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Urine Glucose Detection in Women and Elderly with Diabetes Disease in Kedungpandan Village, Jabon, Sidoarjo

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ABSTRACT

Diabetes is a disease of metabolic disorders caused by poor insulin production by the pancreas or due to the use of body insulin which is not maximal, causing interference. Main diabetes that often occurs in the community is type 1 and type 2 diabetes. Examination for detection is intended to find out the presence of glucose in the urine. So that the community can immediately recover fast considering that if there is a glucose level in the urine, and knowing the increase in the level of glucose in the blood. The method used in this study was collecting residents at the center, which was then carried out by examining the urine sample using a urine dyspeptic. The examinations carried out on 62 people consisting of mothers and the elderly. The results showed that there were 10 positive people or 19% of the total sample. The early detection is important to increase people awareness especially in the Kedung Pandan area.

INTRODUCTION

Diabetes is a metabolic disorder caused by the pancreas that not producing insulin or the body not using insulin properly (Soyjoy, 2015). Diabetes, one of the diseases that are of particular concern on World Diabetes Day (WDD) celebrated every November 14, currently focuses on "healthy living and diabetes". Epidemiologically, it is estimated that in 2030 the prevalence of Diabetes Mellitus (DM) in Indonesia will reach 10,7 million people. While the results of the Basic Health Research (Riskesdas) in 2014, found that the causes of death proportion due to diabetes in the 45-54 year age group in urban areas was ranked 2nd, namely 14.7%. While in rural areas, DM was ranked 7th, namely 5.8% (Ministry of Health of Republic of Indonesia, 2019).

Diabetes has two main categories, namely, type 1 and type 2. Type 1 is characterized by a lack of insulin production, while type 2 is characterized by insulin which functions less effectively in the body (Warahapsari and Dewi, 2011). Diabetes mellitus is incurable but can be controlled. Controlling blood sugar levels regularly in DM sufferers can slow down and prevent chronic complications, as well as regular control in DM sufferers to maintain normal health (Hasnita, et al., 2020). The study conducted by Nautu (2019) showed that examinations carried out on the community found 8 out of 30 samples showed positive results. From this results, we can do urine glucose tests in the community.

Kedung Pandan Village, located in Jabon sub-district, consists of an expanse of land and part of agricultural rice fields. Rivers cross Kedungpandan Village in the South and North of the village which are used for irrigation of rice fields as well as for discharging rainwater from all parts of the village. Kedungpandan Village is classified as an area close to major road access, namely the Gempol-Pasuruan Provincial Road about 1,000 meters south of the village. Kedungpandan Village is classified as villages in the coastal area, but its position is still about 10 km from the edge of the Java Sea in the East of the Village. Based on the characteristics of natural resources (SDA), the area of Kedungpandan Village can be categorized into two groups, namely: a) Residential Area, which consists of Limbe, Kedungpandan, and Tlocor Hamlets; b) Agricultural Area, which consists of parts of Limbe, Kedungpandan and Tlocor hamlets.

Implementation is carried out to increase public awareness that early detection of disease is important so that the community health status increases. Likewise, the implementation is carried out in the Kedungpandan area, which can be said to be the remotest village of Sidoarjo regency. It is hoped that the community, after knowing the results of the examination, will maintain their health.



Figure 1. Kedungpandan Village 2018

METHOD

The method was carried out by examining the urine of residents, especially mothers and the elderly in Kedungpandan Village, Jabon District, Sidoarjo Regency. 62 participants were examined, consisting of 31 female participants and 31 elderly participants. The tools used in this community service support urine examination including tissue, sample pots and urine dyspeptic. The sample used the participant's urine and then examined with the urine dyspeptic method. Furthermore, the data on the examination result were tabulated and then calculated based on the percentage.

RESULT AND DISCUSSION

The results of examinations were carried out in the community were 62 people consisting of mothers and the elderly, which showed the following.

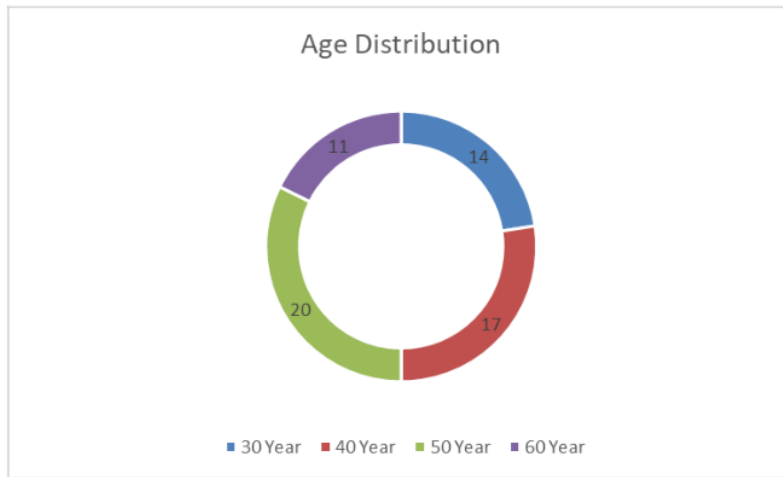


Figure 2. Age Distribution Range

The Figure 2 shows the age of the participants. The dyspeptic urine examination consisted of 14 participants at the age range of 30 years, 17 participants at the age range of 40 years, 20 participants at the age range was 50 years and 11 participants at the age range 60 years. Most of the participants age was in the age range of 50 years.

Furthermore, the results of the urine examination showed in the following:

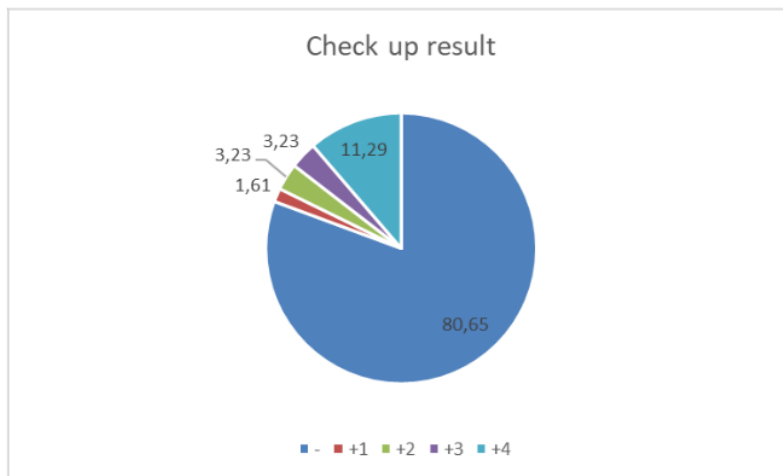


Figure 3. Check Up Result

The Figure 3 shows the examination results. The results are mostly negative, namely, as many as 50 or the equivalent of 80.65%, some are negative results from positive 1 to positive 4. Positive 1 there is 1 participant or the equivalent of 1.61%, positive 2 and positive 3 each there were 2 participants or as much as 3.23% and positive 4 there were 7 participants or equivalent to 11.29%. Research conducted by Yulianti et al.,(2018) concerning urine glucose testing showed the use of fresh and delayed samples shows no difference. This makes the basis that urine is used as detection in this community service. Examination of urine glucose cannot be used for a reference as a diagnosis of diabetes. However, it can be used as early detection of kidney problems that lead to diabetes (Puspito, 2012).

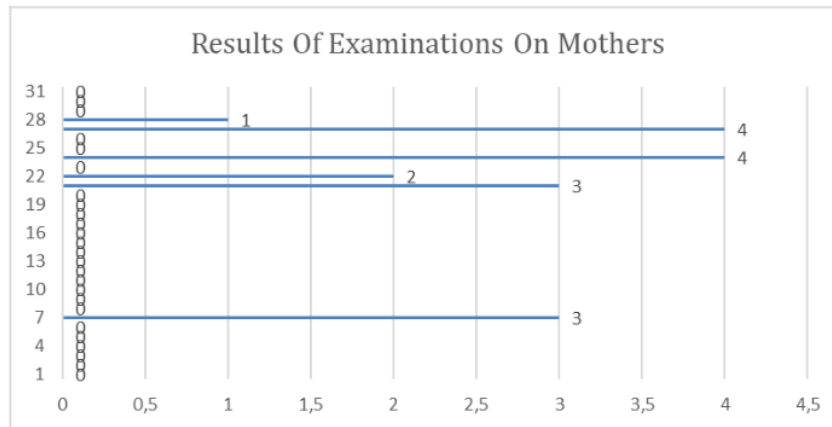


Figure 4. Results of Examinations On Mothers

Based on the figure 4, the results vary where there are 6 positive results from 31 mothers who were examined. This early point shows that the age of mothers is a productive age which allows the disease in themselves. Hopefully, with the examination in the community can increase awareness of the importance about early detection of disease. In a study conducted by Welliangan et al.,(2019), showed that the age group of 25-35 years of mothers found positive results.

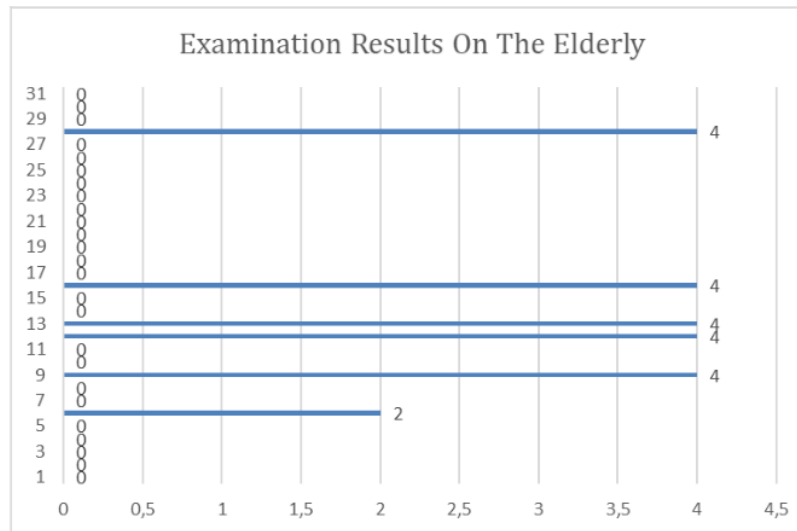


Figure 5. Examination Results on the Elderly

Based on Figure 5, it shows that there are 6 positive results in the elderly and most of the positive results show positive 4 or the highest positive, this shows that the elderly are old age where it is more important to do the examination as early as possible to prevent higher disease. According to Nurhayati and Purwaningsih (2018), it was found that only 22% of the elderly were examined for urine glucose. Research conducted by Rinaldo (2018) on the elderly showed positive results of 15.4%. It can be said that the results of urine glucose can occur in the elderly so that increasing the degree of health is important by periodically carrying out checks.

CONCLUSION

Early detection was carried out in the community which showed positive results, from participants who were positive as much as 19% from positive 1 to positive 4. Some of whom did not realize that there was diabetes beforehand, so it was deemed necessary and important for the community to carry out an examination as early as possible. Urine glucose is not a determinant of diabetes mellitus. It is known from blood glucose but urine glucose detection is important for the community.

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