Output Adequacy Evaluation of Sanitation Clinic in Community Health Center

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Abstract
Sanitation clinic was one of community health center effort, which was roled out integratively in correlation with promotive, preventive and curative health service, focused on people at high risk for environmental-based disease and the settlement environmental health problem, such as tuberculosis. This study aimed to evaluate the adequacy of sanitation clinic output in community health center. This research was an evaluative research with cross-sectional design. The results showed that both of Bagor and Jatikalen community health center evaluations were indicating TB AFB+ patients' call frequency to sanitation clinic was still inadequate due to inappropriate referral system flow and lack of policy from community health center chief to create cross-program collaboration in running sanitation clinic. Implementation of optimal sanitation clinic must be according to the system established in Ministry of Health Regulation number 13 in 2015 should be an alternative solution for TB, from bad environment, distribution. Environment was not the only important factors in deciding transmission chain of TB, behavioral factor of each person also held the same importance.

Keywords: *Adequate Implementation Evaluation, Sanitation Clinic, Tuberculosis*

I. INTRODUCTION

Community Health Center is a public health service that provides comprehensive and integrated services to the community through curative programs and most important is preventive and promotive programs. One of community health center programs that prioritizes preventive and promotive is sanitation clinic program. Sanitation clinic program is a program that integratively related to promotive, preventive and curative health care which is focused to populations with high risk in environmental-based disease and the settlement environmental health problem [1].

Tuberculosis is an environment-based disease caused by *Mycobacterium tuberculosis* bacteria that can attack the lungs [2]. Number of case notification describes the scope of TB case finding. In general, the rate of finding new cases of AFB+ and all cases in Indonesia each year has increased by 117 per 100.000 populations [3].

Nganjuk District is one of the districts in East Java with rate of finding AFB+ cases is 151 cases in 2015 and 295 cases in 2016[4]. Sanitation clinic program is expected to be one of community health center efforts in overcoming TB should it is not spreading. Implementation of sanitation clinic activities that has been running for the last 2 years in 2015-2015 with implementation evaluation number is 55% for Bagor community health center and 65% for Jatikalen with achievement target from Nganjuk District Health Office is 75%. A value below 75% indicates that sanitation clinic has not run optimally. Non-optimal sanitation clinic activities as well as its inexpediency with Ministry of Health Regulation number 13 of year 2015 about Environmental Health Care may occur because sanitarian officers have not been trained on sanitation clinic program.

Sanitation clinic program purposes to change TB patients hygiene behaviour into clean and healthy so it can contribute to decrease TB transmission, due to the fact that environmental risk factor and patient behaviour still being a main cause of TB distribution. Along with promotive and preventive program, sanitation clinic is expected to reduce cases of environment-based disease, one of which is TB. Therefore, the authors were interested to evaluate the output adequacy of sanitation clinic program in community health center.

II. METHODS

This research was an evaluative research with cross-sectional design and conducted in 2 locations, Bagor and Jatikalen community health center. The sites were selected based on CDR increase showing that new cases of TB AFB+ are always found every year so the case detection rate is still running. Data used in this research was secondary and primary data from Community Health Center and Nganjuk District Health Office. Analysis process was conducted by descriptive method towards the implementation of sanitation clinic and its output, which were : 1) Counseling, 2) Environmental health inspection, 3) Environmental health intervention. Sanitation clinic output

was divided into two categories, good and poor. Categorised as good if visitation total coverage had reached 100%, and less than 100% would be categorised as poor. The data was analyzed qualitatively.

III. RESULTS

A. Input Variables

Human resources at Bagor and Jatikalen Community Health Center both showed that:

a. Number of sanitarian at Bagor Community Health Center was 2 people and a person at Jatikalen.
b. Sanitarians at Bagor Community Health Center had never received training on sanitation clinic implementation while Jatikalen Community Health Center sanitarian had been trained.
c. Sanitarians at Bagor Community Health Center already had a Sanitarian Registration Certificate (STRTS) and Sanitary Work Permit (SIKTS) while Jatikalen sanitarian had neither.
d. Facilities availability to support sanitation clinic implementation was limited to health promotion room for couseling, environmental health inspection guideline, IEC media. Jatikalen Community Health Center facilities availability only provided environmental health inspection guideline, as for health promotion room and IEC media were still unavailable. Both Bagor and Jatikalen Community Health Center remain did not have the equipment such as luxmeter, measuring tools, and hygrometer.

B. Process Variables

Sanitation clinic implementation process included: counselling, environmental health inspection, environmental health intervention, recording and reporting.

a. ***Counselling:*** Counselling activities were conducted by sanitarian in community health center building after done studying patients' card.

b. ***Environmental Health Inspection:*** Environmental health inspection was conducted by sanitarian targeting all of counselled TB (AFB+) patients. Sanitarian would inspect house sanitation to see its physical condition and patients' behaviour as well as measuring the house's lighting and humidity.

c. ***Environmental Health Intervention:*** Implementation of intervention by officer was a follow up from inspection activities in the form of giving suggestion to TB (AFB+) patients when at the time a problem was found. Type of suggestion a sanitarian could provide were hygiene and healthy lifestyles change such as open windows every day, close mouth when cough, do not spit everywhere, use a mask and a sanitarian could suggest patients to refine their houses, like adding glass tiles.

d. ***Monitoring and Evaluation:*** Monitoring and evaluation were conducted by sanitarian and chief of community health center by turning in monthly reports regarding the number of TB (AFB+) patients cared in sanitation clinic.

Tabel 1. Evaluation result of sanitation clinic component process

	Process Variables	**Community Health Center**		**Total**
		Bagor	**Jatikalen**	
1	Counselling	Good	Fair	Fair
2	Environmental health inspection	Fair	Fair	Fair
3	Hygiene and healthy lifestyles changing suggestion	Good	Good	Good
4	TB patient's house refinement suggestion	Poor	Poor	Poor
5	Monitoring and evaluation	Fair	Fair	Fair
	Total	Fair	Fair	Fair

Table 1 shows that sanitation clinic process at both community health centre was categorized as fair including counselling, inspection, and monitoring and evaluation variables.

Based on interview results about counselling activities performance, only Bagor community health centre did counsel the patients inside the building. Whereas environmental health inspection of lighting and humidity measurement activity was not conducted at both community health centre due to limited equipment's to measure environment physical quality. That facts influenced inspection performance so it was limited to observe patients behaviour and their houses' physical condition only. Provision of refinement suggestion was only about glass tiles addition as a substitute for lighting. As for windows, ventilations, floors refinement were not suggested.

C. Output Variables

Output variables were a result from sanitation clinic implementation that included TB (AFB+) patients' sanitation clinic visitation total coverage and number of TB (AFB+) patients who had been referred to sanitation clinic for counselling. The referral flow for getting the patients was as followed:

a. Patients came to the counter for further examination at poly.
b. Patients who had been coughing for more than 2 weeks were suggested to have their sputum checked thrice in the laboratory (in the morning).
c. If patients had been declared suffering from TB (AFB+), they had to take further examination and were suggested to take medication once in a week at community health centre, then they could go home.
d. Sanitarian visited TB poly at the time patients took their first medication to perform a counselling in health promotion room.
e. Patients received counselling and made an agreement with sanitarian to conduct a house environmental health inspection.

This was different from prescript standard by Ministry of Health Regulation Number 13 in 2015 namely [5] :

a. Patients came to the counter for further examination in poly.
b. Patients who had been coughing for more than 2 weeks were suggested to have their sputum checked thrice in the laboratory (in the morning)
c. If patients had been declared suffering from TB (AFB+), they had to take further examination in poly and would be referred by poly officer to sanitation clinic to get counselling in health promotion room.
d. Patients received counselling and made an agreement with sanitarian to conduct a house environmental health inspection.

In the output variables, the adequacy of TB (AFB+) patient's visitation to sanitation clinic total coverage and inspected TB (AFB+) patients total coverage would be counted to see the *adequacy of implementation*.
The following formula was to analyse the adequacy of TB (AFB+) patient's total coverage of visitation to sanitation clinic for counselling [6]:

$$\text{Adequacy of implementation: } \frac{implementation}{coverage} \text{ x } 100\%$$

Explanation: Implementation: TB (AFB+) Patient's visitation to sanitation clinic
Coverage: Target (all of TB (AFB+) patients) from poly

And to see the *adequacy of implementation* of inspected TB (AFB+) patients was assessed by the following formula [6]:

$$\text{Adequacy of implementation : } \frac{implementation}{coverage} \text{ x } 100\%$$

Explanation: Implementation: total inspected patients
Coverage: Target (all of counselled TB (AFB+) patients)

Tabel 2. Cared TB (AFB+) patients total coverage in sanitation clinic

Community Health Center	**Number of TB (AFB+) patients in 2015**		**Adequacy evaluation of total TB patients who visit sanitation clinic**	**Number of TB (AFB+) patients in 2016**		**Adequacy evaluation of total TB patients who visit sanitation clinic**
	TB (AFB+) patients	**Counselled TB (AFB+) patients**		**TB (AFB+) patients**	**Counselled TB (AFB+) patients**	
Bagor	21 people	20 people (95%)	Poor	28 people	7 people (25%)	Poor
Jatikalen	24 people	13 people (54%)	Poor	31 people	9 people (29%)	Poor

Based on Table 2, it shows that the result of output adequacy evaluation from the total total coverage of TB (AFB+) patient's visitation to sanitation clinic for counselling at both community health center in the last two years (2015 – 2016) is categorized as inadequate (poor).

Tabel 3. TB (AFB+) patient's coverage with inspected house environmental health

Community Health Center	Number of TB (AFB+) patients in 2015		Adequacy evaluation of total inspected TB patients	Number of TB (AFB+) patients in 2016		Adequacy evaluation of total inspected TB patients
	Counselled TB (AFB+) patients	Inspected TB (AFB+) patients		Counselled TB (AFB+) patients	Inspected TB (AFB+) patients	
Bagor	20 people	20 people (100%)	Good	7 people	7 people (100%)	Good
Jatikalen	13 people	13 people (100%)	Good	9 people	9 people (100%)	Good

Table 3 shows that the result of output adequacy evaluation from the number of counselled TB (AFB+) patients at both Bagor and Jatikalen Community Health Center in the last two years (2015 – 2016) is categorized as adequate (good).

IV. DISCUSSION

The result of evaluation from input variables shows that resources at Bagor and Jatikalen Community Health Center especially sanitarian as the executor of sanitation clinic in 21 villages of Bagor Community Health Center work area there were 2 sanitarian, as for 17 villages working area of Jatikalen Community Health Center there was 1 sanitarian. This is suitable with Ministry of Health Regulation Number 74 in 2014 that all community health centers are required to have at least one sanitarian[7]. If viewed from existing rules there is only one sanitarian required in every community health center with one condition, they only held the task in accordance with environmental health.

Sanitarian in community health center is required to have STRTS and SIKTS to provide qualification assurance, whether in science, skill, and managerial competence. In this case, sanitarian at Jatikalen Community Health Center had neither STRTS nor SIKTS, this is a form of lack in the administrative requirements for sanitarian in community health center.

Sanitarian should improve their knowledge and competence in the field of sanitation clinics. Therefore, training on sanitation clinics can be a way of learning in fulfilling the need to achieve a goal[8]. In fact, monthly meetings can be an alternative for them to review all the activities of sanitation clinic and have a brief discussion with sanitation clinic staffs at other community health centers.

Program performance is not only supported by human resources but also facilities as supporting factors. Facilities availability such as health promotion room was not present in Jatikalen Community Health Center. Lack of complete equipments for inspection at both community health centers has resulted in less optimal implementation of sanitation clinic.

This is in line with research that has been done by Ridarson (2004) which states that there is a correlation between facilities and sanitation clinic performance such as rooms, transportation tools used in the site, guidelines, paraphernalia, interview forms and home visit[9]. This is reinforced by the theory from Green (1980) which states that the support of facilities in the workplace, transportation, and funds greatly affect a person performance[10].

Evaluation results of process variables was categorized as poor. The implementation of counselling at both community health centers was not done based on Ministry of Health Regulation Number 13 in 2015, since TB (AFB+) patients who went to the poly were not referred to the sanitation clinic, resulting in sanitarian had to come in to poly for the counselling. The implementation of referral flow that was not working according to the standards affects the sanitarian performance. This is suitable with a research conducted by Ira (2011), that the application of SOPs while working affects the performance of employees, the higher SOP pens the greater chances of employees to improve their performance[11]. It can be the reason why the counselling implementation does not run maximal because in addition to less supportive facilities, such as grooves that are not according to standards, can affect the productivity of the staffs.

Counselling implementation is an activity conducted in the building by sanitarian in health promotion room of community health center. Within counseling, there is a communication link between sanitarian and TB patients in a purpose of identifying and solving environmental health problems experienced by patients. In this case patients will get an information that can enhance their knowledge so they will be motivated to change their behaviour.

Counselling implementation is the spearhead of whether an intervention given to patients has succeed or failed. Sanitarian skills in counseling should be able to create a hygiene and healthy lifestyles change to make home environment healthier to prevent TB transmission.

Based on the results of this research shows that sanitation clinic activities was performed in the health promotion room at community health center building. Because of limited facilities, Jatikalen Community Health Center performed counselling activities together with health inspection, which was a form of follow up from counselling. Inappropriate flow systems compared to existing rules made sanitation clinic ran less optimally.

After counseling, sanitarian will perform home inspection for TB patients to see its physical condition and TB patients behaviour. This inspection can be done not only by sanitarian, but also can do a collaboration with other programs related to sanitation clinic like TB program.

Inspection is performed along with advice bestowal to TB patients as a form of intervention. Technically, the implementation of suggestions given by sanitarian from the results of environmental health interventions is performed by patients themselves. In broad terms, such as the home physical condition improvement should involve local governments, communities and villages to support their environmental improvement fund. In fact, improvement that has been done so far only limited to behavioural change of TB patients who previously unhealthy become healthier. Whereas the house physical condition improvement has not been done yet considering TB patients are mostly from middle and lower economy class.

Patients behaviour that can be changed through counseling is patients feel more aware that TB disease is one of infectious disease that can be transmitted to others, so when patients cough, they need to pay attention on hygiene and their spits. A habit of opening their windows every morning also need to be applied for TB patient. Besides, the fact that house physical environment is one of potential factors that trigger the development of TB bacteria, can be a reason to create a healthy home free from the proliferation of TB bacteria. This is supported by research by Suherman (2014) the physical environmental factors of the house can be a factor of transmission and proliferation of *Mycobacterium tuberculosis* bacteria, such as unhealthy and humid floor[12].

The result of output evaluation was still categorized as poor for the number of TB (AFB+) visitation to sanitation clinic. Adequacy assessment shows how much attention is given to the program to overcome TB problem. Adequacy is also related to the extent of TB problem that can be addressed by sanitation clinic program through program that has been implemented[6]. Adequacy evaluation more likely to see the output towards target that should be addressed. Evaluation can be performed either by program executor or community health center chief as the decision maker.

Target achievement of 100% coverage of TB (AFB+) patient visiation to sanitation clinic is a success measurement of sanitation clinic program at community health center. The results of research conducted in the last 2 years stated target coverage of visitation to sanitation clinic had not been achieved and precisely experiencing reduction. This indicates that there are still some obstacles that cause the unsuccessful outcomes of sanitation clinic programs in addition to internal and external factors.

Factors contributing to the ineffectiveness of total counselling visits because they have not yet proceeded a clear referral flow to perform sanitation clinic. The referral system from poly to refer all patients with TB (AFB+) to sanitation clinic does not work, so sanitarian must get to TB patients by going to poly. There is no policy to make the implementation of sanitation clinic program into a program that must be performed together at the level of community health center such as TB staffs, sanitation, health promotion and nutrition. The absence of written policies to support the implementation of sanitation clinic to become a team with cross-program at community health center is one of the obstacles.

For internal factor from the staffs is because the referral system is not running well causing sanitarian have to look for TB patients to be counseled. Sanitarian can not find mutual time with patient for counselling, because TB patients scheduled to visit poly only once in a week.

Adequate coverage total patients examined was categorized as good. In the condition that the achievement of 100% coverage target was because the number of patients counselled was small so that allows to perform inspection. Jatikalen Puskesmas performed counseling and inspection together to achieve the target coverage of total inspected patients.

Patients who received sanitation clinic services are expected to carry out sanitarian suggestion as a form of intervention. Although the changes that occur in patients are limited to changes in hygiene and healthy lifestyles such as opening windows and doors every day, closing mouth when coughing, not throwing spit indiscriminately and using a mask.

The recommendation to improve the physical condition of the house that can be done is the addition of glass tile. The addition of a glass tile as a substitute for light as sunlight entrance that is not available inside the home[13]. Implementation of interventions by patients can be done by cross-sector involvement by convincing local government and parliament in terms of financing sanitation clinic program by bringing up environmental health problem and incident of environment-based disease in work area during budget discussion so that implementation of sanitation clinic program at community health center especially for environment health intervention activity can work well with home improvement for tuberculosis patients. Furthermore, one of the most effective was is through community empowerment by involving the communities, for villages and community leaders to take action on their health and start informing them about TB disease and sanitation clinic services.

V. CONCLUSION

Based on the results, can be concluded that:

(1) The input variables to cover training, only Bagor Community Health Center sanitarian who had not been trained yet meanwhile the facilities and infrastructures were not fully available at both community health centers yet.

(2) Process variables included in the good category include counselling, inspection, monitoring and evaluation, while the provision of home improvement suggestion was categorized as poor.

(3) Output variables for the adequacy of total TB (AFB+) patients visitation to sanitation clinic was in poor category while for the adequacy of total inspected patients was in good category.

(4) The follow up result of counseling and inspection was the improvement of hygiene and healthy life behaviour including opening windows and doors every day, covering mouth when coughing, not throwing spit indiscriminately and using mask meanwhile for house environmental improvement was performed by glass tile addition as suggested refinement of lighting inside the house.

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REFERENCES

1. Syarifuddin, Ishak, H., & Seweng, A. 2010. Hubungan Pelaksanaan Klinik Sanitasi Dengan Kejadian Diare Di Kabupaten Takalr. *Jurnal MKMI* , 6 (2).WHO (2016)
2. Cayla, O. d. 2011. Control of Tuberculosis in Large Cities in Developed Countries : an Organizational Problem. *BMC Medicine* , 1-5.
3. Kementerian kesehatan RI. 2016. Infodati-Pusat Data dan Informasi Kementrian Kesehtan RI(Tuberkulosis Temukan Obati Sampai Sembih. Jakarta
4. Dinkes Nganjuk. 2016. *Profil Kesehatan Kabupaten Nganjuk Tahun 2016*. Kabupaten Nganjuk
5. Kementerian Kesehatan RI. 2015. Peraturan Menteri Kesehatan RI No 13 Tahun 2015 Tentang Pelayanan Kesehatan Lingkungan Di Puskesmas. Jakarta
6. Supriyanto, S. dan Damayanti. 2007. Perencanaan dan Evaluasi. Surabay:Airalannga University Press
7. Kementerian Kesehatan RI. 2015. Peraturan Menteri Kesehatan RI No 74 Tahun 2014 Tentang Puskesmas. Jakarta
8. Sudjana. 2011. Sistem dan Manajemen Pelatihan (Teori dan Aplikasi). Bandung:Alfabeta
9. Ridarson. 2004. Analisis Faktor-Faktor yang berhubungan dengan kinerja Petugas dalam Pelaksanaan Klinik Sanitasi Pada Puskesmas Di Provinsi Sumatra Barat Tahun 2013.*Tesis*. Program Studi Ilmu Kesehatan Masyarakat Program Pascasarjana. Universitas Indonesia. Jakarta
10. Green, L.W. 1980. Health Education Planing A Diagnostic Approach, Terjemahan oleh Mandy Zulasny dkk, Jakarta:Depdikbud RI
11. Purba, I., Rumapea, P., Kiyai, B. Pengaruh Implementasi Kebijkan Standar Operasional Prosedur Terhadap Kinerja Pegawai Pada Sekretariat Kota Manado. *Jurnal*. 10

12. Suherman, Cokroamintoro, & Mardiati, I. 2014. Analisis Faktor Lingkungan Fisik Rumah Yang Mempengaruhi Kejadian Tuberkulosis Paru Di Wilayah Kerja Puskesmas Banyu Urip Kabupaten Purwoejo. *Jurnal Ilmiah Kesehatan Keperawatan*, 10 (2), 71.
13. Wahyuni, D. 2016. Hubungan kondisi fisik Rumah dan Karakteristik Individu dengan Kejaidan Tuberkulosis Paru AFB+ di Puskesmas Ciputat Kota Tanggerang Selatan Tahun 2012. *Jurnal Berkala Ilmiah Mahasiswa Kesehatan Masyarakat Indonesia.1(1). 5*