

## Public Health Congress 2019 : The role of neck circumference measurement – could be a reliable way of evaluating patient's health state - Joanna Hołowko - Pomeranian Medical University

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The epidemiological study is one of the most demanding studies. Furthermore, receiving honest data from patients is required to obtain solid statistics. However, there are some questions generally regarded as inhibiting and sensitive, for instance concerning body weight or waist circumference. Those questions could have a significant impact on utter statistics making them unreliable. There is an enormous need to create some useful and convenient anthropometric tools that would help to evaluate patient's health status simultaneously avoiding sensitive questions and rendering all the data valid. The object of our study was to examine the usefulness of neck circumference in evaluating patient's body weight and waist circumference. The study was conducted in Szczecin during two popular events: the final of The Great Orchestra of Christmas Charity (10.01.2016) and run for women Alkala (06.03.2016). It included 374 patients, 242 of whom were women. Every participant was measured using flexible measuring tape in order to obtain neck and waist circumference, and also the body mass was weighed. Additionally, the short survey research, concerning height, educational background and place of residence, was conducted. Statistical analysis showed a very strong correlation of neck circumference and both body weight ( $p < 0,01$ ,  $RHO = 0,7$ ) and waist circumference ( $p < 0,01$ ,  $RHO = 0,76$ ). It seems that neck circumference is a solid indicator that can help to evaluate both body weight and waist circumference avoiding sensitive questions. Thus, neck circumference may be helpful in collecting a representative group of people during population study.

Diabetes mellitus (DM) is a syndrome of impaired carbohydrate, fats, and protein metabolism either by means of loss of insulin secretion (DM kind I) or with the aid of lower in sensitivity of tissues to insulin (DM type II). In keeping with international health organization (WHO), the wide variety of humans with diabetes within the global will reach three hundred million by using 2025. There has been a dramatic boom in the superiority of DM kind II in India these days.

obesity is a first-rate chance factor for the development of kind 2 DM. obese decreases the insulin usage of muscle tissues, as it decreases the wide variety of insulin receptors on cellular surfaces. weight problems are not simplest the most common purpose of insulin resistance, but additionally a developing health situation in its personal right. The trends in the prevalence of obesity documented over the previous couple of decades in our united states were alarming, with morbid weight problems affecting five% of Indian population. Insulin resistance is related to visceral and subcutaneous fat content material.

International standards for body mass index (BMI) advise the following: Underweight ( $< 18.5$  kg/m<sup>2</sup>), normal weight (18.5-24.9 kg/m<sup>2</sup>), overweight (25-29.9 kg/m<sup>2</sup>), and obesity ( $> 30$  kg/m<sup>2</sup>).[5] however the revised tips for analysis of weight problems in Asian Indian populations are: A ordinary BMI of 18.zero-22.9 kg/m<sup>2</sup>, an obese BMI of 23.zero-24.nine kg/m<sup>2</sup>, and weight problems of BMI more than or identical to 25 kg/m<sup>2</sup>. The healthful waist circumference (WC) limits are ninety cm for guys and 80 cm for girls.[4] Diabetes and its headaches pose a major public fitness difficulty worldwide and are a prime mission to patients, fitness-care systems, and country wide economies. generally, BMI has been used as a degree to diagnose weight problems. other sorts of anthropometric measures like WC, waist to hip ratio (W/H), and index of central weight problems (ICO) have all been related to expanded frame fats and have predicted the distribution of frame fat.

Neck circumference (NC) is a fairly new method of differentiating between regular and ordinary fats distribution. it's miles a marker of upper body subcutaneous (SC) adipose tissue distribution. Adipose tissue is observed in particular places, which might be called adipose depots. Adipose tissue carries several mobile sorts, with the very best percent of cells being adipocytes, which comprise fats droplets. top frame weight problems characterized by way of upper body SC fats is associated with metabolic issues like glucose

intolerance, diabetes, hypertriglyceridemia, and so forth., free fatty acid launch from this top frame SC fat became suggested to be larger than that from lower body SC fat. because of insulin resistance in adipose tissue, lipolysis and unfastened fatty acid flux from adipocytes are elevated, main to elevated lipid [very low-density lipoprotein (VLDL) and triglyceride] synthesis in hepatocytes. This lipid storage or steatosis inside the liver may additionally lead to nonalcoholic fatty liver ailment and atypical liver feature checks. this is additionally chargeable for the dyslipidemia found in type 2 DM. it's been proven that NC >37 cm in men and NC >34 cm in girls are probable the high-quality cutoff points to decide topics with central weight problems. High correlations between NC and BMI, WC, ICO, and W/H can also factor to NC as a reliable index for obesity. these findings imply that NC may be used both in clinical practice and in epidemiologic studies as a

straightforward and reliable index for obesity. NC is extra in diabetics, which shows greater of regional adiposity is gift. The threat of important obesity is greater in diabetics at a lesser NC (>36 cm) compared to non-diabetics (>37 cm). therefore, diabetic topics require a complete evaluation in their obesity.

#### **Biography:**

Joanna Hołowko is a PhD student of Pomeranian Medical University in Szczecin (Poland). She works as a dietician in Rehabilitation Hospital of Saint Charles Borromeo in Szczecin. She has published 7 papers in reputed journals and taken an active part in many national and foreign conferences on nutrition.

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