

ABSTRACT

**THE RISK FACTORS THAT INFLUENCE THE OCCURANCE OF
INSULIN RESISTANCE IN ELDERLY WOMEN AGED 58-65 YEARS
IN THE ELDERLY COMMUNITY RESTU
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Diabetes mellitus ranked the fourth position from tenth caused of death in the world. Indonesia ranks the seventh in the world with an increasing number of sufferers from year to year. In the elderly people most at risk of impaired tolerance to glucose if not detected as early as possible will cause type 2 Diabetes mellitus (T2DM), which is caused by insulin resistance. Insulin resistance is related to micronutrients in the glucose metabolism process, that it chromium. The work of insulin is aided by chromium in forming organic compounds that function as glucose tolerance factors.

The purpose of this research was analyzed the risk factors that affect the occurrence of insulin resistance in the elderly. This study used case control design conducted on 21 elderly women in the elderly community of Restu Dr Soetomo General Hospital Surabaya. Data were collected during June until July 2019. Data collection techniques used MNA-SF, questionnaires, antropometric measurements (body weight, height and waist circumference), and laboratory tests (fasting blood insulin, fasting blood glucose and serum chromium), recall form activity 2 x 24 hours, recall form 2 x 24 hours to measure energy and nutrients consumption levels and semi quantitative FFQ form to measure dietary patterns. Determination of resistance status using HOMA-IR method (cut off point $< 2,77$). Analysis of Chi-square test was used to see significance between positive resistance groups and negative resistance groups.

The results showed that there were differences in fasting blood sugar levels $p = 0,025 (<0,05)$ between positive and negative insulin resistance groups. From the results of logistic regression analysis shows that fasting plasma glucose has a significant effect on the occurrence of resistance, $Y = -1,466.(GDP^1)$

Fasting blood sugar levels affect the occurrence of resistance in both groups, although there is no pre-diabetes, because fasting blood glucose levels are still fluctuating. There are psychological factors (stress factors) that were not observed in this study, which have a role that is thought to involve non-specific immune effects and decreased inflammatory factors in the elderly.

Monitoring through nutritional screening and laboratory examinations needs to be done routinely and periodically in the elderly as an early detection of pre-diabetes (preventing DM type 2), as well as changes in consumption patterns, lifestyles and physical activities to improve the quality of life of the elderly, as well as independence in the elderly both individually. and social, and the need for further

research related to the role of psychology (stress factors) on the occurrence of insulin resistance in the elderly.

Keywords : chromium, insulin resistance, HOMA-IR, elderly