DETERMINATION OF THE ASSOCIATION OF BMI AND WC WITH HBA1C LEVEL OF PATIENTS DIAGNOSED AS TYPE 2 DM, WHO ATTENDED TO CLINICS AT NDC, SRI LANKA, 2017

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The incidence of DM has dramatically increased within the past few decades. It has become a personal, national and global problem which affected on individuals clinically as well as financially, while having an effect on low productivity of the country. Hence, early detection plays a vital role on the prevention of the condition and its complications. HbA1c is the best worldwide laboratory investigation which is used to diagnose DM. It is an expensive investigation and may not be able to be performed frequently on poor people and people in developing countries. This study was done to determine the association of BMI and WC with HbA1c level because BMI and WC are simple and non-invasive anthropometric measurements that can be used to gain an idea of HbA1c level of an individual. A descriptive cross sectional quantitative study was conducted using a pre tested structural questionnaire, with diagnosed type II DM patients. Patients with type I DM and red blood cells disorders and pregnant mothers were excluded. Patients who were not with normal Hb levels were also excluded from the sample population. All participants were included to the age limit of "Elders" (18- 80). Among 331 participants, there was a considerable difference of sensitivity between BMI and WC in both genders. 68.3% males and 65.6% females were with high risk of WC and 37.7% males and 37.1% females were with high risk of BMI values. 84.2% participants with middle and high WC values showed excellent HbA1c control, while 23.8% participants with low WC values showed poor HbA1c control. 53.1% participants with normal BMI showed poor HbA1c control while 45% of participants with unhealthy BMI showed excellent HbA1c control. There was no any significant association between gender and HbA1c level (p= 0.001). This study has concluded that the association between WC and HbA1c is stronger than the association between BMI and HbA1c. Recommendation is that WC is better than BMI to assess the risk of DM.

Keywords: BMI, WC, HbA1c