

## Nutritional and Diabetes Status of School Teachers in Karawang, West Java: A Cross-Sectional Study

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### ABSTRACT

This study aimed to assess the nutritional and diabetes status of school teachers in Karawang. A cross-sectional study was conducted at the end of 2022. Of the 71 participants, 39.4% were overweight, 19.7% were obese, and 33.8% had a normal body mass index. In terms of fasting blood glucose levels, 73.2% were within the normal range, 12.7% had pre-diabetes, and 14.08% had diabetes. These findings highlight the high prevalence of overweight, obesity, and abnormal blood glucose levels among school teachers in Karawang, underscoring the need for targeted programs to promote healthy lifestyles and chronic disease prevention in this population.

**Keywords:** diabetes, health promotion, nutritional status, teacher's health

### INTRODUCTION

The high prevalence of overweight, obesity, and abnormal blood glucose levels among school teachers in Karawang, as highlighted in this study, is a public health concern. Studies have shown that teachers are at a higher risk of obesity and diabetes compared to other professionals. The prevalence of diabetes among teachers varies from region to region, ranging from 7.4% in South Korea (Baik & Park 2020) to 17.2% in Hong Kong (Bae *et al.* 2022). Sedentary behavior, lack of physical activity, prolonged sitting, stress, and psychosocial factors have been identified as risk factors for diabetes among teachers (Diaz *et al.* 2018). Health promotion programs targeting teachers have shown promising results in improving their nutritional status and reducing their risk of chronic disease. Workplace intervention programs that incorporate nutrition education, physical activity promotion, and stress management have led to positive changes in dietary habits, increased physical activity levels, and improved well-being among teachers (Rachmah *et al.* 2022). Therefore, this study aimed to assess the nutritional and diabetes status of school teachers in Karawang.

### METHODS

#### Design, location, and time

This study is a cross-sectional study

conducted in late 2022 to assess the nutritional and diabetes status of 71 teachers from two schools in Karawang, Indonesia. The study used a purposive sampling design.

Data for the study were collected through structured interviews and direct measurements. Demographic information and medical history related to diabetes, anthropometric measurements and fasting blood glucose levels were obtained. A stadiometer (SAGA AU AL-01) for height, a digital scale (Omron HN289) for weight, and a glucometer (Easy Touch® GCU) were used to measure fasting blood glucose. All protocols were approved by the Ethics Committee of the Faculty of Medicine, University of Indonesia, Dr. Cipto Mangunkusumo National Central General Hospital (No. KET-1088/UN2.F1/ETIK/PPM.00.02/2022).

#### Data analysis

Descriptive statistics were employed to summarize the data collected. The nutritional status of the school teachers was assessed using Body Mass Index (BMI) calculations, while fasting blood glucose levels were analyzed to determine the prevalence of diabetes among the participants.

### RESULTS AND DISCUSSION

A total of 71 school teachers from two schools participated in the study for

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anthropometric measurements and fasting blood glucose level tests. The results showed a high prevalence of overweight, obesity, and abnormal blood glucose levels among the school teachers. Of the 71 participants, 5 (7.04%) were classified as underweight, 24 (33.80%) had a normal BMI, 28 (39.44%) were classified as overweight and 14 (19.72%) were classified as obese (Figure 1).

Many other studies have found similar results, indicating a higher percentage of overweight teachers. For example, a study conducted in Yogyakarta (Kadaryati *et al.* 2019) found that 45.92% of teachers were above the normal BMI range. These findings indicate that a significant proportion of school teachers in Karawang are either overweight or obese, which may have negative health implications. Figure 2 shows that 52 (73.24%) of the teachers had normal blood glucose levels, indicating that they were within the healthy range. However, nine (12.68%) participants had pre-diabetes, which means they had higher than normal blood glucose levels but did not meet the criteria for diabetes. Additionally, 10 (14.08%) participants had diabetes, indicating that their blood glucose levels were significantly elevated and may require medical attention. These findings suggest a considerable prevalence

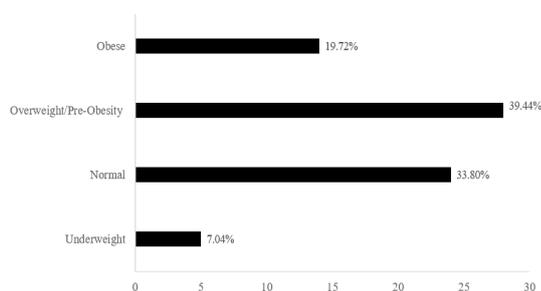


Figure 1. Nutritional status of school teachers in Karawang

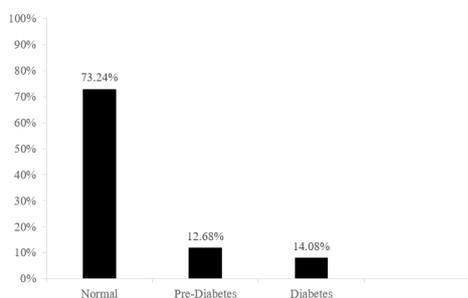


Figure 2. Diabetes status of school teachers in Karawang

of abnormal blood glucose levels among school teachers, with a notable proportion already having diabetes or being at risk of developing the disease.

## CONCLUSION

The high prevalence of overweight, obesity, and abnormal blood glucose levels among school teachers in Karawang highlights the need for targeted programs to promote healthy lifestyles and chronic disease prevention. These initiatives should emphasize regular physical activity, a balanced diet, and awareness of maintaining a healthy weight and managing blood glucose levels.

## DECLARATION OF CONFLICT OF INTERESTS

The authors have no conflict of interest in the conduct of this study from beginning to end.

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