HELICOBACTER PYLORI INFECTION AMONG NEWLY DIAGNOSED TYPE 2 DIABETES PATIENTS ATTENDING DIABETES CLINICS IN DAR ES SALAAM REGION 2023

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ABSTRACT

Background: Helicobacter pylori infection (HIP) is a major public health problem globally with high burden in developing world especially in African Countries which is more common among older adults. Helicobacter pylori infection is also associated with extra-gastrointestinal disorders such as metabolic syndrome and cardiovascular diseases including type 2 diabetes mellitus. However, the pattern and distribution of Helicobacter pylori infection among adults with type 2 diabetes mellitus is not well understood.

Objective: To determine the pattern and factors associated with Helicobacter pylori infection among newly diagnosed diabetic patients attending diabetic clinics in Dar es Salaam Region.

Methodology: Analytical cross-sectional study was conducted among newly diagnosed type 2 diabetic patients attending diabetic clinics in Dar es Salaam Region Tanzania from October 2022 to August 2023. All patients with newly diagnosed diabetes mellitus were recruited and analyzed. Special structured research tools were used to get demographic data, and anthropometric measurements (body weight and height). Blood Sample was taken to measure RBG and HbA1c level. Stool sample were collected for screening Helicobacter pylori using a rapid Helicobacter pylori stool antigen test. Data was analyzed using SPSS software version 25. Descriptive statistics, prevalence of Helicobacter pylori infection and factors associated with Helicobacter pylori infection were assessed using chi-square test and T-test analysis were used whenever appropriate or necessary. A p value of less or equal to 0.05 was considered statistically significant.

Results: The study recruited 306 adult diabetes patients. From age 18-55 years the participants were (n=148, 48.2%) and from age 56-92 years the participants were (n= 158, 51.8%) respectively. Majority of study participants were predominantly female (N=207, (67.6%) and male (N=99, (32.4%) with a ratio of 2:1 with a median age of 57 yrs. Prevalence of Helicobacter pylori infection was (n= 146/306, 48%).

Overall mean RBG in study participants was 10.67 mmol/L. The overall median HbA1c level was 8.9 (IQR: 7-11) %. The mean RBG (11.3 mmol/l) for reactive H. pylori Antigen test was significantly higher than the mean RBG (10.04mmol/l) for stool non-

reactive H. pylori Ag test (T-test =2.02, p=0.04). The mean HbA1c (10%) for reactive stool H.pylori antigen test was significantly higher than mean HbA1c (8.6%) for non-reactive stool H. pylori Antigen test (T-test=4.3, p-value <0.001). The mean of the glycated haemoglobin levels among newly diagnosed diabetic patients with helicobacter pylori infection (10.0%) was significantly higher than those without H.pylori infection (8.69%) (T-test =4.3, P<0.001).

Conclusion: Evidence for high prevalence of Helicobacter pylori infection in newly diagnosed type 2 diabetes mellitus. Majority of the participants were asymptomatic with poor glycaemic control.

RECOMMENDATIONS: There is a dire need to provide proper counseling, education and awareness regarding diabetes mellitus and its association with Helicobacter pylori infection. Effective and appropriate measures should be taken against control of diabetes mellitus eradication of Helicobacter pylori infection. Further studies on burden of Helicobacter pylori infection in the general population should be conducted.