Do task characteristics and team size affect tuberculosis prevention team trust?

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Abstract
Pulmonary tuberculosis still becomes a global health problem. Surabaya is one of the major cities in Indonesia that has an increasing number of tuberculosis cases each year. The Case Detection Rate (CDR) in Surabaya (60.17%) is still below the national target. The tuberculosis prevention team did not reach the performance target in 2015-2017. The writer intends to analyze the influence of task characteristics and team size of the Tuberculosis team. A cross-sectional analysis using logistic regression becomes the design applied in this study. The samples used were 39 tuberculosis control teams at the primary health care out of 63 populations. The study was conducted in Surabaya in July 2017-July 2018. The results showed that 88.4% of members of tuberculosis prevention teams had trust between members. It stated that an influence of task characteristics on team trust (p-value 0,000 and b=0,719) and an effect of team size on team trust (p-value = 0.044 and b=0.211). Furthermore, the better characteristics of the tuberculosis prevention team's task would affect the trust between team members. It makes the perceptions about the ideal size of the team would influence mutual trust between tuberculosis prevention team members. Both of task characteristics and ideal team size would affect the trust between tuberculosis prevention team members.

Keywords: task characteristics, team size, team trust, tuberculosis prevention teams

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INTRODUCTION

Pulmonary tuberculosis is a bacterial infectious disease that still becomes a global health problem. Surabaya is one of the major cities in Indonesia, which has an increasing number of tuberculosis cases each year. The treatment coverage of all cases of tuberculosis (Case Detection Rate) in 2015-2017 did not meet the target (77%). The tuberculosis prevention program is carried out by a team in a health service organization, and the program implementation requires an organizational strategy to achieve the targets (Boies, Fiset, & Gill, 2015).

A team is a workgroup consisting of several people with equal competence, working interdependently or dependent on carrying out work in one organization (Corey, 2011. Dyer, & Chu, 2011; Baba, et al, 2015). With a team setting that has specific tasks and responsibilities, it has an impact on the task achievement and objectives of the organization (Seijts, Latham, & Woodwark, 2013. Locke, & Latham, 2013). One of the performance evaluations of the tuberculosis control team is the success rate. Until 2017, the success rate in Surabaya was still below the target (90%). It shows that the team did not achieve adequate performance. Some things that caused an inability to create effective performance are the failure of the processes within the group. The instance seen is the team members have less understanding of requiring directions towards the leadership program involving the organization also the team leader (Kuratko, Hornsby, & Hayton, 2015. Fattah, 2017). The lack of cohesiveness and the mutual trust between team members, as well as the lack of confidence to reach the targets set by the Public Health Office are likely problems that prevent the tuberculosis control team from performing effectively. The purpose of this study was to analyze the influence of task characteristics and the team size on the unit trust of the tuberculosis control team.

MATERIAL AND METHODS

Research design, population, sample, and variables

The observational research with analytic methods and cross-sectional design. The data population used in this study were the tuberculosis control team at 63 primary health care in Surabaya. The results of calculations using stratified random sampling obtained a minimum sample size of 39 primary health care. However, this study took a sample of 43 tuberculosis prevention teams in primary health care. It used the sampling with a program performance achievement approach for tuberculosis prevention, especially success rate (SR) achievements. Success Rate (SR) as a reference for performance achievements based on the 2016 Republic of Indonesia Minister of Health Regulation on Tuberculosis Control states that the Success Rate (SR) figure reflects the quality of tuberculosis treatment provided by the health facility. This study had two types of variables, including the independent variable and dependent variable. The independent variable was task characteristics and team size, while the dependent variable was team trust. The independent variable was tested for influence on team trust using the logistic regression test. Components of task characteristics included autonomy, task variety, task identity, task significance, task feedback, and task interdependence. Indicators of team trust included propensity to trust, perceived trustworthiness, cooperative behavior, and monitoring behavior.

Instruments

Questionnaires about task characteristics, team size, and team trust were compiled and developed using the team effectiveness model (McShane, & Von Glinow, 2010). The number of questions in the survey was 29 items using a Likert scale with a score of 1-4. The higher the score obtained, the better the assessment results on each variable. The questionnaire used in collecting the data of this study were tested for validity and reliability.

Research procedures and analysis

This research has performed an ethical test and obtained an ethical approval certificate with No. 1316-KEPK issued by the Health Research Ethics Committee of the Faculty of Nursing, Universitas Airlangga. Data collection was performed by conducting open interviews with the tuberculosis prevention program holders in each selected Community Health Centers. The open interviews were undertaken directly to doctors, nurses, and laboratory analysts related to the implementation of the tuberculosis prevention program. Therefore, a research questionnaire was given to a doctor, nurse, and laboratory analyst after agreeing and signing informed consent. The collected data were then analyzed statistically using a logistic regression test with alpha ($\alpha=0.05$).

Table 1. Perception of Surabaya Tuberculosis Prevention Team's on Task Characteristics in 2019

Task characteristics	High (%)	Very high (%)	Total (%)
Task characteristics indicators			
1. Task autonomy	93	7	100
2. Task variety	37	14	100
3. Task identity	40	7	100
4.Task significance	67,4	32,6	100
5. Task feedback	86	14	100
6.Task interdependency	90,7	9,3	100
Job characteristics variable	90,7	9,3	100

Table 2. Perception of Surabaya Tuberculosis Prevention Team's on Team Size in 2019

Category of team size	n	Percentage (%)
Strongly un-ideal	12	27.9
Un-ideal	13	30.2
Ideal	9	20.9
Very Ideal	9	20.9
Total	43	100,0

Table 3. Perception of Surabaya Tuberculosis Prevention Team's on Team Trust in 2019

Team trust	Trust		Strongly trust		Total	
	N	%	n	%	n	%
Team trust indicators						
1. Propensity to trust	37	86,0	6	14,0	43	100,0
2.Perceived trustworthiness	37	86,0	6	14,0	43	100,0
3.Cooperative behaviors	35	81,4	8	18,6	43	100,0
4.Monitoring behaviors	39	90,7	4	9,3	43	100,0
Team trust variable	38	88,4	5	11,6	43	100,0

Table 4. The Result of the Task Characteristics and Team Size Effect on Team Trust

Variables	p-value	b
Task characteristics	0.000	0.719
Team size	0.044	0.211

RESULT

The characteristic in the measurement of tuberculosis prevention team was by looking at the Success Rate (SR) achievements. Success Rate (SR) is the number of cases handling in tuberculosis prevention and illustrates the quality of tuberculosis treatment given by the health center. The results showed that, among 43 samples, only 29 tuberculosis control teams at the health center achieved the Success Rate target (>90.01%).

Task characteristics are the perceptions of tuberculosis prevention team members on task characteristics. The following was the result of task characteristics indicators assessment.

Based on **Table 1**, the majority of tuberculosis control teams at the health center had a high perception of the condition characteristics of the task team (90.7%).

Table 2 showed that the majority of Surabaya Tuberculosis Prevention Team's perception of the team size was not ideal (30.2%).

Table 3 showed that 88.4% of the tuberculosis prevention team members had inter-trust member. The following table presents the logistic regression test.

Table 4 describes that there was an influence of task characteristics on team trust (p-value = 0,000 and b value = 0.719). It means that a team with high task characteristics had a 71.9% chance to become a team with the team trust perception between members. With the perception that great task characteristics the tuberculosis control team had, the results of the cross-tabulation showed that the tuberculosis control team had a team trust perception that was integrated between members. While the p-value of the team size (0.044) <α (0.05), with a value of b=0.211, meaning that the team with the ideal team size had a 21.1% chance of becoming a team with the team trust perception that trust each other between members. Descriptively, by using cross-tabulation, it showed the results that the tuberculosis prevention team had the perception that the tuberculosis prevention team has a perception of team size that is not ideal but had a perception of team trust among members.

DISCUSSION

Teamwork is a group of people who interact primarily to share information and make decisions to help improve the performance of individual teams by their responsibilities (Robbins, & Judge, 2003). Within the working team, there is a task division and task characteristics so that they have clear goals and are in line with the organization. Task characteristics are approaches to evaluating task designs that focus on the aspects of the job to be attractive and more motivating for employees (Chen, 2015). The assignment statement must be sufficient to motivate team members to be able to share responsibility and accountability for achieving the goals (Kozlowski, & Bell, 2012). There are five dimensions of task characteristics namely task variation, task identity, task significance, task autonomy, and task reciprocity; in addition to the five dimensions, there is one dimension of a vital task characteristic namely task engagement (McShane, & Von Glinow, 2010; Foss, Pedersen, et al., 2015). Task characteristics have a significant influence on someone's performance in the team (Al-Hosam, et al., 2016). Salient task characteristics (e.g., frequency and difficulty) have a relationship with team effectiveness. The results of the processed data showed 90.7% of the tuberculosis control team had a high perception of task characteristics. 32.6% of tuberculosis prevention teams perceived that the team's task had a very high significance; this figure was the number of groups with the highest perception of indicator condition compared to other indicators.

Team size is the number of individuals in the team (Hoch, & Kozlowski, 2014). Team size is the number of individual members in the team, with the number of team members considered adequate as many as 3-16 members (Luciano, et al. 2018). The size of the tuberculosis control team varies by perceptions with the number of viewpoints of un-ideal team size is 27.9%, while the understanding of ideal team size is 30.2%. The knowledge of the best team size is 20.9%, while the perception of excellent team size is 20.9%. The size of the different teams among the response teams is due to differences in the number of staff in each primary health care. The team size at every primary health care did not only follow the number of available personnel, but also took into account the experience and knowledge of tuberculosis control programs. This is what is likely to cause no significant difference to the team size.

Teams with a large number of members need more competency settings and perspectives to be able to perform well (McShane, & Von Glinow, 2010). At the same time, teams with not too large some members will require communication and involvement between team members. The differential effectiveness of team building is based on team size (Klein, et al. 2009) Furthermore, relationships among teamwork processes and team performance are somewhat dependent on task interdependence and team size (LePine, et al. 2008).

The confidence of the tuberculosis control team mostly assumed that the team had a high level of trust among team members (88.4%). A team with a high level of confidence would cause the team to work better because all of the members believed that the other members had the ability, integrity and wisdom in carrying out the task (Syafitri, & Permanasari, 2020). Team trust consisted of four dimensions, namely the tendency to think, acceptance of the desired belief, cooperative behavior, and monitoring behavior. Of the four sizes, there was no mean value >3.20, which meant that the tuberculosis control team was low in terms of team trust. Empirical research found that team trust is the willingness of each team member to trust other members, which is a personal phenomenon (e Silva, Bradley, & Sousa, 2012). The low trust value in a team due to the existence of team members who cannot overcome unexpected problems causes trust to reduced. The statement supported the acceptance of the desired belief referred to unpredictable circumstances, and contain risks (Yang, 2014). Besides, team trust influences the performance of the team (Boies, Fiset, & Gill, 2015).

LIMITATION OF THE STUDY

In this study, the limitation was to analyze the problem based on the variable task characteristics and team size. Furthermore, this study analyzes based on team perception. The cause of the problem would be more visible if using more variables to analyze and based on personal knowledge.

CONCLUSION

The results showed that the task characteristics and team size surely affected the confidence of the tuberculosis control team primary health cares in Surabaya. The better the perception of the tuberculosis control team regarding task characteristics and team size, the better the trust between team members.

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