

Obesity and Diabetes Counseling for PPSU Officers in Kapuk Subdistrict, West Jakarta

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Abstrak

Produktivitas kinerja petugas penanganan prasarana dan sarana umum (PPSU) yang baik akan dapat memberikan dampak positif bagi pelayanan kepada masyarakat. Produktivitas kerja pada dasarnya dipengaruhi kebugaran jasmani, status gizi, kapasitas kerja, dan beban tambahan akibat lingkungan kerja. Produktivitas kerja tiap individu bisa berbeda, salah satunya tergantung dari status gizi individu tersebut. Status gizi kurang umumnya akan berpengaruh terhadap kondisi kesehatan, aktivitas dan produktivitas kerja. Status gizi juga berhubungan dengan keadaan antropometri yang bisa disebabkan oleh kebiasaan mengonsumsi makanan. Asupan makan para petugas PPSU kadang kurang diperhatikan porsi nya. Asupan makan yang terlalu mengandung karbohidrat berlebihan akan dapat menyebabkan peningkatan kadar glukosa darah. Peningkatan kadar glukosa dapat menyebabkan terjadinya penyakit diabetes. Asupan makanan dengan kandungan lemak dan karbohidrat yang tinggi juga dapat menyebabkan terjadinya obesitas. Diabetes dan obesitas dapat berpengaruh pada aktivitas pekerjaan sehingga menyebabkan produktivitas kerja yang menurun. Keadaan ini dapat menjadi masalah bagi produktivitas kinerja petugas PPSU. Tujuan pelaksanaan Pengabdian kepada masyarakat (PKM) adalah memberikan edukasi mengenai pengertian kadar glukosa darah dan obesitas, pencegahan dalam mengendalikan kadar glukosa darah dan obesitas perlu diberikan kepada para petugas PPSU agar mereka dapat lebih memperhatikan asupan makan dan dapat mengendalikan kadar glukosa darah serta IMT sehingga mencegah terjadinya diabetes dan obesitas sehingga produktivitas kerja meningkat. Pelaksanaan PKM dilakukan melalui penyuluhan serta tanya jawab kepada 52 petugas PPSU di Kelurahan Kapuk Jakarta Barat. Hasil penyuluhan menunjukkan adanya peningkatan pengetahuan mengenai obesitas dan diabetes pada petugas PPSU. Penyuluhan berkesinambungan perlu diberikan kepada petugas PPSU sehingga dapat dilakukan pencegahan obesitas dan DM untuk meningkatkan produktivitas kerja.

Abstract

Good performance and productivity of public infrastructure and facilities (PPSU) officers will have a positive impact on public services. Work productivity is influenced by physical fitness, nutritional status, work capacity, and additional burdens imposed by the work environment. Each individual's work productivity may differ depending on their nutritional status. Poor dietary status generally affects health, activities, and work productivity. Nutritional status is also related to anthropometric conditions, which dietary habits may influence. The dietary intake of PPSU officers is sometimes not considered in terms of food portions. A dietary intake of too much carbohydrate may increase blood glucose levels, thereby potentially causing diabetes. Dietary intakes of high-fat and carbohydrate content may also cause obesity. Diabetes and obesity can affect work performance, reducing productivity. This can be a problem for the productivity of PPSU officers. The purpose of implementing Community Service (PKM) is to provide education on the concepts of blood glucose levels and obesity, and on prevention through blood glucose level and obesity control. This knowledge needs to be imparted to PPSU officers. such that they may pay more attention to food intake and control blood glucose levels and BMI, thereby preventing diabetes and obesity and increasing work productivity. The implementation of PKM was carried out through counseling and Q&A involving 52 PPSU officers in Kapuk subdistrict, West Jakarta. The counseling results showed an increase in knowledge of obesity and diabetes among PPSU officers. Continuous counseling is needed for PPSU officers to prevent obesity and DM and increase work productivity.



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INTRODUCTION

Jakarta is one of the largest cities in Indonesia and as a metropolitan city it has also many problems, particularly in the field of public facilities and infrastructure and of sanitation. To overcome these problems the regulation of the Governor was issued that underlies the nomination of officers for handling public facilities, such as to take care of and maintain the cleanliness of the existing facilities and infrastructure. These officers are called officers for the maintenance of public facilities and infrastructure (with the Indonesian acronym PPSU) or are more popularly known as the orange army. These PPSU officers are needed to optimize the public services connected with public facilities and infrastructure in Jakarta. Good productivity and performance of the PPSU officers may positively impact community service (Khairunissa, 2019).

Work productivity is the ability to produce goods or services from various resources to improve the quality and quantity of a given occupation. Work productivity is basically affected by physical fitness, nutritional status, work capacity, and the additional burden caused by the work environment. The work productivity of each individual may vary, depending on the nutritional status of the individual in question. Poor nutritional status may in general affect an individual's health condition, activity, and work productivity. Nutritional status is also associated with the anthropometric status that may result from food consumption habits (Fikar, 2017). Nutritional status is also associated with dietary intake. Indonesians are accustomed to consume rice as their staple food, which is a source of carbohydrates. Indonesians also have the custom of consuming food preparations based on carbohydrates to be consumed with rice and to consume fast foods and drink sweet beverages. The dietary intake of PPSU officers is sometimes not considered in terms of their food portions. Dietary intake consisting of excessive amounts of carbohydrate may increase blood glucose concentrations, ultimately resulting in diabetes. Dietary intake of high amounts of fat and carbohydrate may also cause obesity. Obesity may be determined by measuring the body mass index (BMI) (Arifani, 2021).

There is a high prevalence of obesity and central obesity in the Indonesian adult population. Individuals with obesity and central obesity show many abnormalities in their biomedical examinations as compared to individuals with normal BMI and abdominal circumference (Septiyanti, 2020; Harbuwono, 2018). Diabetes and obesity may affect activity at work, thus causing reduced work productivity, which may be a problem for the productivity and performance of PPSU officers.

Based on data from the International Diabetes Federation (IDF), it is estimated that there are 437 million persons afflicted with diabetes in the whole world, which will increase to 643 million in 2030. (Ikhsan, 2024) On the other hand, based on the obesity figures from the 2023 Indonesian Health Survey, 14.4% of persons aged 18 years and 1 out of 3 adults has obesity or is overweight (Unicef Kemenkes, 2024).

The high incidence of diabetes in the community is an important problem to be managed, because at present there are still many community members who do not yet understand it and because of their insufficient knowledge about the causes, complications, and prevention of diabetes (Ikhsan, 2024). Because knowledge plays an important role in the management of obesity and diabetes, insufficient knowledge may increase the complications of diabetes. Knowledge about diabetes should not be limited to the patients or their families, but should also be imparted to the community, in view of the high risk of diabetes that may influence work productivity (Irawan, 2018).

The objective of counseling in community service is to provide knowledge about obesity and diabetes for PPSU officers, because they are part of the community who may have been inadequately exposed to the problem, which may result in their suffering from obesity or diabetes. The PPSU officers who have received counseling are expected to retain their knowledge, such that they may be able to prevent their suffering from obesity and diabetes, which ultimately will increase their work productivity.

METHODS

Target audience and venue of the community service activity

The target audience in this community service activity comprised all PPSU officers in Kapuk subdistrict, West Jakarta. The total number of PPSU members in Kapuk Subdistrict was 75, but only 52 PPSU officers were recruited for this counseling activity, that was to be held in the auditorium of Kapuk subdistrict office, West Jakarta.

Methods of PKM implementation

In preparing for the activity, the chairperson of the team contacted the Kapuk Subdistrict authorities to obtain permission for holding the counseling activity for the PPSU officers in their region, and it was agreed that the counseling activity would be held on April 17, 2025, from 9:00 a.m. until finished. Subsequently the total number of PPSU officers who could follow the PKM was noted, which turned out to be 75 persons. Afterwards the chairperson of the team wrote a letter to the Dean of the Faculty of Medicine to compose an assignment letter for the PKM activity. The next step was to prepare banners for the activity, the appreciation plaques, the facilities and infrastructure for the PKM activity, the pre- and post-test questionnaires, the participant sign-in sheet, the minutes or official record of the activity that would be signed by the head of the subdistrict, and the counseling materials. The latter consisted of the definitions, clinical aspects, complications, and prevention of obesity and DM.

At the execution stage, one day before the activity, confirmation messages were sent to the officers of Kapuk subdistrict to remind them to prepare chairs, receiving desk, Infocus audiovisual equipment, projector screen, loudspeaker, and consumption for the attending respondents. On the day of the activity event, the participant sign-in sheet was signed-in by the participants (only 52 respondents were present). Respondents who were present were requested to fill-in the pre-test questionnaire on obesity and diabetes. The items in the questionnaire were given in multiple choice format. The filling-in of the questionnaires was done by selecting the correct answer. After the finish of the filling of the pretest questionnaire, a counseling session was held on obesity and diabetes, and then the question-and-answer session was held. At the end of the counseling, the respondents were asked to fill-in the post-test questionnaire. The indicator of success for this PKM activity was the improvement in the knowledge of the PPSU officers on obesity and DM after having received counseling. The instruments used in the evaluation of these indicators were the questionnaires. The increase in the post-test grades as compared with the pretest grades indicated that there was an increase in the knowledge of the PPSU officers after receiving counseling.

HASIL DAN PEMBAHASAN

There were 52 respondents participating in the present PKM activity. The majority of the respondents were males (76.9%), mean age of the respondents was 42 years., with the youngest being 22 years old and the oldest 55 years. The predominant educational level was senior high school graduate (78.8%) and mean work duration as PPSU officer was 8 years (Table 1).

Table 1. Characteristics of respondents

Variable	n (%)
Age (years) X±SD	41.9 ± 9.6
Gender	
Male	40 (76.9)
Female	12 (23.1)
Education	
Elementary school	1 (1.9)
Junior high school	8 (15.4)
Senior high school	41 (78.8)
University/Strata 1	2 (3.8)
Work duration (years) X±SD	8.04 ± 2.61
Pre-test X±SD	81.92 ± 13.29
Post-test X±SD	95.38 ± 9.38

PPSU officers participating in the activity were mostly males. This was caused by the fact that PPSU members were predominantly men, in accordance with the fact that their work required physical force. The tasks of the PPSU officers were among other things the maintenance of the infrastructure and facilities of streets, drains, parks, sanitation, and general street lighting (Peraturan Gubernur DKI Jakarta, 2017).

In the present counseling activity, pre-test and post-test examinations were held, to determine level of comprehension of the PPSU officers in regard to the given study material. The pre-test results showed a mean of 81.92, with the lowest score being 50 and the highest 100, whereas for the post-test results a mean of 95.38 was obtained, with the lowest score being 80 and the highest 100. At baseline, prior to counseling, the pre-test knowledge of the respondents was sufficiently good. Subsequent to counseling and post-test with the same items, there was an improvement in the results, from the lowest pre-test score of 50 to the post-test score of 80.

Table II. Results of pre-test and post-test.

Knowledge score	n	X ± SD	P value
Pre-test	52	81.92 ± 13.29	0.043*
Post-test	52	95.8 ± 9.38	

*Wilcoxon's test

Table III. Correlation of gender, age, education, work duration with pre-test and post-test scores

Variable	Pre-test score		Post-test score	
	p	r	p	r
Gender	0.009	0.360	0.218	0.174
Age	0.544	0.086	0.104	0.228
Education	0.032	0.297	0.767	0.042
Work duration	0.888	0.020	0.064	0.258

P<0.05 significantly different, Spearman correlation test

In the results of the Wilcoxon test (Table 2) there was a significant difference between knowledge before and after counseling was given, at $p=0.043$. The results of the Spearman correlation test of gender, age, education, work duration with pre-test and post-test scores showed a correlation between gender and pre-test scores ($p=0.009$) but did not show a correlation with the post-test scores ($p=0.218$), whereas for level of education, there was a correlation with pre-test scores ($p=0.032$), but not with post-test scores ($p=0.767$). There was no correlation of age with pre-test scores ($p=0.544$) and with post-test scores ($p=0.104$). Similarly, there was no correlation between work duration and pre-test scores ($p=0.888$) and between work duration and post-test scores ($p=0.064$) (Table 3).

The finding of a correlation between gender and pre-test results in the present counseling event showed that female respondents were able to fill-in the pre-test answers correctly in comparison with the male respondents. This may have been caused by the fact that the female respondents had heard about the terms obesity and diabetes, because in addition to being PPSU officers, they also were housewives who participated in educational activities for family welfare (PKK) in the aforementioned subdistrict. On the other had, the absence of a correlation between gender and post-test scores may indicate that the given counseling could be understood by all respondents, either males or females. In principle there are two factors influencing the ability of an individual to understand the provided material, comprising an internal factor, namely the individual's intelligence, and external factors, consisting of educational resources and equipment, as well as the condition of the learning environment (Anwar, 2019).

The study of Zaidi as cited by Anwar (Anwar, 2019) stated that there was no difference between males and females in regard to intelligence. The differences in intelligence between males and females are frequently associated with physiological differences in the brain, although not directly connected with intelligence (Anwar, 2019). The absence of a correlation of age with pre-test and post-test scores may mostly be caused by the fact that the majority of the respondents were not yet elderly, such that their brain power and thought processes were still in good condition. Increasing age will affect brain receptivity and mode of thinking. The older a person, the more developed the brain receptivity, but this declines at older age (Irawan, 2018). In the study results of Irawan *et al.* (Irawan, 2018) the investigators found that age was correlated with knowledge.

Differences in age are correlated with differences in developmental stages, logic of reception, and ways of understanding information (Irawan, 2018).

There was a correlation between level of education and pre-test scores, but no correlation with post-test scores. There is the possibility that many respondents with middle-level education (senior high school and university) gave the correct answers to the pre-test items, but after counseling, all respondents had improved their knowledge, such that among the respondents with a lower level of education (elementary school to junior high school), nearly all could correctly answer the post-test items. The counseling that was given may have increased the respondents' knowledge and could be understood by nearly all respondents. The results of the study conducted by Irawan *et al.* (Irawan, 2018) showed that educational level was not correlated with knowledge, because in their study the respondents who were elementary school and senior high school graduates were in equal numbers, such that their knowledge became balanced and were not correlated with each other. Understanding of knowledge is the main pillar of knowledge. Community knowledge is based on the need for knowledge distribution that includes access to and transfer of information (Irawan, 2018).

Poor knowledge from insufficient information may influence the patient's ability and behavior in controlling blood glucose concentration. The imparting of education or counseling on health and nutrition may increase knowledge about the control of blood glucose concentration. The imparting of education may occur through various media, such as lectures (Andriani, 2022; Assidhiq, 2022). Knowledge may be used as guidelines for daily living, such that it may become a habit that can shape a person's attitude (Assidhiq, 2022). Behavior that is based on knowledge is more easily performed than if not based on knowledge (Eliza, 2024).

The correlation test found no correlation between work duration and the pre- and post-test results. The opportunity to improve knowledge is not merely to have a long work duration, while the topics provided in the administered pre- and post tests are not connected with the work and the work duration of a PPSU officer. The work duration in the same field as the officers' field of knowledge may be correlated with one another, because work duration is a factor that may influence an individual to have a broad outlook, while experience may influence the formation of behavior, such that work duration may influence knowledge, attitude, and behavior (Siagian, 2020). The results of a study by Irawan *et al.* (Irawan, 2018) on factors that are correlated with community knowledge about diabetes found that occupation is not correlated with knowledge, whereas the study by Wawan and Dewi as cited by Irawan *et al.* stated that occupation is correlated with the obtained information (Irawan, 2018).

Education through counseling is the basis for preventing the occurrence of diabetes and obesity. Poor knowledge will accelerate the occurrence of complications, such that this may become a burden for the family and community. Knowledge is also an important factor in deciding an individual's attitude and behavior (Kaluku, 2020). Knowledge is not only gained at school or through education, but also from direct or indirect experience. Knowledge is an important factor for the formation of an individual's behavior, but is not a sufficiently powerful factor to change behavior, for which sufficient intentions are needed for persons to behave according to their knowledge (Kaluku, 2020; Isniati, 2003).



Figure 1. Question and Answer Session.



Figure 2. Distribution of materials to respondents.

CONCLUSION

Counseling on obesity and diabetes as community service, particularly for PPSU officers, may improve their knowledge. Continuing community service need to be given to the community, such that they are exposed to the topic, thus increasing the knowledge of the community, enabling them to apply their knowledge in daily life for the prevention of obesity and diabetes. It is recommended that further longitudinal studies be conducted to evaluate the impact of counseling on changes in behavior, body mass index (BMI), and blood glucose concentrations..

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