

AWARENESS, ACCEPTANCE AND COLLABORATION OF TUBERCULOSIS AND DIABETES MELLITUS MANAGEMENT IN TYPE B HOSPITAL IN YOGYAKARTA CITY

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Latar belakang: Indonesia has the second largest number of TB cases in the world. TB-DM is a new emerging double burden disease, management collaboration is needed to control both. TB-DM treatment is more difficult than TB without comorbidities, resulting in a high number of TB-DM underdiagnose findings. The purpose of this study is to know awareness, acceptance and collaboration of tuberculosis and diabetes mellitus management in Type B Hospital with DOTS in Yogyakarta City.

Metode: This study is a qualitative study with a case study research design. Research informants were 5 health workers and 3 patients selected by purposive sampling method. Data collection techniques use interviews, observation and document search. Data analysis activities in this study consist of three activities that occur simultaneously, namely data reduction, data presentation, and conclusion / verification.

Hasil: The main themes in this study include: 1) Commitment to better results, 2) HR readiness and systems that are not optimal, 3) Good collaboration potential, 4) Readiness for collaboration. The obstacle is that there is no specific guide to TB-DM from the health institution. Supporting factors are the potential for collaboration in TB-DM treatment, and hospital readiness to perform TB-DM collaboration

Kesimpulan: Tuberculosis and Diabetes Mellitus collaboration in Type B Hospital with DOTS in Yogyakarta City has not been fully implemented, it requires improvement of collaboration between health workers, related institution and private organizations. Awareness and acceptance about TB-DM needs to be improved

Keywords: awareness, acceptance, kolaborasi, TB-DM

BACKGROUND

Tuberculosis (TB) is a disease that has existed for thousands of years and remains a major problem for global health. TB is associated with a reduction in the quality of life in approximately 10 million people each year and is one of the top ten causes of death worldwide. The country of Indonesia, including in five countries, has the largest number of tuberculosis cases with second place after India, then China, the Philippines and Pakistan, which is estimated to contribute tuberculosis cases together by 56% (WHO, 2017). In Indonesia, based on the Global TB Report (2017), the estimated epidemiological burden of TB is 1,020,000 cases and the still high mortality rate from TB is 391 / 100,000 population.

The number of cases of tuberculosis that continues to increase every year, is also accompanied by an increase in patients with Diabetes Mellitus (DM). whereas diabetes mellitus is a non-infectious disease that causes the sufferer to be 3 times more likely to suffer from active TB (Kemenkes RI, 2015).

The exact data regarding the number of TB-DM cases in Yogyakarta are still not available because there is no standard reporting format for TB-DM cases. The number of cases *under diagnosed* or *under reported* TB in DIY shows that the city of Yogyakarta is the highest *under diagnosis* with a total of 243 cases.

TB-DM control, especially in Yogyakarta, still needs to be improved. TB-DM collaboration with two-way *screening* is expected to improve TB-DM case findings and find out clinical *outcomes* in the form of achieving TB-DM control targets.

TB and DM coping strategies in achieving TB national elimination is one of them is increasing service collaboration through TB-DM. TB prevention involves all

related parties, including the government, the private sector and the community.

DM is a chronic disease that will last a lifetime. TB is a pulmonary infectious disease that is a major cause of morbidity and mortality worldwide. Management of DM requires the participation of doctors, nurses, nutritionists and other health workers (PERKENI, 2015). Therefore Tuberculosis and Diabetes mellitus (TB-DM), it will require awareness, acceptance and collaboration of all health workers. The awareness, acceptance and collaboration of health workers on the importance of conducting two-way services in tuberculosis patients and diabetes mellitus are the supporting forces in TB-DM case control programs.

The main stakeholders for the successful implementation of integrated health services are health workers. Understanding the interests of stakeholders is very important to avoid resistance to the integration of health services. The involvement of health workers in decision making can create a sense of belonging and accept change. Therefore, the positive attitude observed among health workers towards the integration of TB and DM services can indicate acceptance and readiness to provide integrated TB and DM services in the future (Workneh et. Al, 2016).

Treatment and control of TB and DM may only work well if there is harmony collaboration between policy makers, health care providers, academics and supported active participation from the community. The success of collaboration in the management and control of TB-DM can be an example of harmonious collaboration between the handling of infectious and non-communicable diseases in Indonesia. Therefore the participation of health workers as academics and health care

providers is needed for successful collaboration (Ujainah, 2017).

Structured efforts by the hospital are needed in evaluating understanding and acceptance of TB-DM implementation in hospitals. Because health workers in hospitals must have good collaborative awareness, knowledge and skills related to TB-DM. Based on the explanation above, it is important to know how awareness, acceptance and collaboration in the management of health workers in dealing with TB-DM problems.

RESULT

Commitment for Better Result

The results of the in-depth interview with R2 revealed that TB disease is a dangerous disease because the types of hidden diseases and also this disease are also not easily known. Besides that, TB disease is susceptible to anyone because it is one type of infectious disease. The results of interviews that support the above statement are interviews with health workers (R2).

"TB is a silent disease, sometimes people don't know that health workers get TB, it happens a lot, when one person is infected with TB, it turns out to be contagious. Health workers affected here also exist so that it is extraordinary for the focus. Then there is the DM program, because DM is susceptible to TB, the general public is vulnerable, especially DM."(R2)

Informants from health workers (R2) explained that TB disease requires intense care and monitoring because there are many failures in TB treatment. According to (R2) and (R5) that TB treatment in Indonesia is decreasing due to the increasing number of TB patients as well as TB-DM patients.

"Indonesia used to be good now, Indonesia has fallen below China"(R2)

"In Indonesia, the number of TBs is still large and now TB has a lot of TB-DM, in Jogja too"(R5)

Health workers realize that TB-DM is a dangerous disease seen from the increasing number of patients in Indonesia, so it needs intensive treatment. However, the handling of TB-DM is more difficult than the handling of TB itself or DM itself. The results of the R5 interview explained that the treatment of TB-DM was more complicated.

"As far as I am concerned, TB and DM are indeed more complicated compared to uncomplicated TB. It's difficult because later the drug must be looked for right, so handling is indeed more difficult than ordinary TB patients"

The interview found that in Indonesia the number of TB-DM patients is increasing, but the handling of the disease shows a declining graph. In addition TB-DM disease also requires intense care. This shows that TB-DM disease requires special efforts to improve the health status of patients.

Health workers know that TB-DM treatment requires good treatment in accordance with the experience that has been done. Health workers are aware of previous experiences that have been done, namely the collaboration of TB-HIV. The results of in-depth interviews with R1 and R3 are as follows:

"There are both symptoms and no symptoms. Previously there were no symptoms being screened, but now all screening is done"(R1)

"Now DM patients with coughing should be screened for TB, formerly still HIV, there is clinical cough, TB screening, now diabetes, for TB all DM patients with respiratory complaints must skinning TB"(R3)

The results of in-depth interviews with R1 explained that now there were both symptoms and no symptoms, all were

screened, whereas in the past there were no symptoms being screened. In addition R3 confirmed that now DM patients with coughing should be screened for TB, as well as previous HIV collaboration with clinical coughing or TB screening. Now diabetes, for all DM patients with respiratory complaints, TB screening must be done.

Health workers collaborate handling by also conducting bi-directional screening both from the direction of TB and DM. The principle is that in the past, only the same DOTS poly, which is now more in the direction of reporting, must be correct. This explains that the handling of TB-DM must be better with previous experience even though it is not TB-DM but TB-HIV.

There is a policy of handling TB with DM comorbidities, officers try to keep up with the development of the comorbidities. Health workers must always follow the information that is developing and try to implement policies from the government. As per the interview with R1.

"We always update, one of the accreditations, one of which is updating knowledge. Direct in-house training officer if necessary with an ex-house organized by the office"(R1)

Health workers always update science both in-house training and if needed with ex-house training held by the agency. The willingness to update the knowledge will increase the information obtained and get any description that needs to be done. This shows that health workers have a commitment to continue to improve their knowledge and ability to implement TB-DM collaboration programs.

TB-DM disease is a dangerous disease but only understood by a few people. According to the R1 the hospital has a lot of teams, but most are all busy. Not all health workers understand that TB-DM is a case that is now the main focus of health because

of the increasing number. Therefore health workers, especially in the DOTS team are expected to get training so that it raises understanding and awareness to get involved more deeply in controlling TB-DM.

Patients also feel the burden of undergoing TB-DM treatment. According to R6, he was not allowed to eat food that was careless and there were restrictions on food consumed related to the disease. The burden felt by tuberculosis patients is having to wear a mask wherever the patient is.

"Wow, yeah, it really feels like this, you can't just eat it again, then it's hard to use a mask all the time."

The need for patients to use masks at any time sometimes makes the patient feel uncomfortable. This is according to what was conveyed by R3 health workers that sometimes patients are not comfortable using masks so that they are often opened in public places.

"But sometimes patients are not comfortable, so it is still open, the turn with the doctor is even opened even though tuberculosis, we are educating"(R3)

"Many of those patients who are less aware of the use of masks, so once they are educated they will use it but once it comes out the mask will be released"(R4)

The interview revealed that patient awareness was lacking and needed special attention, especially by health workers. TB-DM patients need to get intensive assistance and always get education related to TB-DM. Although TB-DM is a difficult disease to treat because it requires a long time and good consistency, the patient tries to live calmly. R7 explained that the beginning of the diagnosis and treatment that was carried out felt there was a heavy burden, but now was accustomed and did not become a burden anymore. Treatment for TB-DM patients according to R3 is the standard set is 6 months, but still see the patient's condition

so that a bias of up to 9 months or a maximum of 1 year of anti-tuberculosis drugs is given.

HR readiness and system are not optimal

Health workers carry out TB-DM collaboration using TB-01. According to R1, the TB-DM program is already applicable in its implementation. This was supported by R4 who explained that the collaboration was already running in the hospital. It's just that a more formal program needs to be released by the health department as the basis of the hospital in implementing the TB-DM program in the hospital.

“Once applicable, the automatic program step is stronger because if from within the hospital it depends on hospital management. we have not yet made it, we are still running, we can run it listed on TB-01 or, click DM we enter, what medicine is clicked, click on TB-DM, if we implement it in the field, we can see it from TB-01 or at SITT TB” (R1)

“But for collaboration Inshaallah, it always runs.” (R3)

The TB-DM collaboration will not work well without the support of the government. this gives an overview of the constraints that caused officers to be less than optimal in managing TB-DM. Interview with R5 as follows:

“If TB-DM doesn't exist, then still include regular TB,” (R5)

“Yes, it is on TB 01, there is no specific policy, and it is still being processed” (R1)

The hospital does not yet have a strong legal umbrella in implementing TB-DM collaboration, because the agency has not lowered policies related to TB-DM management. This is in accordance with the TB-DM program, which does not yet exist, still including regular TB and new TB-DM is processed by the service. TB-DM disease

needs to get immediate attention so as to improve the health status of TB patients.

Collaboration is a form of cooperation and interaction by health workers, patients and related institutions. Collaboration that exists makes TB-DM management procedures run optimally. Interview with R5 which explained that TB-DM handling programs were like regular TB. This was also supported by the explanation of R1 that the SOP specifically for TB-DM did not yet exist and was still awaiting policy from the service. Until now SOPs, leaflets and others were still in process.

“Everything related to SPO, pamphlets, it is only in the process, we are still waiting for institutional policies. Once the institution agrees, all are examined, immediately make SOPs, pamphlets, leaflets and so on. If the SOP is waiting from the service listed on TB-01, because if there is a SOP there is a reference from the service, the office has not lowered,” (R1)

Although there is no official policy from the service, the hospital has already run TB-DM collaboration using the TB-01 sheet as a reference. TB-DM collaboration is also still not optimal. Health workers have not been given special training.

“If TB-DM says that it has only been processed from the agency, then invitations for seminars and training, not for training, are still promised.”

Training for health workers is also still in process. So far, health workers have only tried to increase information with in-house training and refer to the national manual on tuberculosis prevention in hospitals. Collaboration involves all health workers and plans for training of health workers will be held related to TB-DM collaboration from the agency. Training is needed so that collaboration can work well and improve the quality of health services.

Health workers knowingly know about the dangers of TB-DM disease, which has now been found in many cases. But in its implementation there are still obstacles, especially in the reporting of TB-DM cases. Health workers (R1) explained that reporting the number of TB-DM patients is still a manual form in the form of TB-01.

“yesterday it was still manual, it was still written on the form, so not all of them went to STTP, the problem was that the program was recently promoted, it's on TB 01, but it hasn't been recapitulated, if there is an official one, if I have officially added TB-DM,”(R1)

“TB-DM, maybe not so many cases, normal TB is a lot. Because we are still regular reports while TB and HIV are already in the program,”(R5)

This shows that the reporting of TB-DM cases is still manual and awaits the official policy of the health department. If there is already an official hospital policy, it will make a recap of TB-01 data.

Reporting by health workers is still manual and has not been carried out. This can lead to the health department also not having exact data related to TB-DM patients so that the missing TB cases in the city of Yogyakarta are still high. TB-DM control especially in D.I. Yogyakarta still needs to be improved.

TB-DM Collaboration Potention

Health workers have understood that for handling TB-DM, all service units, both in the poly, IGD, and wards, can be the entrance to TB-DM treatment. Health worker R4 explained that the most active screening was from the clinic and always coordinated with health workers at the clinic.

“For the screening, it is done from the polyclinic, if only for TB from the patient, the most active one is to capture patients from the polyclinic.”

This shows the collaboration between health workers in hospitals to improve TB-DM collaboration services. Health workers are aware of the focus of TB-DM disease now and make interactions between health workers, both from the clinic, internal medicine, laboratory and pharmacy and cashiers, indicating that the initial screening is ready. Officers are ready to conduct early screening for TB and DM in all units, especially in the clinic.

Collaboration is also carried out with patients, one of them by making patient contact to notify the date of medication treatment. Monitoring is also carried out through daily drug monitoring to find out if the patient has taken the drug at a specified time. If a health worker is not taken, the patient will contact the patient to take the drug immediately, if it has not been taken within 2 days, the health worker coordinates with the health office and sends the puskesmas officer to the field.

The hospital strongly supports TB-DM collaboration. Even the hospital provides a policy by issuing a certificate in patient care as an effort to guarantee medicine for patients. The hospital is responsible for healing patients, so the hospital also cooperates with the health department. The hospital will report if during the treatment period the patient does not take medication, will report to the health office. Then the health office will also coordinate with health workers at the puskesmas in the area where the patient lives to make a visit related to taking the drug.

“Now that the concept of government is in TB, the current TB targets of the government are more focused by collaborating with private and public hospitals”(R2)

“Health services that require this and so, automatically work because there is a

supporter above and is supported so that it is easier”(R1)

The interview shows that the health service is one of the parties that must be willing to cooperate with private and public hospitals. Collaboration is also carried out by hospitals as well as getting policy support from the health department, related to the treatment of TB-DM patients and reporting cases. Government support in the presence of policies will create effective collaboration so that goals can be achieved.

In addition to collaboration with the health department, the hospital also involves the community. Interview with R3 as follows:

“For DOTS TB, all do not let them not take medicine, not to be left alone, observation there is a term to supervise, namely Drug Supervisor from the family or involving the surrounding community”(R3)

Hospitals need collaboration with family and community to prevent and control TB-DM. According to R1, the DOTS in Jogja hospital were different from other hospitals.

“TB is very applicable, because there is a lot of support and support, I have a cadre of 'Aisyiyah, including suspects who are not reached by the service, so the organization is an organization that is given WHO trust to overcome TB, TB runs once, because there is a lot of support and support. there are 'Aisyiyah cadres, including suspects who are not reached by the service, the cadres are trained by hospitals and also the health department”(R1)

“Yes, it was a government program, and 'Aisyiyah also got the mandate from the WHO, so it could be synergized” (R2)

The hospital and TB Care 'Aisyiyah synergize with hospitals. Support and support by 'Aisyiyah cadres shows good cooperation between the community and the hospital. In addition the hospital also involves patients, families and get support

and support from TB Care 'Aisyiyah which indicates that cooperation with the community is well established.

Readiness for TB-DM collaboration

Readiness of health workers in the management of TB-DM will make it easier to collaborate. Interviews conducted with health workers R1 stated that the implementation of the TB-DM program had been carried out and was going well. Health workers carry out TB-DM collaboration using TB-01. According to R1, the TB-DM program is already applicable in its implementation. This was supported by R4 who explained that the collaboration was already running in the hospital. It's just that a more formal program needs to be released by the health department as a hospital reinforcer in implementing TB-DM programs in hospitals.

“It has been applied, the automatic program step is stronger because if from inside the hospital depends on hospital management. we have not yet made it, we are still running, we can run it listed on TB-01 or, click DM we enter, DM yes, what medicine do you click, click on TB-DM, if you implement it in the field, you can see it from TB-01 or at SITT TB” (R1)

“But for collaboration Insyallah, it always runs.”(R3)

The above procedure shows that the implementation of TB-DM collaboration is already underway, supported by an IT system that the hospital has run. This is supported by document search data for the TB-01 Sheet for patients. While in its implementation handling by screening TB and DM patients is carried out in two directions. TB patients will be tested for DM, and vice versa DM patients with complaints will be skinning TB.

“Handling from any direction is the same if our TB patients automatically screen DM otherwise”(R1)

“Collaboration is also important for improving the quality of hospitals”(R2)

The existence of this collaboration is expected to improve the quality of hospitals and can also be found in patients with comorbidities. This makes it easier for health workers to do the right treatment.

Based on observations it is known that in the 2015 consensus on TB-DM management in Indonesia, TB management has been carried out according to procedures. Implementation of TB-DM starting from screening by conducting interviews, examination of chest X-ray, diagnosis by doctors and conducting bacteriological examinations. The treatment process is carried out by following the DOTS strategy, the officer ensures that the patient swallows anti-tuberculosis drugs and glucose control is carried out. Patients with a diagnosis of TB with DM received TB treatment and DM management, then were given IEC on prevention of TB and DM.

Observation results of the management of TB patients with DM begin screening with plasma glucose examination by doctors, then management and prevention of diabetes mellitus, therapy for anti-tuberculosis drugs and insulin. Patients with TB diagnosis with DM received TB treatment and DM management, then were given IEC on prevention of TB and DM, this was consistent with the 2015 TB-DM consensus.

The health service plans to provide supporting facilities, namely GeneXpert TB Test in facilitating TB-DM screening. This was responded positively by health workers. There is a GeneXpert TB Test plan for hospitals from the government. This is in accordance with the health worker interview as follows:

“There is a plan to give GeneXpert TB Test to hospitals from the government. So there are a number of tools that not all hospitals can, chosen for good reports, yesterday they have been reviewed where they are, just waiting,”(R2)

R3 health officer also explained that the presence of GeneXpert TB Test helps in screening TB-DM.

“if I doubt it is TB, I will definitely ask for help with the TB genexpert Test, if I have no doubts, I dare, TB with more DM lesions below. If diabetes is for this therapy, the TB genexpert is very helpful.”(R3)

The provision of supporting equipment will certainly provide motivation for health workers to collaborate TB-DM. GeneXpert TB Test is a hospital supporting facility for screening TB-DM patients. Government planning to support TB-DM collaboration is indicated by the provision of supporting facilities namely GeneXpert TB Test. The existence of government support by providing supporting facilities facilitates health workers in screening TB-DM.

The readiness of the hospital in the implementation of collaboration supported by the IT system has supported, comprehensive handling, and collaboration with the government is shown by the GeneXpert TB Test. Health workers are involved and coordinate with each other.

DISCUSSION

Awareness, Acceptance of Collaboration in Tuberculosis Management and Diabetes Mellitus

TB-DM disease is a dangerous disease due to a silent disease and is not easily known, all people can be infected related to TB disease both other patients and health workers themselves. Besides that, TB disease is susceptible to anyone because it is one type of infectious disease. Handling TB-

DM is also more difficult than the usual TB disease. A cohort study by Corona (2012) in its prospective cohort study showed that TB and DM patients had more severe clinical manifestations, delayed sputum conversion, and a higher likelihood of treatment failure, recurrence, and relapse.

TB is one of the top ten causes of death worldwide. The country of Indonesia, including in five countries, has the largest number of tuberculosis cases with second place after India, then China, the Philippines and Pakistan, which is estimated to contribute tuberculosis cases together by 56% (WHO, 2017). While diabetes mellitus (DM) is an important risk factor for the development of active tuberculosis (TB). Diabetes mellitus is a non-infectious disease that causes the sufferer to be 3 times more likely to suffer from active TB (Ministry of Health RI, 2015).

In Indonesia the number of TB-DM patients is increasing and the handling of TB-DM has also decreased. Health workers realize that TB-DM is a dangerous disease seen from the increasing number of patients in Indonesia, so it needs intensive treatment. TB disease needs to be focused that is very important to do control and prevention. This shows that TB-DM disease requires special efforts to improve the health status of patients.

However, treatment also needs to be done well due to the handling of TB-DM which is more difficult than TB without comorbidities. Diabetes triples the risk for active tuberculosis, so increasing the burden of type 2 diabetes will help maintain the current tuberculosis epidemic. Recommendations have been made for two-way screening, but rare evidence of the performance of specific tuberculosis tests in individuals with diabetes, specialized diabetes tests in patients with tuberculosis, and screening and preventive therapy for

latent tuberculosis infection in individuals with diabetes. Clinical management of patients with both diseases can be difficult (Riza et al, 2014). Disease burden from tuberculosis (TB) and diabetes mellitus (DM) is increasing globally. Current evidence suggests that DM increases the likelihood of developing TB. Immune dysfunction because DM increases the tendency to develop TB. DM and TB complicate each other and present enormous clinical challenges (Kibirige et al, 2013).

DM is a chronic disease that will last a lifetime. TB is a pulmonary infectious disease that is a major cause of morbidity and mortality worldwide. Management of DM requires the participation of doctors, nurses, nutritionists and other health workers (PERKENI, 2015). Therefore Tuberculosis and Diabetes mellitus (TB-DM), it will require awareness, acceptance and collaboration of all health workers. The awareness, acceptance and collaboration of health workers on the importance of conducting two-way services in tuberculosis patients and diabetes mellitus are the supporting forces in TB-DM case control programs.

Health workers have an awareness of TB prevention and control efforts. Health workers understand that there are differences between past and present programs, so they are interested in increasing their knowledge and skills. In the past TB disease was only done with TB screening, now two-way screening is done, namely DM screening, as well as DM disease patients who have TB symptoms are TB screened. Active screening is very helpful in detecting pulmonary TB in elderly patients with a history of DM (Lin, 2015), DM screening in TB should lead to better and earlier detection of DM, earlier and better treatment of DM and clinical outcomes. better on anti-TB treatment (Li, 2012). According to Prakash

(2012) two-way screening for DM and TB is feasible, with high DM outcomes among TB patients. Screening TB patients for DM can be an efficient tool for the management of TB-DM comorbidity programs. Understanding health workers among health professionals is expected to improve the implementation of TB-DM. This explains that the handling of TB-DM must be better with previous experience even though it is not TB-DM but TB-HIV.

Health workers always update science both internally and externally. The willingness to update the knowledge will increase the information obtained and get any description that needs to be done. Health workers show a better commitment to keep trying to prevent and control TB-DM.

According to Kichko and Flessa (2016) awareness of health workers depends on age, gender, availability of health insurance and coverage. Doctors who work in hospitals are expected to get better information. It is recommended that doctors who have sufficient experience, willingness to be trained depend on age. Doctors who have electronic medical records and a medical history of their patients' families look more likely to receive a health program. A person's level of trust also affects awareness.

Interview results indicate that health workers have awareness of the dangers of TB-DM cases so it is important to handle them. TB disease requires intense care and monitoring because there are many failures in handling TB. TB-DM disease that is dangerous is only understood by a few people. The hospital has a large team, but only a few are involved to help carry out TB-DM management. This can be due to the absence of specific training in the implementation of TB-DM and is still text book. So far, health workers have increased information with in-house training and

referred to the national manual on tuberculosis prevention in hospitals.

Understanding health workers in the front line is expected to always provide TB-DM implementation (Perkeni and WDF, 2013). Lack of understanding among health professionals and alertness due to lack of proper training for health workers often results in delayed diagnosis of TB. The development of health professional workforce in primary and secondary care through basic and postgraduate training and sustainable professional development is expected to add to the experience and competence of health workers (PHE, 2015).

Patients also feel the burden of undergoing TB-DM treatment. Patients should not eat food that is careless and there are restrictions on food consumed related to diet. The burden of tuberculosis is to wear a mask wherever the patient is. The need for patients to use masks at any time sometimes makes the patient feel uncomfortable. This is in accordance with the results of in-depth interviews with health workers, namely patients sometimes do not use masks.

Patients suffering from TB-DM often have more severe clinical manifestations than without DM, delayed sputum conversion, higher therapeutic failure, higher recurrence and relapse. In TB-DM it is important to normalize (control) blood glucose levels through diet, exercise and medicine so as to speed healing. The combination of TB drugs with DM drugs must be considered, because it can cause hyperglycemia and or decrease the effectiveness of TB drugs (Miharja et al, 2015).

Reflecting on the TB-HIV collaboration program that awareness among HIV or TB patients also inhibits cross-referral; especially TB patients are hesitant for HIV screening. In addition, the capacity and attitudes of staff also become a concern.

Issues relating to human resources along with conflicts of interest among the stakeholders involved are the main obstacles in TB-HIV collaboration (Rathore et al, 2018).

Commitment is needed by all parties concerned to get better results related to TB-DM. Transmission of TB disease cannot be left alone because it can lead to the spread of other patients and health workers themselves which endangers health, so it is necessary to control and prevent collaboration with TB-DM management for hospitals, health workers, health services and patients and society.

Based on the results of research, theory and previous research shows health workers are aware that TB-DM is a dangerous disease and everyone is susceptible, supported by the lack of awareness of patients about the importance of preventing TB-DM, seen from how patients understand the role of mask use is still lacking. TB disease needs to be focused that is very important to do control and prevention. However, treatment also needs to be done well due to the handling of TB-DM which is more difficult than TB without comorbidities.

So health workers also have a better commitment to keep trying to prevent and control TB-DM. Health workers understand that there are differences between past and present programs, so they are interested in increasing their knowledge and skills. In the past TB disease was only done with TB screening, now two-way screening is done, namely DM screening, as well as DM disease patients who have TB symptoms are TB screened. Understanding health workers among health professionals is expected to improve the implementation of TB-DM.

There are constraints in the management of TB-DM that some officers tend to have a busy life so that only a few officers handle

TB-DM, especially in DOTS services. In addition to health workers, patients also feel they have low awareness. Patients should not eat food that is careless and there are restrictions on food consumed related to dietary diseases and must always use a mask.

Obstacle to TB-DM Management

The implementation of the TB-DM program has been carried out but still needs to be improved again. Health workers running TB-DM collaboration still use TB-01 sheet, because there is no SOP that regulates it. The TB-DM program has been applied in its implementation. All health workers are involved and coordinate with each other. It's just that a more technical program needs to be released immediately by the health service as a hospital reinforcement in implementing the TB-DM program at the hospital.

Research conducted by Ruminah (2016) shows that TB and DM services are carried out separately, most health workers do not know collaborative TB-DM control programs and guidelines for implementing collaboration to control TB-DM are not yet available. Collaboration programs to control TB-DM have opportunities to be implemented in health facilities, especially hospitals, but still need support from stakeholders.

Collaboration between various parties, TB-DM management procedures can run optimally. Based on the results of the interview the TB-DM treatment program is still like ordinary TB, but also refers to the TB-DM consensus book issued by the Ministry of Health. However, for SOPs specifically for TB-DM there is no yet and is still awaiting the policy from the service, this causes the SOP and audio and visual information media cannot be made. Although there has been no official policy from the service, the hospital has been

running TB-DM collaboration using the TB-01 sheet.

Based on the results of the document search shows that in the hospital there is a national guidebook for the prevention of tuberculosis. However, for the flow of TB-DM diagnosis (adults and children) following the National Guidelines and SOPs for sputum microscopic examination according to the National TB-DM Guidelines there is no. In addition, SOPs in the management of TB-DM have not yet been in the hospital. The hospital does not yet have a strong legal umbrella in implementing TB-DM collaboration, because the health department has not reduced policies related to TB-DM management. TB-DM disease needs to get immediate attention so as to improve the health status of TB patients.

The results of supporting research conducted by Workneh et al (2016) show that given the increasing burden of TB and DM, and the current service gap observed in the provision of services for DM patients, there is a need to integrate TB and DM services to provide quality services to patients. However, this may require adequate discussion with relevant stakeholders and decision makers because it has implications for the allocation of additional resources and other commitments. Testing TB-DM integrated services at certain health facilities in the study area helps assess feasibility and learn more lessons about the challenges and opportunities to provide integrated TB-DM services.

Addressing the collaboration of TB-HIV that the main obstacle in TB-HIV collaboration is the issues related to human resources along with conflicts of interest among the stakeholders involved, one of which is the government. Improvements can only be achieved in overcoming the problem

of the availability of dedicated, skilled and permanent human resources, plus supervision that supports the commitment of administrative integration and all stakeholders involved in the process (Rathore et al, 2018).

TB-DM collaboration is also still not optimal. Health workers have not been given special training. Training for health workers is also still in process. So far, health workers have only tried to increase information with in-house training and refer to the national manual on tuberculosis prevention in hospitals. Collaboration involves all health workers and plans for training of health workers will be held related to TB-DM collaboration from the agency. Training is needed so that collaboration can work well and improve the quality of health services.

Training for health workers is very important because according to Vijay (2014) training sessions on DM with an inbuilt awareness campaign for TB patients have a significant impact on the knowledge and practice of TB health service providers. A short training course tailored to the needs of different health care professionals in tuberculosis units with inbuilt awareness sessions for patients from the tuberculosis unit concerned not only empowers them with knowledge, but also improves their attitudes and practices, thus creating an environment for TB-DM outcomes better. The management policy supports the smoothness of services, as well as infrastructure support so that the implementation of internal networks can be optimal.

Collaboration involves all health workers and plans for training of health workers will be held related to TB-DM collaboration from the agency. Training is needed so that collaboration can work well and improve the quality of health services. Sullivan and Amor (2012) explained that to expand local

TB programs including diabetes care would require training of public health workers in basic diabetes care, such as blood glucose testing and drug management, as well as consulting nurses and doctors trained in diabetes management.

Health care workers are aware of the dangers of TB-DM which are now found in many cases. But in its implementation there are still obstacles especially in the reporting of TB-DM cases and related to government policies. Reporting the number of TB-DM patients is still a manual form in TB-01. This is supported by the results of the documentation search, namely the absence of a Decree document of officers responsible for recording and reporting TB-DM cases.

High levels of HIV testing and linkages with CPT (Co-Timoxacole Preventive Therapy) encourage progress indicators in the implementation of collaborative TB / HIV activities in research settings. However, increasing collaborative implementation is needed in the field of recording patient information, HIV positive screening for TB, initiation of IPT, referrals, linkages, and diagnostic capacity of TB (Kassa et al, 2012). This shows that one of the factors inhibiting TB collaboration with co-morbidities both HIV and DM is related to recording and reporting patient information.

The results of research conducted by Harries et al (2015) show that collaboration is urgently needed not only to reduce the burden of non-communicable and contagious diseases, but also can be a driving force to strengthen the health system, a prerequisite needed to build universal health coverage. High-level political support in countries and international financial and technical support for TB-DM programs will be very important to drive this collaboration.

Based on the results of research, theory and previous research shows that the agency has not lowered policies related to

TB-DM management. Both SOP and training policies have not been provided to HR. In addition reporting also does not yet exist because health workers do manual recording. This shows that HR readiness is due to a system that is not optimal.

Supporting Factors for TB-DM Management

The supporting factor is that there are supporting facilities that the plan will be given to the hospital, namely the expert gene. The existence of expert genes is expected to help in screening for TB DM. This certainly will provide motivation for health workers to collaborate TB-DM.

The results of research conducted by Harries et al (2015) which examined diabetes mellitus and tuberculosis: programmatic management issues indicate that collaboration is urgently needed not only to reduce the burden of non-communicable and contagious diseases, but also to be a driving force to strengthen the health system, the necessary prerequisites to build universal health coverage. High-level political support in countries and international financial and technical support for TB-DM programs will be very important to drive this collaboration.

CONCLUSION

Awareness, acceptance and collaboration of Tuberculosis and Diabetes Mellitus in Type B Hospital with DOTS at PKU Muhammadiyah Yogyakarta Hospital requires commitment in the effort to treat TB-DM for better results, because TB-DM is easily contagious so it requires special effort and treatment must be better again.

Related service policies regarding SOPs and training that do not yet exist and integrated reporting have not indicated that HR and system readiness is not optimal.

The potential for good collaboration is supported by early TB-DM screening readiness, government policy support and collaboration with the community. The readiness of hospitals in carrying out TB-DM collaboration is supported by an IT system that has been running, more comprehensive handling, and cooperation with the government.

Existing constraints include the absence of specific information about TB-DM from the health department, the awareness of health workers not strong in the level and the lack of awareness of patients, and the reporting of TB-DM cases has not been done. Supporting factors are the potential for collaboration in handling TB-DM, and hospital readiness in carrying out TB-DM collaboration.

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