TB community empowerment model instruments in finding tuberculosis (TB) suspects

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ABSTRACT

Introduction: Tuberculosis is still a public health problem. Indonesia is the third rank of highest TB in the world. Community empowerment is one of the strategies for finding TB suspects. Community empowerment in Probolinggo Regency is carried out by forming the local TB Association. Evaluation of the role of this TB community has never been done. There is no available measure of community empowerment in this TB community. A measuring tool for community empowerment models is needed for the TB community to increase empowerment. This study aimed to develop a measuring tool for community empowerment through the TB community in finding TB suspects.

Methods: This type of research is quantitative with a cross-sectional design. The population and sample are all local TB communities in Probolinggo Regency are about 325 people. Determination of the sample using simple random sampling according to the inclusion criteria of 128 respondents. Instruments using questionnaires and data analysis with exploratory factor analysis.

Results: The results showed that the measuring instrument for community empowerment was personal factors, knowledge, communication, motivation, self-efficacy, motivational incentives, group factors, and community empowerment factors in finding TB suspects, participation, leadership, and organizational structure having a Bartlett test of sphericity value P < 0.001, Reliability of Life Satisfaction Questionnaire with Cronbach Alpha > 0.800.

Conclusion: This instrument is valid and reliable to be applied to measure local TB community empowerment in finding TB suspects.

Keywords: Instruments, TB Community, Empowerment, TB suspects.
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INTRODUCTION

Tuberculosis (TB) is an infectious disease that every year produces new infections. Indonesia is the third rank with the highest TB burden globally, with a case detection rate of 41%. The survey results obtained 326,210 cases that have not been reached and have not been detected. Refers to government policies for TB disease control by increasing community involvement in TB case findings.[1,2]

One strategy is to involve the community by forming a TB community. The TB Community is an informal community group formed by the community health center with a membership consisting of cadres, former sufferers, and families. The role of the TB community is to search for TB suspects through home visits. Empowerment through the TB community has never been evaluated, and there is no measurement tool for community empowerment in finding TB suspects.[3]

Empowerment is providing reinforcement or ability to individuals or groups in all aspects. Empowerment can be defined as giving power to others.[4] In the empowerment process, it is hoped that both individuals and collectives can make decisions to solve problems. Participation and activity itself is an important factors in the empowerment process.[5] According to Bandura's social cognitive theory, an empowered person, can be influenced by personal factors, knowledge, communication, motivation, self-efficacy, motivational incentives, and empowerment factors.[6] The empowerment process is complex because each community can identify and use different measurement domains and empowerment strategies.[5] Community empowerment is an intervention to help combat tuberculosis that requires the involvement of many parties in the community.[7] According to

Roger's Diffusion of Innovation theory, ideas require communication in social change that can be accepted and applied in society. The changes of behavior carried out in a community organization need to be evaluated to explore the empowerment process and assess the progress in achieving goals.[8]

Community empowerment measuring tools that are following the conditions of the local community will make it easier to determine further empowerment steps. Community empowerment measures will help identify their potential for action and change. Several researchers have emphasized that the measurement of community empowerment overlaps and requires a method for measuring community empowerment.[9] Laverack identified nine community empowerment domains; it consists of participation, leadership, problem assessment, organizational structure, resource

mobilization, relationships with others, asking why, program management, and the role of outside agents.[4] Anu Kasmel identify from the domains of community activation, community competence, and program management.[4]

The result of the previous study showed that community empowerment measurement tools have different results in many areas in many countries. It depends on the characteristics of the community and culture, so further research is needed. According to the study results, the main measuring tools that must be assessed in community empowerment are access to information, participation, accountability, and local organizational capacity. Involving the community in health programs initiated by local communities in response to local needs is the most effective strategy for expanding community and local community empowerment.[10]

The TB community is a health program that involves the community whose members consist of cadres, former TB patients, and their families who play a role in TB control. The existence of this TB association has the potential to carry out an information movement about tuberculosis to assist in the discovery of TB suspects. Currently, the evaluation of the TB community has never been measured and requires appropriate measuring tools to assess the community empowerment process of the TB community.

Based on the needs analysis of the TB community in Probolinggo Regency that access to information. Contribution, local leadership, organizational structure, and communication skills are very much needed in community empowerment by the TB community for that researchers are interested in making community empowerment instruments for the TB community both individually and in groups in finding TB suspects. This study aimed to develop a measuring tool for community empowerment through the TB community in finding TB suspects.

METHODS

Study Design
The research was carried out in the Probolinggo Regency area, which consisted of 24 sub-districts, 325 villages, and 33 health centers. This study is a quantitative study with a cross-sectional design to analyze the questions on community empowerment by the TB community in finding TB suspects.

Data Collection
The population and sample are all people who care about TB in Probolinggo Regency, as many as 325 people, the determination of the sample by simple random sampling is 128 people. Community involvement in the prevention of tuberculosis through the formation of the TB community has been formed since 2017. Community empowerment in the TB community requires evaluation using the right instrument so that it can evaluate the empowerment process.

Data Analysis
Collecting data using a questionnaire sheet and then analyzing using exploratory factor analysis using SPSS, with p<0.05, was considered significant.

RESULTS

This study is to develop an instrument model for community empowerment in discovering TB suspects. One of the strategies for overcoming tuberculosis is by empowering interventions.[3] The empowerment process requires measurement to assess the sustainability of an organization. A person's empowerment is influenced by individual and group factors.[11] The question instruments of community empowerment by the TB community at the individual level based on social cognitive theory according to Bandura, where empowerment is influenced by internal personal factors, including knowledge (15 items), personality (26 items), self-efficacy (7 items), and motivational incentives (7 items). The empowerment factor in Roger's theory was important communication where the empowerment process requires communication to innovate that produces novelty. Communication (7 items), group factors, participation (6 items) leadership (6 items), and organizational structure (6 items) are needed in organizational empowerment. The exploratory factor analysis was used to find out the correlation of each item. The analysis results obtained the KMO (Kaiser-Meyer-Olkin) value

>0.800. bartlett's test of sphericity, the significant value was <0.001, stating the existence of a correlation between variables. Community characteristics and analysis results are in Table 1, and the results of the exploratory factor analysis test using SPSS are in table 2.

DISCUSSION

Community empowerment is an effort to increase a person's capacity so that behavior changes occur according to the desired goals. Empowerment is the main theory of community psychology in improving public health.[12] In this study, the measurement of empowerment at the individual level includes and at the group level, namely the participation, leadership, organizational structure, and access to information previously analyzed based on the needs of the TB community in Probolinggo Regency. Measurement of empowerment in the TB community at the individual level seen from internal personal factors and group factors. The analysis results obtained that the question items were declared valid and reliable. Kaiser-Mayer-Olkin (KMO) value >0.800; Bartlett test of sphericity (p<0.001), Reliability of TB Community Empowerment Questionnaire, Cronbach Alpha > 0.800.

Research shows that empowerment measurement at the individual level is seen from a person's ability to solve problems. At the group level the empowerment measurement indicator consists of several overlapping domains that require further research to find unique indicators that adapt to the local culture of the local community.[13] Community empowerment is carried out only to assess knowledge and measurement. Empowerment assesses the level of change in patients, families, and health workers.[14] Empowerment of clients in the public health system by health workers there is no measurement of empowerment in the TB community. It is important to help TB control involving the community.[15] The results of the study use measuring tools to evaluate community empowerment in Estonia, how community members develop empowerment which includes several ODCE domains consisting of several indicators, namely activation, community competency development,

and management skills. Assessment of changes in community empowerment for community mobilization so that they can take responsibility for health problems.[16] Tuberculosis is a health problem that requires public awareness of health checks through the TB community. TB Community is an informal organization in the community to conduct the discovery of TB suspects, which requires precise measurements in the empowerment process where currently there is no measurement of empowerment related to the health problem of tuberculosis.[17]

In research involving voluntary organizations, many things are still unknown about the transformation process in organizations by focusing on civil society organizations (CSOs) that there are links to social movements.[11] In this study, the development of the TB community instrument was used to measure community empowerment using indicators from personal factors and group factors identified from the needs of TB community empowerment. Personal information movement in the mobilization of others to improve health, in this case the discovery of TB suspects. The literature review results show that most of the scales measure individual domains but fail to measure communities and organizations. Failure to measure empowerment will hinder the empowerment evaluation process, both the process and the results of health programs. Measuring empowerment is a function of how an organization carries out empowerment practices and determines the relationship between the level of empowerment and the effect of empowerment on organizational change, such as leadership will affect decision making.[18]

CONCLUSION

Instruments for community empowerment of the TB community from several indicators of personal factors, including knowledge, personality, communication, self-efficacy, and motivational incentives, and group factors, namely participation, leadership, and organizational structure, are valid and reliable (KMO > 0.800, Bartlett test of sphericity with p<0.001, Cronbach Alpha >0.800). This TB community empowerment instrument can assess the empowerment of community organizations that care for TB. Also, further research with different larger samples and study designs needs

Table 1. TB Community Characteristics in Probolinggo Regency.

Variables	Frequency	Percentage (%)
Age		
18-23	33	25.8
24-29	19	14.8
30-36	38	29.7
37-42	16	12.5
43-48	15	11.7
> 49	7	5.5
Total	128	100.0
Gender		
Male	30	23.4
Female	98	76.6
Total	128	100.0
Education		
Student	8	6.3
Elementary school	14	10.9
Junior school	49	38.3
Senior school	51	39.8
College	6	4.7
Total	128	100.0
Income		
< 1.500.000,-	79	61.7
> 1.500.000,- 2.500.000,-	39	30.5
> 3000.000,-	10	7.8
Total	128	100.0

Table 2. Loading Factor of TB Community Empowerment Questionnaire (n= 128).

Statements and subscales	Cronbach-α	KMO	L	r/itt	Dissemination %
Internal factors					Total variance 70-80 %
knowledge	0.849	0.857	0.750		
personality	0.840	0.850	0.727		
communication	0.856	0.867	0.704		
Self efficacy	0.830	0.847	0.721		
Motivational incentives	0.810	0.820	0.714		
Factors of Empowerment group					
Participation	0.840	0.850	0.720		
Leadership	0.800	0.810	0.728		
Organizational structure	0.870	0.880	0.740		
Information access	0.850	0.859	0.710		

Note: Kaiser-Mayer-Olkin (KMO) > 0.800; Bartlett test of sphericity (p<0.001), Reliability of TB Community Empowerment Questionnaire, Cronbach Alpha >0.800

to be done to identify the factors that influence the results of the TB community empowerment instrument.

AUTHOR CONTRIBUTION

All authors contributed to this study's conception and design, data collection, data analysis and interpretation, article drafting, critical revision, final approval of the article, and publication of research article manuscripts.

CONFLICT OF INTEREST

There is no conflict of interest in this manuscript.

ETHICAL CONSIDERATION

This research was approved by the Health Research Ethics Committee of the Faculty of Health, Universitas Diponegoro, Semarang, Indonesia.

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