

Exploring The Potential of Interprofessional Collaboration in Medication Therapy Management in Primary Health Care

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Exploring The Potential of Interprofessional Collaboration in Medication Therapy Management in Primary Health Care

Birinci Basamak Sağlık Hizmetlerinde İlaç Tedavisi Yönetiminde Profesyoneleler Arası İşbirliği Potansiyelini Araştırmak

SUMMARY

Doctors' collaboration with other health care provider is common in health care. But in Indonesia, especially collaboration between doctors and pharmacists is still rare mostly in primary health facilities. Pharmacists have a strategic role in helping patients improve the quality of therapeutic outcomes and will be achieved through collaboration with doctors. The concept of interprofessional collaboration in medication therapy management (MTM) is very important in national health insurance era especially in improving health problems with chronic diseases. This study aims to explore the potential of interprofessional collaboration between doctor and pharmacist in MTM at type 2 diabetic patient. This study was conducted through indepth interview as an early stage, explore the information of doctors and pharmacists to identify understanding about MTM and hope for collaboration. Nine doctors and ten pharmacists were involved from public health center and community pharmacies as a primary health care, which service patients with type 2 diabetes mellitus and follow referral program from board national health insurance in Jakarta from January to April 2017. Content analysis was used to identify findings on indepth interview results, making interview transcripts, categorization, coding, theme setting, and interpretation. This study concluded mostly pharmacist who understand MTM, while physician is not familiar yet. With other pharmacists in the network have not formed cooperation with doctors. Both of them agreed to collaborate through agreement by sticking to their respective duties and authorities firstly by conducting meeting followed by discussion about the patient's case, then making an agreement with the permanent tasks and authority of each profession.

Keywords: medication therapy management, interprofessional collaboration, primary health care, board of national health insurance, referral program. content analysis

ÖZ

Doktorların diğer sağlık hizmetleri sağlayıcıları ile işbirliği sağlık hizmetlerinde yaygındır. Ancak Endonezya'da, özellikle doktorlar ve eczacılar arasındaki işbirliği, çoğunlukla birinci basamak sağlık kuruluşlarında olmak üzere sık görülmemektedir. Eczacılar, hastaların tedavi sonuçlarının kalitesini artırmalarına yardımcı olma konusunda stratejik bir role sahiptir ve doktorlarla işbirliği yaparak bunu başaracaktır. İlaç tedavisi yönetiminde (MTM) meslek içi işbirliği kavramı, ulusal sağlık sigortası döneminde, özellikle kronik hastalıklarla ilgili sağlık sorunlarının iyileştirilmesinde çok önemlidir. Bu çalışma, tip 2 diyabetik hastada MTM'deki doktor ve eczacılar arasındaki profesyonel işbirliği potansiyelini araştırmayı amaçlamaktadır. Bu çalışma, MTM hakkındaki anlayışı ve işbirliği umudunu belirlemek için doktor ve eczacıların bilgilerini araştıran bir erken basamak olarak detaylı görüşme yoluyla gerçekleştirildi. Halk sağlığı merkezinden dokuz doktor ve on eczacı, Ocak-Nisan 2017 tarihleri arasında Jakarta'daki ulusal sağlık sigortasından gelen başvuru programını takip eden serbest eczaneler çalışmaya katılmıştır. Detaylı görüşme sonuçlarına ilişkin bulguları belirlemek, görüşme transkriptlerini yapmak, kategorize etmek, kodlamak, tema belirlemek ve yorumlamak için içerik analizi kullanılmıştır. Bu çalışmada çoğunlukla MTM'yi eczacıların anladığı, hekimlerin henüz konuya tanındık olmadığı sonucuna varmıştır. Ağdaki diğer eczacılar doktorlarla işbirliği oluşturmamışlardır. Her iki meslek grubu da, önce toplantı yapıp hastanın durumu hakkında görüşerek, ardından her mesleğin daimi görevleri ve yetkisi ile bir anlaşma yaparak, kendi görevlerine ve yetkililerine bağlı kalarak anlaşma yoluyla işbirliği yapmayı kabul etti.

Anahtar Kelimeler: İlaç tedavisi yönetimi, profesyoneller arası işbirliği, birinci basamak sağlık hizmetleri, ulusal sağlık sigortası heyeti, referans program, içerik analizi

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INTRODUCTION

In national health insurance era, health care service is not centralized in hospitals, but is done with a referral system. Starting from a primary health care based on patient's needs. Health services quality of patients is conducted accordance with mutual cooperation principles that prioritizes quality and cost control to achieve the desired goals (The House of Representatives of The Republic of Indonesia, 2014). Health services for patients with type 2 diabetes mellitus from referral member are comprehensive chronic disease services with long-term treatment in primary health care and integrated by health care provider including pharmacists (Ministry of Health, 2004). Micro and macro vascular complications from type 2 diabetes mellitus have an impact on decreasing patient's quality of life and increasing total health cost of board of national health insurance (BPJS) as the organizer (Ministry of Health, 2016).

The step by step service system of patients were indicated by handling chronic disease by primary care of physicians or doctors followed by referral to the Hospital to get a diagnosis by a specialist doctors. Chronic patients' medical and medication services will last for 3 months. The first month prescription by hospital doctors with a period of 30 days of drug use was called by the program for managing chronic diseases (Prolanis) with additional service programs in the form of medical / educational consultations, home visits, reminders, club activities and monitoring of health status. Treatment will continue for 2 months, by every month the patient was examined at primary health service where participants are registered, and if the disease was declared stable, the patient got drug or medicine for 30 days. Likewise, the inspection will

be done in the third month. The treatment period of patients for 60 days was called a referral program ("Program Rujuk Balik" = PRB) which did not fully received additional services such as Prolanis patients. From those conditions, drugs used by patients with type 2 diabetes mellitus for two months in the referral program ("Program Rujuk Balik" = PRB) need contribution of pharmacist to review the ongoing treatment process, the appropriateness of the dosing regimen, assess the effectiveness of therapy and level of compliance of patient taking the drugs (McAdam-Marx, 2015). The pharmacist service in health care system is described through direct and responsible service by pharmacists given to community in environment that facilitates cooperation between patients with pharmacists and other health care providers (Cipolle, 1998). Implementation of health service efforts basically aims to meet human needs on health as whole including medical care, nursing care, pharmaceutical care, and nutritional care (McAdam-Marx, 2015).

The role and responsibility of pharmacists in medication therapy management (MTM) based on pharmaceutical care philosophy, with patient counseling and enabling patients in disease management to achieve optimal therapy outcomes and reduce health costs (Cipolle, 1998). Figure 1 shows that pharmacist intervention in this study is cooperation and direct communication with patients and other health care provider to review the effectiveness of therapy, especially patients with chronic diseases. Benefits for patients and payors include drug worthiness, improve patient understanding of patient care and adherence, reduce need for other expensive medical services, and remedies of adverse drug reactions (Cipolle, 1998).

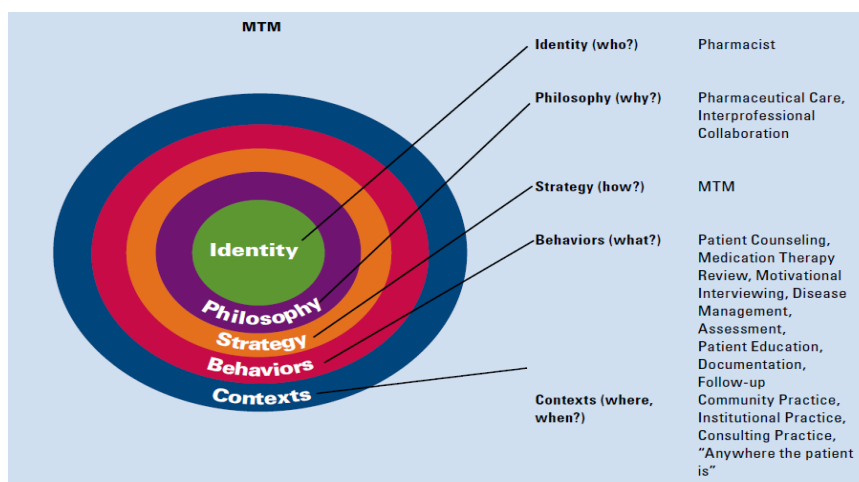


Figure 1. Relationship between pharmaceutical care with patient counselling and disease management in medication therapy management (MTM)

Collaboration among primary health care providers is a joint activity designed in a collaborative practice agreement (PCA), discussing the results of laboratory examinations, improvement of therapy records, evaluation of treatment outcomes, making treatment or referral guides, visiting patient homes and planning activities to manage optimal therapeutic outcomes (American Diabetes Association, 2013).

The American Pharmacist Association (APhA) and the National Association of Chain Drug Store Foundation (NACDSF) in 2008 conducted a study about MTM in pharmacy practice: five core elements of MTM service model. The five core elements were Medication Therapy Review (MTR), Personal Medication Records (PMR), Medication related Action Plan (MAP), Intervention and/or Referral, Documentation and Follow up that form an integrated pharmacist framework with each other and can be modified to meet patient needs (McGivney, 2007).

Other studies such as analysis of collaborative among profession in PRB are less function, because several factors: social and intrapersonal considerations, work environment, institutions, organization, behavior and attitudes of the profession and the absence of a leader or mediator in its implementation (Kelling, 2014). Development and implementation of a community pharmacy MTM based transition of care program in the managed Medicaid Population (McAdam-Marx, 2015), and the effect of a diabetes collaborative care management program on clinical and economic outcomes in patients with type 2 diabetes mellitus (Caplan, 2017).

This cooperation describes benefits for patients as member of board of national health insurance, in terms of therapy outcomes and totally health cost effectiveness. Pharmacists as part of health care team can have an important role in treatment process with their authority and expertise to carry out pharmacy practices based on regulations (Mann, 2014). This role will work optimally if the collaboration of pharmacists and doctors is done well. The role of two professions is very strategic to achieve the goal of patient treatment. However, in practice, no collaboration has been found between pharmacists and doctors in primary health care in MTM as a pharmaceutical care implementation strategy. Doctors and pharmacists still tend to walk alone in services and have not fully involved patients, whereas they serve the same patient. Therefore it is necessary to explore the potential of collaboration of doctors and pharmacists in providing care for patient with type 2 diabetes mellitus as member of PRB. In addition, this study also wants to know the understanding of doctors and pharmacists about MTM as a model of pharmacy practice in chronic patient service that has been proven

effective applied in developed countries such as America (McGivney, 2007).

MATERIALS AND METHODS

This qualitative research used cross sectional design. Informants from 9 doctors and 10 pharmacists from public health centers and pharmacies in Jakarta were interviewed. The questions were based on the five core elements of MTM. Data analysis was made through transcription of the interview, categorization, coding, theme setting, and interpretation of interview result. Content analysis and interpretation of informants' answers from each MTM element form were the basis of conclusion. Determination of pharmacist and doctors informant as research sample using purposive sampling method and fulfill the inclusion criteria, which was informant directly involved and deeply understanding the process of PRB in national health insurance; practice at least 2 year; serve at least 5 patients of type 2 diabetes mellitus; not working in hospital; and stated willing to be interviewed. From the results of interviews with doctors and pharmacists, the researchers got answers in the form of repeated information; therefore the researchers provided the number of informants as many as 9 doctors and 10 pharmacists.

The study was conducted in 7 public health center and 7 network pharmacies in cooperation with board of national health insurance (BPJS) located in Central, West and South Jakarta. The number of BPJS participants served at each puskesmas per day was more than 50 patients (Table 4), but the number of type 2 diabetic patients in PRB participants is still quite small, both at the puskesmas and at the pharmacy.

This study used primary and secondary data. Primary data was obtained through observation and deep interviews using a list of questions that have been prepared based on the core of MTM (Table 6). This was done because only some informants knew and understood about MTM. Secondary patient's data was got using PRB service guideline and literature review.

Research collaboration between doctors and pharmacists in MTM has been carried out even though with a different focus of discussion. The qualitative method was used to explore the perspectives of pharmacists and doctors regarding the collaboration. The design of this study was also adopted from the methods in the previous studies, although there were modifications to the variables studied and questions used for interviews with respondents (Lounsbury, 2009).

RESULTS AND DISCUSSION

Demographic data of pharmacist and doctor are listed in Table 1 and 2. For characteristic of pharmacy and public health center are listed in Table 3 and 4.

Table 1. Demographic Data of Pharmacists Informant

Characteristic of Pharmacists Informant	n (%) N=10
Gender	
- Female	8 (80%)
- Male	2 (20%)
Ages	
- 23 – 30 years	4 (40%)
- > 30 – 45 years	6 (60%)
Working experience in pharmacy	
- 0 – 5 years	5 (50%)
- > 5 – 15 years	3 (30%)
- > 15	2 (20%)
Practice hours per day	
- 1-4 hours	1 (10%)
- 5-8 hours	9 (90%)

N: number of informants of Pharmacists (10 pharmacists)

Table 2. Demographic Data of Doctor’s Informant

Characteristic of Physicians Informant	n (%) N=9
Gender	
- Female	9 (100%)
- Male	0 (0%)
Ages	
- 23 – 30 years	2 (22%)
- > 30 – 51 years	6 (67%)
- > 51 years	1 (11%)
Working experience	
- 0 – 5 years	4 (44%)
- 5 – 10 years	2 (22%)
- > 10-	3 (33%)
Practice hours per day	
- 5-8 hours	1 (11%)
- > 8 hours	8 (89%)

N: number of informants of Doctors (9 doctors)

Table 3. Characteristic of Pharmacy

Characteristic of Pharmacy	n (%) N = 7
Pharmacy owner	
- Pharmacist	0
- Non-pharmacist	7 (100%)
Number of pharmacist in 1 shift work in 1 pharmacy	
- 1 people	4 (57%)
- 2 people	2 (29%)
- 3 people	1 (14%)
Estimated number of patients BPJS served in 1 day	
- 0 – 50 people	6 (86%)
- > 50 people	1 (14%)
Estimated number of patients with type 2 diabetes PRB served in 1 month	
- 6 – 15 people	4 (57%)
- > 16 people	3 (43%)

N: number of Pharmacy/Apotek (7 pharmacy)

Table 4. Public Health Centre’s Characteristic

Characteristic of Public Health Centre	n (%) N = 7
Number of Doctor in 1 day working	
- 2 people	1 (14%)
- 3 people	1 (14%)
- >3 people	5 (72%)
Estimated number of patients member of BPJS served in 1 day	
- 51 – 150 people	2 (29%)
- > 150 people	5 (71%)
Estimated number of patients with type 2 diabetes PRB served in 1 month	
- 5 – 11 people	2 (28,5%)
- 12 – 25 people	3 (43%)
- > 25 people	2 (28,5%)

N: number of informants of Public Health Centres (7 public health centres)

Types of drug that used by patients with type 2 diabetes mellitus in PRB consisted of several therapies indicating the occurrence of complications can be seen in Figure 2.

Some Types of Drug Therapy in the Prescription of Patients with Type 2 Diabetes Mellitus PRB

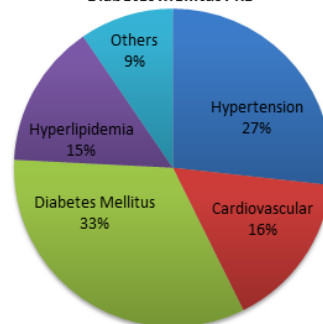


Figure 2. Types of drug therapy groups in the prescription of patients with type 2 diabetes mellitus PRB

Mostly, therapy for patients with type 2 diabetes mellitus of PRB in national health insurance is using Metformin, Glimperide, Acarbose and others can be seen in Figure 3.

Type 2 Diabetes Mellitus Drugs Prescribed in PRB Patients

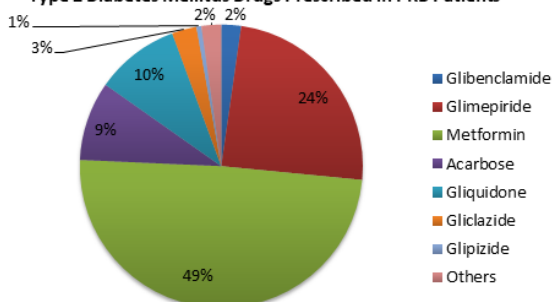


Figure 3. Types 2 diabetes mellitus drugs prescriber in PRB patients

From the results, it was shown that the pharmacist's knowledge about MTM was still limited. Most of them never heard the term of MTM. However, the spirit of MTM to achieve better patient quality of treatment was found in each informant. They acknowledged

that the purpose of services provided was to improve the patient's quality of life. The summary of interviews from two groups of informants based on every element of MTM is described in Table 5.

Table 5. Mapping results of interview from doctors and pharmacists

Element	Doctors	Pharmacists
Medication Therapy Review (MTR)	<ul style="list-style-type: none"> Doctors are more specific to ask patients about the regularity of taking medication, physical activity and other complaints. Intensive communication between doctor and patients is done with giving personal contact numbers and primary health care. Some obstacles in intensive communication are the large of patients, language used, hearing loss, and taking of drugs by family or others, so that information about the current of patient's condition is not obtained directly. 	<ul style="list-style-type: none"> Some pharmacists argued that patients consult pharmacist on medication and talk doctor about lifelong medication and clinical outcome discrepancies. The role of a strategic pharmacist for changing patient prescriptions. Pharmacists read results of laboratory tests, evaluate them and monitor the parameters of discussing with doctor. Intensive communication between pharmacist and patient, but not deeply.
Personal Medication Record (PMR)	<ul style="list-style-type: none"> The patient therapy records are inputted into regional health information system (SIKDA), but the joint notes are not available because this systems is not connected to pharmacies serving for patients of referral program. Doctors always ask the patient, whether use drugs or other products (non prescribed medications). Doctors generally suggest patients to ask pharmacists about drugs and their use further, but patient is uncertain know drug information in pharmacist or other officer. 	<ul style="list-style-type: none"> Some pharmacists have medication records except for patients of referral program. Patients submit complaints/mismatched therapies from different prescriptions or changes and always suggest asking doctor about treatment. Treatment recording pharmacist and doctor should be differentiated, the medical record is more specific about diagnosis, and pharmacist comments are separated on separate columns.
Medication related Action Plan (MAP)	<ul style="list-style-type: none"> In general, patients rarely or never record the drugs used and no doctor has suggested. Some of patients are disobedient to take medication because they do not take medication, feel uncomfortable and lazy, but not because of unbelief. Non-compliance of patients is known during anamnesis, physical examination, the irregularities of laboratory results, complaints that have not been lost, and residual drugs compared with previous clinical records. 	<ul style="list-style-type: none"> Drug compliance can be seen from the results of laboratory examination or ask the patient. If there is a misconception of taking the drug, in general the pharmacist only explains the related rules of use and drug side effects. The pharmacist's job explains about the risks of medication use, but the non-compliance of patients taking medication is a pharmacist's job with doctor. There is no consultation for pharmacists or doctors, therefore the importance of consultation schedule records. Continuing education needs to be done to empower patient by visiting the patient's home.
Intervention and/or Referral	<ul style="list-style-type: none"> Doctoral cooperation with pharmacists is important for the cure of patients, in the form of collaboration, making standard operating procedure and data integration limited to the authority and responsibility. Hopefully, this collaboration will suggest patients become more obedient and increase motivation through education, counseling, home care patients "Tap doors serve with heart" (<i>ketuk pintu layani dengan hati</i>) but still not touch the patient of referral program. Another explanation through giving a leaflet, the use of a flipchart (picture book in primary health care about diseases). 	<ul style="list-style-type: none"> Patients do not always get counseling from pharmacists because their lack of presence. Pharmacist feels the need for doctor's help as a joint task of improving patient's adherence to taking medication, such as conveying same suggestion and cross-checking the patient's information. In general, pharmacists do not know and have not communicated with doctors in primary health care. Collaboration doctors with pharmacists take the form of counseling or education Doctor's request to pharmacist always verifies the suitability of the given drug dose. Cooperation with doctors for the good of patient by creating a discussion forum, then introduction is required first.
Documentation and Follow-up	<ul style="list-style-type: none"> Some doctors argue records with pharmacist are required, because more complete in obtaining information from patients. The patient record the latest control schedule to doctor or pharmacist. Patients need to have their own records document on their treatment. 	<ul style="list-style-type: none"> Cooperation with doctors is done by documenting prescribed referral program diffilling every month. Pharmacists are in dire need of doctors to review medications and must know the limits in performing their duties. The patient's record of service is that the doctor encountered is always non-fixed or alternating.

Doctors agreed on the importance of collaboration with pharmacists in providing explanations of drugs and medication adherence. The collaboration was based on their experience in serving patients with a variety of drug-related characters and complaints. They also agreed that the purpose of their care with the pharmacist was to understand the treatment process and to empower the patient in managing illness to achieve a better quality of life. The five core elements in MTM from literature explains how pharmacist serves patients routinely by building a sense of confidence for the advanced stages of treatment and preventing the progression of the disease is a responsibility of pharmacist. The bond of responsibility was related to patient and doctor. It had not been fully illustrated from the summary of interviews with informant pharmacists, but they agreed on the importance of collaboration with doctors and were also sure to help doctors explain drug-related treatments to patients.

Further discussions of aspects of MTM were divided into knowledge and understanding, Optimization of the patient therapy outcomes, importance of doctor-pharmacist collaboration, collaboration requirements and referral program mechanism. The explanations were as follows:

Knowledge and understanding about medication therapy management (MTM)

Three informants from the pharmacist group have known and understood the concept and purpose of MTM, while one pharmacist only ever heard and learned from the seminar and partly learned from the brief information provided by the researcher when the interview will begin. Three informant pharmacists understand MTM, even guiding students in the final project with MTM topic and one of them run MTM. The group of doctor informants had never heard MTM. This is understandable considering that MTM is a strategy of practicing the philosophy of pharmaceutical care practices for pharmacists, not being part of medical care. But both groups of informants know about the concept of collaboration but have never run it.

Research showed that although pharmacists and doctors have limited knowledge about MTM, they had a positive attitude towards MTM services. Implementation had not run optimally due to several obstacles. Previous research has been explained about barriers that occur such as time, workflow, competence and communication skills that were not yet optimum.

Optimization of the patient therapy outcomes

The doctors always asks to patient same questions, notes, explains, and reconfirms the patient's understanding of the medication and treatment and advises

the pharmacist if the patient needs more information about the drug. Doctors seek to build awareness of the patient about the understanding of the disease and the treatment that is being undertaken. Pharmacists always advise patients to take medication and consul to the doctor if the patient wants to change drugs, use other drugs/products or when irregular laboratory results occur. Both groups of informants alike have goals of therapy in order to improve the patient's quality of life who are the goal of MTM. This is evident from what is done trying to provide complete information to patients related to drug therapy and illness although very dependent on the condition and character of the patient. Doctors and pharmacists alike have constraints in terms of controlling drug use and patient adherence taking medication.

The importance of doctor-pharmacist collaboration

Doctors need pharmacists' help regarding explanations about drugs and the benefit of taking medication, as not all patients are open to inform the doctor or otherwise. Doctors assess collaboration with pharmacists need to be done to strengthen each other's role in the interests of patient therapy. Pharmacists expect to discuss with doctors reviewing ongoing therapies such as therapeutic effectiveness, non-reduced complaints, medication adherence, and laboratory irregularities. Collaboration begins with an introduction first, holds regular meetings and discussions, or makes a joint form in terms of patient treatment records.

Collaboration between doctors and pharmacists was considered important to support the best health services provided to patients. Factors that related to management change, the attitude and perception environment of practitioners were very important to trigger the formation of collaboration between doctors and pharmacists (Snyder, 2015).

Collaboration Requirements

Doctor informants did not mention any specific obstacles if they would collaborate with pharmacists, while pharmacist informants still felt the need to improve their competence if they wanted to collaborate with doctors, besides it needed a mutual agreement in carrying out collaboration while still prioritizing the limits of authority and service standards of each profession. The importance of competency equality, organizational policy, patient empowerment and agreement was fundamental to the formation of collaboration.

Referral program mechanism

Referral program (PRB) is one of the national health insurance programs for chronic disease patient with

stable condition, and still require long term treatment. The types of diseases included in the reciprocity program are Diabetes Mellitus, Hypertension, Heart, Asthma, Chronic Obstructive Pulmonary Disease (COPD), Epilepsy, Schizophrenia, Stroke and Systemic Lupus Erythematosus. Implementation of PRB involves pharmacist as primary health care network in drug services. Pharmaceutical care as a pharmacy practice philosophy by pharmacists in community pharmacies and believed through MTM to help the success of therapy impact on the decline in health costs. This will be highly beneficial to the improvement of therapeutic outcomes for chronic disease among patients. With patient drug therapy studies including rational drug use with effective clinical effects, drug information services, counseling and residential services. The flow of drug services in referral program has been referring to the Regulation of the Minister of Health of the Republic of Indonesia number 73 of 2016 (Permenkes RI No. 73,2016) on the standard of pharmaceutical services in pharmacies.

MTM showed a positive impact on changes in the behavior of type 2 diabetic mellitus patients. This was showed by evidents from studies on impact of MTM on knowledge, attitude and practice among diabetic patients rising to 61.41%, 50.44% and 52.23% (Niroomand et al, 2016). Another study about exploring successful community pharmacist-physician collaborative working relationships using mixed methods also showed that successful collaboration comes from the beginning of relationships, mutual trust and role specifications (Snyder, 2015).

CONCLUSION

This study concluded that collaboration between professions is a complex concept because of the involvement of various professions. But every profession has understood the urgency of implementing interprofessional collaboration. The main components of interprofessional collaboration in MTM from general practitioners, especially doctors and pharmacists have been identified but still need to be formulated more detail. MTM showed a positive impact on changes in the behavior of type 2 diabetic mellitus patients showing by evidents from studies on impact of MTM on knowledge, attitude and practice among diabetic patients rise. The implications of collaborative practice should be preceded by socialization activities so that all health care providers have a common view of interprofessional collaboration in MTM for patients with diabetes mellitus in primary care.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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