is expected to be met by all countries including Indonesia (Organization, 2014). One of the programs to achieve this target is to increase community-based interventions targeting the most vulnerable populations.

In the concept of community nursing, community empowerment is a strategy to increase the community's ability to solve their own problems. Community as a care unit of nursing is a partner of nurses, not only the subject of nursing services. This partnership process is realized by the involvement of the community in every problem-solving process from identifying, solving to mobilizing community resources (Petesque et al., 2020). Domains in the concept of community empowerment are: (1) community participation; (2) problem assessment capacities; (3) local leadership; (4) organizational structures; (5) resource mobilization; (6) Links to others; (7) ability to ask why; (8) Program management; and (9) The relationship with outside agents. The framework for community empowerment that is used is the Framework for Partnerships for Community Development which consists of two concepts, namely (1) identity-which means the common perception, identity, goals, values, culture and synergy owned by the community; and (2) productive work-namely leadership, decision making, communication, policies, roles, evaluation, organizational structure and group dynamics. The stages of partnership development are built in three stages, which is (1) Stage 1: Negotiation and Problem Clarification; Stage 2: Direction Setting, Trust Building, and Empowerment; and Stage 3: Developing a Structure and Operations. Following

Stage 3 is Assessment: Impact on the Environment, in which the partnership evaluates its outcomes (Melo & Alves, 2019).

Research on community empowerment in overcoming health problems in Indonesia includes the use of village funds for stunting management programs, increasing community capacity in stunting prevention by increasing awareness in the provision of nutrition, increasing knowledge and training for pregnant women regarding maternal nutrition and increasing the ability of community health cadres to monitoring and evaluating the growth and development of toddlers (Indra & Khoirunrofik, 2022)(Suranny & Maharani, 2021)(Siregar et al., 2020)(Saroinsong et al., 2021)(Saputri et al., 2020). Several government programs related to the role of the community have also been carried out by involving community health cadres as implementers. Community health cadres have a main role in early detection of toddler growth and development as well as being a source of health information in their community. In the concept of community empowerment, community Health cadres are one of the main character in the community who have a role in solving health problems(Handayani & Wulandari, 2020).

Community involvement is one of the strategies in the concept of community nursing by positioning the community as the core of nursing services (Brunton et al., 2017)(Glandon et al., 2017)(Fitrina et al., 2020). One of these interventions is to involve community components, namely community health cadres, in the process of identifying and solving problems, making decisions, and implementing interventions. The involvement of these cadres is facilitated by training activities and the provision of funds for the implementation of their activities(Brunton et al., 2017). However, most of the health cadre's engagement activities assessed the level of knowledge, skills and results of the intervention. While measurements regarding individual empowerment have not been carried out much. Individual empowerment of cadres can assess their readiness for activities and can improve the health status of cadres and the program outcomes implemented (Kasmel & Andersen, 2011). Individual involvement in community empowerment programs can increase their internal capacity in strengthening community resilience structures and increasing their ability to solve problems. Therefore, the purpose of this study was to analyze the individual empowerment of cadres in community empowerment programs to overcome stunting.

METHODS

Research Methods

This study used a quasi-experimental study method. Data and information are collected using qualitative data and quantitative data. Qualitative data were obtained by conducting focus group discussions (FGD), while quantitative data were obtained by questionnaires. The research was carried out for 3 months.

Sample size and sampling

The selection of respondents was carried out using a purposive sampling method. Purposive sampling is a non-random sampling technique by determining specific

characteristics. The 40 cadres who were involved as respondents were community health cadres of Posyandu (Pos Pelayanan Terpadu) from seven district who had stunting cases. The inclusion criteria of the respondents used were: (1) having experience as a cadre for at least 6 months; (2) can read and write; (3) willing to participate in research activities to completion.

Community Empowerment Intervention

The stages of the research were carried out by following the partnership for community development framework which is described in the following stages:

- a) Preparation: identification resources in the community to be involved in the stunting management program. Collecting quantitative data in this stage by providing the ICRE questionnaire
- b) Stage 1 Negotiation and problem clarification: carried out by inviting components in the community to discuss common problems. At this stage, the researchers invited policymakers, namely the heads of sub-districts and health provider from the public health center. Elements from community were involved by inviting representatives from each district and community health cadres from areas with stunting cases. Activities are carried out with focus group discussions guided by a facilitator. The FGD discussion covered problems encountered in the region and possible solutions to solve the problems
- c) Stage 2 Direction setting, Trust Building and Empowerment: This stage is carried out by establishing a work program and formulating the outputs to be achieved as well as appointing a person in charge of the program from the community
- d) Stage 3 Developing structure and Operation: carried out through a (1) Community activation process in the form of forming cadre coordinators and support groups; (2) Competence building by providing training the cadre contains definition and prevention of stunting and also how to make food for toddlers from Nile Tilapia fish (*Oreochromis niloticus*) which will be used as additional food for stunted toddlers; (3) Skill training in the form of effective communication, problem-solving and anthropometric measurements for toddlers, as well as (4) Creating supportive environments by holding a Rantang Berkah program: giving food from Nile Tilapia fish products to toddlers.
- e) Assessment of Impact on the environment by identifying the results of program implementation by evaluating the increase in the ICRE score for cadres.

Instruments and data collection

The research instrument used was a focus group discussion interview which consisted of questions about the experience as cadres and identification of stunting problems in the region as well as individual community-related empowerment (ICRE) questionnaires taken from research (Kasmel & Andersen, 2011). The questionnaire consisted of 18 items rated on a Likert-type five-point scale (1 = 'strongly agree', the most favorable perception, to 5 = 'strongly

disagree', the least agreeing perception). The questionnaire considers the multidimensional nature of the empowerment and allows for an assessment of five ICRE dimensions, namely: self-efficacy related to individual attitudes towards social change in society; participation in community activities; intention to engage in community change; motivation to engage; and a critical awareness that society's problems are serious. Collectively, these dimensions provide a broad picture of ICRE. The data were processed as descriptive qualitative to be analyzed and generate the conclusion.

Statistical analysis

Statistics analysis in this study is univariate analysis; bivariate analysis using Paired t-test and 95% confidence intervals (CI). SPSS version 22 is used in the analyses.

Ethics

Ethical approval for this study was granted by the Health Research Ethics Committee Faculty of Health Sciences Universitas Brawijaya, Number 4735/UN10.F17.10/TU/2022

RESULTS

Identification and Problem Clarification

Identification and analysis of health problems in the community related to stunting obtained from the results of the Focus Group Discussion. This focus group discussion involves cadres to explore problems in their area related to stunting. There are four theme for problem according to health cadres in this area associated with stunting which is: (1) Environmental hygiene issues. This problem arises because most of the people in the community still use the river for their daily needs, such as washing dishes, clothes and defecating; (2) Family upbringing. This problem is mostly caused by parenting mistakes that are applied to most families. Inappropriate parenting such as the child is entrusted to the babysitter or elderly because their mother is working. Elderly who take-care of children are tired, and there are elderly who care for up to two toddlers. This caused the children gets less attention especially in term of nutritional needs. Other problem is feeling that you are not ready to be a mother in psychological or physical aspects because you got married at an early age; (3) Economy. The family have been given education but there is still a lack of money in the provision of food and also inappropriate prioritization of needs and other responsibilities such as paying debt; (4) Nutrition. Exclusive breastfeeding is not fulfilled and even replaced by formula milk because their mother is working and also majority children often consume snacks and unattractive presentation of food. Identification of the problem is concluded based on the experience of the stake holders.

Activity and Implementation

Programs implemented to overcome problems are formulated based on existing resources in the community. Bakalan Krajan sub-district is one of the sub-districts that has developed the potential of its area, one of which is the

innovation of SI IKAN NILA (Centra Intensive Cultivation of Bio-flock System). This innovation is then developed to address stunting health problems by utilizing the product which is Nile Tilapia fish. This fish will be processed into food products for toddlers. Research on the content of Nile Tilapia fish reports that various amino acids including glutamate can be a stimulus to increase children's appetite through a mechanism that influences brain work through the gut-brain-axis. In addition, the amino acid glutamate can also help metabolize proteins in cells and absorb food more quickly (Syakir et al., 2019). Utilization of Nile tilapia as a food ingredient is one of the efforts in the management of stunting. Processing of Nile tilapia served directly or added as an additional ingredient to other products, for example kecapimprong or meatballs can add to the nutritional value of the food. Research by Fauzi et al. (Fauzi et al., 2017) showed that the addition of 5% Nile tilapia meat to kecapimprong products could produce a product with a nutritional content of 44.4% protein content, 35.59% fat content, 82.76%

carbohydrate content and 3.17% total amino acid content. This makes processed Nile tilapia an alternative processed product for food additives in an effort to treat stunting. The implementation of the activity involved health cadres in the process of making food products with supervision and training from health providers (doctor, nurse, dietician) from the public health center.

Health cadres will be involved in the fish processing training program with appropriate processing methods to maintain its nutritional value. Processed products will be distributed to toddlers with stunting in their respective areas for two months. The next process is monitoring the evaluation of the health status of toddlers with anthropometric measurements every month at the Posyandu. The source of funds for the program implementation process is obtained from village funds. More details about the activity and implementation are presented in Table 1.

Table 1. Activity Program

Resources	Stakeholders	Program	Follow up plane
Human Resources	1) Public Health center (doctor, nurse, dietician)	Training for health cadre	Maintaining program
	2) Community Health Cadre	Skill training Processed Nile Tilapia fish products Providing additional food for stunted children (Rantang Berkah)	Involving cross-sector and cross programs especially with companies to improve product marketing
	3) District head	Provide guidance, direction, and evaluation	Maintaining program
Funds	Village fund	Funding program	Maintaining program
Infrastructure	Tilapia fish farm, food equipment	-	Maintaining program

Assessment of Impact on the environment

All community health cadres are female (100%), in terms of age most of the cadres are middle adulthood (97%), the education level of most of the cadres is high school (55%), marital status is married as many as 37 people (92%) and experience as cadre at most 14 people (35%) are more than 10 years, the longest > 20 years are 4 people (10%). More details about the descriptive characteristics of respondents are presented in Table 2.

Table 2. Socio-demographic characteristics of cadre (n=40)

Characteristics	Frequency	Percentage
Gender		
Female	40	100
Age (year)		
Middle adulthood (30-60)	38	97
Late adulthood (>60)	2	3
Cadre's Education		
Primary	8	20
Secondary	10	25
Higher	22	55
Marriage		
Yes	37	92
Widow	3	8
Experience as a cadre (year)		
<2	8	20
2 ≥ s/d ≤ 5	6	15
5 > s/d ≤ 10	8	20
>10	14	35
>20	4	10

Based on univariate analysis result from ICRE score, most of the scores in individual empowerment increased after the intervention. The most increasing points is variable participation with a mean difference of 0.57 from the pre-test 4.02 ± 0.12 to the post-test 4.59 ± 0.27 . In the pre-test the highest component value is motivation with a mean value of 4.12 ± 0.25 , while the lowest is self-efficacy with a mean value of 3.77 ± 0.47 . The score component in post-test activities that has significant changes is participation. The mean value for participation is 4.59 ± 0.27 , while the lowest is self-efficacy with a mean value of 4.16 ± 0.29 . More details about the data are presented in Table 3.

From bivariate analysis results in the table 4, the results of the analysis showed that all component in individual empowerment indicated that there was significant influence in empowerment program on improving individual empowerment cadre with p-value 0,000 in intention, participation, and critical awareness.

Meanwhile the self-efficacy component obtained a p-value 0,001 and motivation 0,003. The results proves that the involvement of cadres in the stages of community empowerment can effectively improve community engagement and individual empowerment for the community health cadres.

Table 3. Individual Community Related Empowerment (ICRE) Score Pre and Post Intervention

Variable	Pre		Post		Mean Different
	Mean	SD	Mean	SD	
Self-Efficacy	3,77	0,47	4,16	0,29	0,39
1. I have the knowledge and skills to influence the community about stunting problem	3,96	0,188	4,25	0,58	0,29
2. I have the ability to impact my community in important ways	3,85	0,59	4,14	0,35	0,29
3. I have confidence in my capabilities to make changes in my community	3,74	0,64	4,22	0,56	0,48
4. I am able to affect the area which I live	3,70	0,65	4,25	0,51	0,55
5. I can influence community members to take actions on stunting issue	3,67	0,76	4,00	0,47	0,33
6. I have the knowledge and skills to gather information relevant to my community	3,85	0,35	4,33	0,47	0,48
7. I know I can make differences in my community	3,67	0,67	3,92	0,46	0,25
Intention	4,03	0,211	4,39	0,37	0,36
1. I wanto to get involved in my community	4,11	0,31	4,59	0,49	0,48
2. I am willing to get involved in my community	4,07	0,26	4,22	0,41	0,15
3. I am going to get involved in my community	4,03	0,19	4,59	0,49	0,56
4. I intend to take action in my community	3,92	0,37	4,14	0,44	0,22
Participation	4,02	0,12	4,59	0,27	0,57
1. I participate in community activities	4,03	0,19	4,66	0,47	0,63
2. I am involved in my community	4,03	0,19	4,18	0,38	0,15
3. I volunteer for community projects	4,00	0	4,92	0,26	0,92
Motivation	4,12	0,25	4,34	0,34	0,22
1. I think it is important for me to get involved in my community	4,07	0,26	4,59	0,49	0,52
2. I feel that efforts to address community issues are worthwhile	4,22	0,41	4,25	0,43	0,03
3. I am motivated to get involved in my community	4,07	0,26	4,18	0,38	0,11
Critical Awareness	3,85	0,35	4,33	0,47	0,48
I think that the stunting problems in my community is serious	3,85	0,35	4,33	0,47	0,48

Table 4. Bivariate analysis of Individual Community Related Empowerment (ICRE) Score Pre and Post Intervention

Variable	ICRE				Sig 2 tailed 95 %
	Pre (n=40)		Post (n=40)		
	Mean	SD	Mean	SD	
Self-Efficacy	3,77	0,47	4,16	0,29	0,001
Intention	4,03	0,211	4,39	0,37	0,000
Participation	4,02	0,12	4,59	0,27	0,000
Motivation	4,12	0,25	4,34	0,34	0,003
Critical Awareness	3,85	0,35	4,33	0,47	0,000

* *p-value* < 0.05

DISCUSSION

Empowerment of cadres is a process in which cadres feel that they are gaining control over the factors and decisions that shape their lives, by increasing their assets and building the capacity to gain that control (Petesque et al., 2020). In the context of community nursing interventions, community empowerment is a strategy for dealing with health problems in the community that focuses on community independence in understanding, analyzing and making efforts to solve these problems (Ervin & Kulbok, 2018).

The results of the study stated that cadres have a high individual empowerment value in terms of motivation, this is most likely due to the experience of being cadres. Most are more than 10 years and so far they feel that their role as health agents is very important to do to spread goodness and benefits. While self-efficacy is the component with the lowest score on the pre-test, this is because cadres are still not confident enough to become agents of change in their

area. Even though the tenure of most of the cadres was long, their knowledge was felt to be insufficient to provide health education or make changes. Research regarding the performance of cadres in preventing stunting gave the result that the knowledge and motivation of cadres was not proven to be a mediating variable for the length of time being a cadre on the performance of cadres and the length of time being a cadre had no effect on the performance of cadres (Afifa, 2019). From this it can be concluded that high motivation does not make them confident, nor does it take them long to become cadres.

In terms of cadre empowerment performance, the results of the study also found that there was an increase in the value of cadre empowerment as a whole after intervention efforts in the form of conducting FGDs and self-introspective surveys involving cadres to identify problems in their area. This activity was then followed by giving material on strengthening the function and role of cadres in handling stunting in their respective areas. This provides additional

motivation for cadres and increases self-awareness. This is consistent with research which states that the active role of posyandu cadres is related to the support of community leaders, knowledge, incentives and the work of cadres (Pering et al., 2022). In terms of support from community leaders and knowledge, the refresher activities carried out can increase the knowledge of cadres as well as the attention of sub-district officials in providing opportunities to increase motivation.

Increasing individual empowerment of cadres is expected to be a major factor in improving public health, especially in terms of community empowerment in solving health problems in their area. McClair et al. (McClair et al., 2021) stated that individuals/communities will achieve better health status if they are empowered to engage with other people in their community who have similar problems. This is done by engaging in participatory learning exercises in groups, as well as empowering health cadres (Olaniran et al., 2019). The concept of community empowerment is also in line with the empowerment of the individuals involved in it. This empowerment is an expression of the empowerment construct at the individual level and reflects a person's freedom to decide what goals to achieve (Kasmel & Tanggaard, 2011). Individual involvement in community empowerment programs can increase their internal capacity in strengthening community resilience structures and increasing their ability to solve problems.

CONCLUSION

Health cadres are an important component in programs to increase community participation in solving health problems. Community independence can be achieved if all components can work together to improve health status, especially the problem of stunting in community. Involvement of health cadres in the whole process of implementing empowerment can increase their individual empowerment. Increasing individual empowerment of cadres is expected to be a major factor in improving public health, especially in terms of community empowerment in solving health problems in their area. It is hoped that training and skills improvement will also be accompanied by monitoring and supervision from health providers so as to optimize performance.

ETHICAL CONSIDERATIONS

Funding Statement.

This study was funded by Badan Penelitian dan Pengabdian Masyarakat (BPPM) Faculty of Health Science Universitas Brawijaya

Conflict of Interest Statement

There is no conflict of interest

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