

Sampling Assistance Using the Poct Cholesterol Tool for Patients with Diabetes Mellitus in the Working Area of Puskesmas Ome

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Abstract

Diabetes has now become the seventh cause of death in all age groups in Indonesia. There is a tendency for non-communicable diseases such as Diabetes Mellitus (DM) to increase. This is due to unhealthy lifestyle behaviors that continue to develop in society. DM patients have the potential to suffer various complications if their glucose levels are not controlled. The rapid pace of technology has caused many laboratory equipment manufacturers to create a tool that can be used by both the health community and the non-health community. However, in preparing samples for examination, a phlebotomy technique is needed. Poor phlebotomy technique will affect the examination results issued by the portable device. This community service activity aims to provide knowledge and health checks related to sampling using a poct cholesterol tool for people with Diabetes Mellitus in the Work Area of the Ome Health Center. The methods used in this community service are lectures, question and answer and health checks, practicum (demonstrations), posttests and monitoring evaluations which are carried out 2 weeks later. The results of this community service resulted in the ability to use the POCT tool independently.

Keywords: Diabetes, Poct Cholesterol, Working Area

Introduction

In Indonesia, diabetes has emerged as the seventh leading cause of mortality across all age cohorts. There exists a proclivity for the escalation of non-communicable ailments, such as Diabetes Mellitus (DM). The aforementioned phenomenon can be attributed to the proliferation of unhealthy lifestyle practices within contemporary society (PDPERSI, 2014).

Indonesia ranks among the nations with the greatest total count of individuals afflicted with DM on a global scale. In 2013, Indonesia had a total of 8.7 million individuals affected by diabetes, ranking it as the seventh country with the highest prevalence of diabetes globally. Diabetes Mellitus (DM) is a chronic disorder that affects the metabolism of carbohydrates, fats, and proteins (Young et al., 2009). It is characterized by hyperglycemia, which is an increase in blood glucose levels above normal values. This condition is associated with absolute or relative deficiencies of insulin action or secretion (PDPERSI, 2014).

According to the Basic Health Research (Riskesdas) conducted by the Ministry of Health in 2013, the North Maluku Province exhibited the highest prevalence of DM diagnosed by a doctor in Ternate (2.9%). Morotai Island accounts for 1.7% of the total area, while Central Halmahera and South Halmahera each account for 1.1%. The Sula Islands, Ternate, and Morotai Island exhibit the highest prevalence rates of doctor-diagnosed diabetes and its associated symptoms, with rates of 4.7%, 4.1%, and 3%, respectively. The prevalence of individuals with DM in the urban area of Ternate can be attributed to the behavioral and lifestyle patterns exhibited by the local population (La Patilaiya et al., 2021). Insufficient knowledge regarding diabetes management, coupled with inadequate dietary regulation and a

general lack of health awareness among individuals, may potentially impose a significant burden on families, communities, and the nation (Bajaj et al., 2013).

The prevalence of individuals with DM was determined through laboratory installation at RSUD Dr. Hi. Chasan Boesoirie Ternate during the period of March-May 2015, resulting in a total of 64 DM cases. The aforementioned text pertains to the medical records of RSUD Dr. Hi. Chasan Boesoirie Ternate.

Patients diagnosed with diabetes mellitus are at risk of experiencing a range of complications in the event that their blood glucose levels are not effectively managed (Gray et al., 2000). The swift advancement of technology has prompted numerous manufacturers of laboratory equipment to develop a versatile instrument that can cater to the needs of both the healthcare and non-healthcare sectors. The acquisition of a sample for examination necessitates the utilization of a phlebotomy technique. Inaccurate phlebotomy methodology can have an impact on the diagnostic outcomes generated by the mobile apparatus.

Methods

The applied methodology involves the utilization of a lecture-based approach or material presentation by the Puskesmas staff and the Community Service Team of the Medical Laboratory Technology Department, with a focus on the topic of cholesterol. In individuals diagnosed with Diabetes Mellitus (DM), the dissemination of information is supplemented by an interactive exchange of inquiries and responses among attendees and experts. Subsequently, the process involves conducting a cholesterol examination by extracting capillary blood and analyzing the resultant high or normal examination outcomes. Following the examination, a post-test is administered to assess the proficiency in utilizing the POCT examination tool.

After a fortnight, a revisit was conducted to the domiciles of individuals diagnosed with DM to evaluate the efficacy of our intervention.

Infrastructure and Equipment

The service employs the Ome Health Center and a Cholesterolmeter Tool as its primary facilities.

The individuals or groups implicated

The entities participating in this service comprise individuals afflicted with DM and the Ome Health Center.

Challenges encountered and measures taken

Recruiting patients with DM poses a challenge, thus motivating their participation in community service at Puskesmas. Regarding our current endeavors, we are collaborating with Puskesmas staff to conduct individualized home visits for patients with DM in order to facilitate the provision of this service.

Evaluation

The present study involves an assessment of the pre-activity designed to gauge the level of knowledge among respondents, specifically individuals with DM, regarding the prevention of high cholesterol. The assessment was conducted through the dissemination of uncomplicated surveys comprising inquiries pertaining to the participants' cognizance and comprehension of endeavors aimed at averting elevated levels of cholesterol.

Evaluation of the Activity After Completion

The assessment is comprised of two distinct phases:

Phase I post-activity evaluation is conducted following the implementation of mentoring and presentation activities, mirroring the methodology employed during the pre-activity evaluation. The objective is to assess the extent to which the intended activity has impacted the knowledge and skills of the participants.

Phase 2 post-activity evaluation is conducted subsequent to the execution of multiple weeks of activities. The purpose of this study is to assess the level of instruction and implementation of identification methodologies

Results and Discussion

The Work Area of the Ome Community Health Center in Tidore City conducted community service activities with a total of 35 participants. The service activity commences with pre-test procedures to assess the level of knowledge possessed by the participants. The approach utilized involves the delivery of lectures or presentations by the community service team, featuring the topic of Cholesterol Examination. The material is supplemented with a question and answer session, facilitating discussion between participants and the experts leading the session. Subsequently, conduct an assessment by utilizing a cholesterol meter. In addition to conducting inspections, this endeavor also encompassed the engagement of participants in utilizing the tool and culminated in a post-assessment undertaking.

Out of the 35 participants with DM, 9 were able to comprehend the pre-test while the remaining 26 were unable to do so. Based on the findings of this preliminary assessment, it can be inferred that a significant proportion of individuals with DM lack the ability to conduct cholesterol testing autonomously.

Following the administration of the pre-test, a team proceeded to deliver a presentation utilizing power point media. Subsequently, a cholesterol check was conducted to assess cholesterol levels in patients with diabetes mellitus. The findings acquired are presented as follows:

NO	Name	Age	Result	
			NORMAL	High
1	A	46	√	
2	B	46	√	
3	C	48	√	
4	D	55	√	
5	E	50	√	
6	F	54	√	
7	G	50		√
8	H	53		√
9	I	47		√
10	J	47	√	
11	K	48	√	
12	L	59	√	
13	M	58		√
14	N	55		√
15	O	56	√	
16	P	51		√
17	Q	52		√
18	R	44	√	
19	S	48		√
20	T	50		√

21	U	50		√
22	V	49		√
23	W	44		√
24	X	63		√
25	Y	47		√
26	Z	49		√
27	AA	54		√
28	AB	54	√	
29	AC	55	√	
30	AD	50	√	
31	AF	58		√
32	AG	58		√
33	AH	44	√	
34	AI	54	√	
35	AJ	55	√	

The present study reports on the outcomes of community service initiatives conducted in the operational domain of the Ome Community Health Center, located in the Tidore City Islands, encompassing four sub-districts. Specifically, the study involved the participation of 35 individuals, with 10 individuals from Ome Village, 7 individuals from Mareku Village, 10 individuals from Gubukusuma Village, and 10 individuals from Afa Afa Village. Notably, the study identified 18 participants with elevated levels of cholesterol.

Following the implementation of the demonstration, a post-assessment was conducted to evaluate the effectiveness of this intervention in enhancing the participants' knowledge. Based on the post-test outcomes, it was observed that the number of participants had increased from 35 to 30, who demonstrated a clear understanding of self-examination. However, 5 participants were unable to comprehend the independent use of the tool.

The collective outcomes of the aid rendered by two employees of Ome Health Center yielded valuable feedback and comprehension on the feasibility of employing a cholesterol meter for patients with DM.

The aspiration is that the educational benefits derived from the mentoring and evaluation activities will not only be limited to the 35 participants, but will also be extended to all DM patients, with the aim of averting hypercholesterolemia.

Conclusion

Currently, there is a lack of information regarding independent cholesterol examination in patients with DM. Following the question-and-answer session and the practical demonstration of cholesterol monitoring in patients with diabetes mellitus, there was a notable improvement in the independent assessment. Specifically, 30 out of 35 participants were able to comprehend and utilize the tool autonomously, while the remaining 5 participants exhibited some difficulty in fully grasping its functionality.

Suggestion

Considering the significant advantages of the aforementioned community service initiative, it is imperative to organize analogous community service programs in other vicinities within the premises of the Tomalou Health Center. Individuals with diabetes mellitus require assessment and consultation with regards to their cholesterol levels.

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