

## Boosting Perceptions of the Benefits of Complication Prevention in Reproductive Age Diabetes Mellitus Patients via Self-Talk Affirmation Intervention

Rr. Vita Nurlatif

Department of Public Health, Faculty of Health Sciences, University of Pekalongan

Email : rr.vitanurlatif@gmail.com

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### ABSTRACT

*Diabetes mellitus is a chronic disease that lasts a long time and requires high adherence and self-discipline to carry out comprehensive self-care management to control blood glucose levels and prevent further complications. The practice of self-management requires knowledge or literacy and a positive mindset that is supported by good self-confidence for DM sufferers to be able to do it. Several studies have only examined aspects of physical intervention, such as providing physical activity (DM gymnastics) and education on medication adherence, but there are still few interventions that provide mindset strengthening in the form of self-talk affirmations in order to form a positive perspective on the perception of the benefits of preventing DM complications in sufferers. The study's objective was to ascertain whether using self-talk affirmations would improve DM patients' perceptions of the benefits of preventing complications in Pekalongan Regency, Central Java, Indonesia. 158 individuals with DM participated in this study using a cross-sectional quantitative research approach and a pre-post test sample design. A questionnaire was utilized for data collection, and a Paired T-test for data analysis, which assessed patients' perceptions of the benefits of preventing DM complications either before and after receiving affirmative self-talk therapies. Patients' perceptions of the benefits of preventing DM complications are influenced by the results of self-talk and self-affirmation interventions; there is a difference in the mean score of perceived benefits before and after the intervention. For patients with DM who are of working age, self-talk affirmations might be included to a list of self-management interventions.*

**Kata kunci:** *Diabetes Mellitus, Perceptions of the Benefits, Self-talk.*

### INTRODUCTION

The prevalence of diabetes mellitus in this decade has been increasing, especially in productive age (Afroz, et al). Based on the 2018 Basic Health Research (Riskesdas) report by the Ministry of Health, in Indonesia there has been an increase in the prevalence of DM to 10.9% (Blaga et al., 2018). The International Diabetes Federation (IDF) in 2019 placed Indonesia as the 6th ranked country in the number of DM sufferers which reached 10.3 million.



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Predictions from the IDF state that there will be an increase in the number of DM patients from 10.7 million in 2019 to 13.7 million in 2030 (Wang et al., 2023).

The tendency for the incidence of DM to shift to productive age. This will have implications for the burden of health financing in the future if it is not properly controlled (Caprara, 2021). Handling DM requires high compliance and discipline from sufferers to be able to apply self-management properly so that the condition does not lead to complications. Self-management in question includes diet regulation, physical activity, stress management, rest pattern regulation, control of other risk factors, and what is no less important is fostering self-confidence and positive perception of the benefits of self-management practices to prevent serious complications for people with DM .

Treating diabetes mellitus (DM) requires a high level of compliance and discipline from the patient to implement effective self-management, so that the condition does not cause complications. This self-management includes several important aspects, such as setting a healthy diet to avoid foods high in sugar and fat, as well as regular exercise to control blood sugar levels and improve overall health. In addition, stress management is also very important, where sufferers need to manage stress through relaxation techniques or fun activities. Setting a sufficient and quality rest pattern also contributes to the overall health of the body. No less important, sufferers must control other risk factors, such as hypertension and cholesterol, to maintain a healthy balance. In addition, fostering confidence and positive perceptions about the benefits of self-management practices can motivate sufferers to be more disciplined in managing their condition. By integrating all these aspects, people with DM can maintain their health more effectively and reduce the risk of serious complications.

Affirmative self-talk is proven to be able to increase self-confidence and the perception of the benefits of practicing self-management in people with DM (Simoes et al., 2022). Many previous studies have examined the effect of physical activity interventions, stress management education, medication adherence, but few have examined the effect of giving interventions to form a positive mindset through self-affirmation self-talk which will foster self-confidence and good perceptions of benefits in people with DM to be able to practice management. in preventing complications. This study aims to determine the effect of self-talk affirmation intervention on increasing perceptions of the benefits of preventing complications in people with diabetes mellitus of reproductive age in Pekalongan District, Central Java, Indonesia

## **METHODS**

This a cross-sectional quantitative research study used a quasi-experimental design approach with a one pre-post test sampling approach on 158 research respondents at three selected loci, namely the working areas of the Tirto I Health Center, Kedungwuni I, and Wiradesa. The intervention provided was in the form of education on how to grow positive affirmations through self-talk to form a good perception of benefits regarding the practice of preventing

complications in people with DM of productive age which included understanding self-talk, methods of cultivating affirmations through self-talk, practicing complication prevention practices and tips on growing self-ability. to better practice self-management. A questionnaire was utilized for data collection, and a Paired T-test for data analysis, which assessed patients' perceptions of the benefits of preventing DM complications either before and after receiving affirmative self-talk therapies.

The intervention was given for 3 months, the intervention was given once every week. The stages of the study included measuring the baseline score of the perceived benefits of preventing complications, followed by administering self-talk affirmations for 12 in 2023 and continuing with measuring the perceived score of the benefits of preventing upperline complications. This research was approved by the research ethics committee of the Faculty of Medicine, Universitas Sebelas Maret with number 99/UN27.06.11/KEP/EC/2022.

## RESULT AND DISCUSSION

This study involved 158 respondents with diabetes mellitus of productive age, who went through three research stages, namely the preparation stage, namely recruiting respondents assisted by cadres and health workers in three research areas (wiradesa, tirta I and kedungwuni I) and then measuring perception scores baseline benefits, then in the second stage carried out affirmative educational interventions on the perception of the benefits of preventing complications for 12 weeks, then the third stage was measuring post-intervention perception scores to process the data to see comparisons of the mean intervention scores at baseline and upperline.

The results of the research on the characteristics of the respondents which include age, gender, occupation, income are presented in the following table below:

**Table 1.** Characteristics of research respondents based on number

Variable	Category	Frequency	Percentage
<b>Education</b>	No school	2	1,3
	Elementary school	102	64,6
	Junior high school	30	19
	High school	22	13,9
	College	2	1,3
		158	100
<b>Gender</b>	Man	36	22,8
	Woman	122	77,2
		158	100
<b>Job</b>	Doesn't work	76	48,1
	Private	71	44,9
	Civil servant	1	6
	Laborer	7	4,4
	Trader	3	1,9
		158	100

<b>Income</b>	Below the district minimum wage	123	77,8
	Above the district minimum wage	35	22,2
		158	100

Source: Data Processing

The table above shows that the largest number of respondents had an elementary school education level (64.6%), with the most participants being women (77.2%), not working as much as 48.1%, and the most earning below the minimum wage was 77.8%.

The results of measuring the perception of the benefits of baseline DM complication prevention practices for the answers of 158 respondents obtained an average perceived benefit score of 8.78, with a minimum score of 6 and a maximum score of 12. Meanwhile, in the upperline measurement, the mean perceived benefit score was 12.11, with a minimum score of 10 and a maximum score 14. The results of the t-test get a P value <0.001.

**Table 2.** The results of the Paired T-test for the perceived scores of baseline and upperline benefits

<b>Variable</b>	<b>Baseline mean</b>	<b>Upperline mean</b>	<b>P Value</b>
<b>Perceived benefits</b>	8,78	12,11	0,001

Source: Data Processing

Therefore, it can be concluded that there is a difference in the perceived benefit score from the baseline and upper line and it can be concluded that the provision of affirmative self-talk interventions, the practice of preventing complications, affects the formation of a good perception of benefits in people with productive age DM to have good confidence so that it can be a trigger to do management

The prevalence of DM in the last decade has experienced an increasing trend of cases in productive age. DM is not only a health problem related to the elderly, but has increased its prevalence in productive age, adolescents and children (diabetes insipidus) (Searle et al, 2019). Diabetes Mellitus is a chronic chronic disease that requires high adherence and discipline from sufferers to carry out good self-management which includes diet regulation, physical activity, stress management, and rest pattern regulation. In the past decade, the prevalence of diabetes mellitus (DM) has shown a significant increase, especially among the productive age. Data shows that DM is no longer only a common health problem among the elderly, but is now also increasingly found in adolescents and children, including cases of diabetes insipidus (Searle et al., 2019). Diabetes mellitus is a chronic disease that requires a high level of compliance and discipline from sufferers to manage their condition properly. Effective self-management includes healthy diet management, regular physical activity, stress management, and rest patterns. All of this is important to

prevent complications and maintain the quality of life of DM sufferers.

Good self-management in diabetics will reduce systolic blood pressure, diastolic blood pressure, blood glucose profile, and anxiety and depression in people with diabetes mellitus. Research conducted by Maureen-Markle-Reid on community programs to improve quality of life and self-management of diabetes mellitus in adults and comorbid patients in Ontario, Canada found that with good self-management, it is proven to reduce blood pressure profiles, blood glucose, anxiety and depression (Saeedi et al., 2019).

Providing IEC interventions with the benefits of self-talk for increasing positive affirmations in people with diabetes mellitus is in line with research conducted by Møllergaard (2021) who conducted research on developing website-based motivational support using self-affirmations to motivate lifestyle changes in people with type 2 diabetes mellitus found that affirmations Positive results given to respondents with type 2 DM through digital-based interventions are proven to be able to reduce barriers to practicing self-management as well as being able to increase enthusiasm and motivation for self-management in sufferers of type 2 DM (Oo et al., 2020 ; Idris & Mursyid, 2023). Providing Information, Education, and Communication (IEC) interventions that focus on the benefits of self-talk can increase positive affirmations in people with diabetes mellitus. This is in line with research conducted by Møllergaard (2021), which developed a website-based motivational support using self-affirmation to encourage lifestyle changes in people with type 2 diabetes mellitus. The study showed that positive affirmations given to respondents could reduce barriers to self-management practices. Furthermore, this digital-based intervention has proven to be effective in increasing the enthusiasm and motivation of people with type 2 diabetes to do better self-management (Oo et al., 2020; Idris & Mursyid, 2023). Thus, this approach can be a valuable strategy in helping people with diabetes to be more disciplined and consistent in managing their health. A good perception of the benefits related to the practice of preventing complications in patients with DM to be able to form a high motivation in preventing complications. Perceived benefits will be good if supported by an adequate level of knowledge and a positive attitude. Research on the perception of risks and benefits of various foods consumed in Brazil and optimism about chronic diseases found that respondents who have perceptions and knowledge of the risks and benefits of various types of food will choose food correctly according to their conditions to prevent degenerative diseases and obesity and their complications (Nejat et al., 2021; Khiyali et al., 2021). The perceived benefits of good physical activity have also been shown to be significant in the practice of regular and measured good physical activity which is not only associated with mortality and morbidity associated with degenerative diseases, but also associated with the level of productivity and economy of a country (Li et al, 2023; Lim & Dass, 2022; Markle-Reid et al., 2018).

## CONCLUSION

This study found that there was a difference in the average perceived score of the benefits of preventing complications in DM sufferers of productive age. And at the same time found that giving positive affirmation interventions to prevent complications through self-talk was able to form good perceptions of benefits for DM sufferers to carry out self-management related to dietary adjustments, rest patterns, stress management and physical activity as well as adherence to taking medication in respondents. Suggestions that can be given are affirmative self-talk interventions that can be added to a series of self-management interventions for DM sufferers of productive age.

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