

## DIABETES, ENDOCRINOLOGY, NUTRITION AND NURSING MANAGEMENT

June 24-25, 2019 | Philadelphia, USA

**DIABETES CONGRESS 2019** 







# **ACCEPTED ABSTRACTS**





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### DAILY PROTEIN INTAKE IN WORKING FEMALES AND ITS CORRELATION TO OBESITY AND T2DM

#### Ashwini K

Indian Dietetic Association, India

ne of the cornerstones in diabetes management is the medical nutrition therapy. MNT plays a major role, toward better diabetes control and weight reduction. Macronutrient composition with special emphasis on the total protein intake of the day has been debated for a long time. However, there is increasing evidence that a modest increase in dietary protein intake (0.8-1gm/kg BW) is a valid option to control obesity and T2DM. Indian meals are known to be predominantly cereal based meals hence the intake of cereal based proteins is naturally on higher side. With the known fact of the cereal based proteins to be less bioavailable, the overall protein intake remains as a cause of concern. On the other hand the non-vegetarian source of protein is clubbed with high fat (visible and invisible fat) intake. The high fat intake is also linked to higher body mass index (BMI) and obesity, a well established cause of T2DM. Along with the low protein, high fat dietary patterns the other factors such as age, gender, obesity, hypertension and family history of diabetes are known to be independent risk factors for diabetes. With urbanization there has been a paradigm shift in the percentage of working females (between the age group of 18-60) in all sections irrespective of their socio economic sector. From a corporate office 167 employees opted for a face to face (F2F) dietary assessment and counseling session. A sample of 75 female was selected based on the gender specified in the form. The study showed that the overall protein intake in the working females was unsatisfactory. 26% (n=20) of meals had low protein intake (less than 8%/meal). 20% (n=15) recorded a BMI of more than 27 and 10% (n=8) were diagnosed with hyperglycemia and where prescribed oral hypoglycemic drugs.





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### INSULINE RESISTANCE-PATHOGENESIS, PREVENTION AND TREATMENT

#### E Mukhamejanov

JSC National Medical University, Kazakhstan

he mechanism of development of insulin resistance (IR) is not clear. This makes it difficult to develop adequate ways to prevent and treat type 2 diabetes mellitus (2D). There is no free glucose in the muscle tissue, upon admission it is immediately phosphorylated to glucose-6-phosphate (G-6-F), which prevents its return. With a decrease in the rate of G-6-F conversion, hexokinase is inhibited and the intake of glucose into the muscles decreases. This regulatory process can be considered as the first mechanism of development of IR. The next phosphorylation already produces fructose-6-di-phosphate, which is also a regulatory molecule, and its accumulation will also inhibit the absorption of glucose (the second stage of development of IR). The next regulatory step is the process of assimilation of pyruvic acid or the so-called pyruvate block, since a decrease in anaerobic or aerobic conversion of pyruvate promotes inhibition of glycolysis and the development of IR. The next step in the regulation of glucose conversion is ATP or the level of utilization of the energy of its oxidation. The most volatile process in the muscle cell is protein synthesis, so the amount of glucose utilization will directly correlate with the rate of protein synthesis. With a decrease in protein synthesis with a substrate deficit or inhibition of the protein of the synthesizing apparatus, the utilization of ATP decreases and the ATP/ ADP coefficient increases, which contributes to the inhibition of hexokinase and the development of IR. Such mechanism of development of IR will allow developing effective ways of developing the principles of prevention and treatment of patients with 2D.





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### USE OF ACTIVITY TRACKERS TO PROMOTE BEHAVIOR CHANGE AND DELAY DIABETES

#### **Stephanie Merck**

University of Phoenix, USA

The purpose of this qualitative, explanatory case study was to explain the experiences of eight participants, from a suburban internal medicine practice in Fairfield County, CT, who used activity trackers or applications to adhere to diet and exercise. Each participant submitted daily email logs, information from their activity tracker or application and participated in an exit interview. Detailed information described how the participant used technology as well as what each participant found most important to maintain lifestyle changes. The use of NVivo 11<sup>®</sup> assisted with data analysis to identify common themes that emerged including accountability, awareness, challenges and knowledge. The information obtained offered a unique perspective into how they viewed their responsibility to participate in their treatment plan. The use of technology assisted the participants to support their self-management skills. Additionally, each participant described difficulties adhering to the lifestyle changes within their daily lives. Most of the management of any chronic condition occurs outside of a health care facility, understanding the challenges and problems encountered by those with pre-diabetes, may assist providers to develop collaborative goals with their patients. Primary care providers, who understand the daily struggles of those pre-diabetics, can offer realistic strategies for an individual to develop the necessary self-management skills to prevent diabetes.





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### PREVALENCE OF METABOLICALLY HEALTHY OBESITY AMONGST EDUCATED NORTH-INDIAN YOUTH

#### Indu Saxena<sup>1</sup>, Manoj Kumar<sup>2</sup> and NavitaPurohit<sup>3</sup>

<sup>1</sup>All India Institute of Medical Sciences, India <sup>2</sup>TS Misra Medical College, India <sup>3</sup>Kokilaben Dhirubhai Ambani Hospital, India

The World Health Organization reported 1.9 billion adults as overweight in 2016, of which over 650 million were obese. Obesity is known to be associated with increased risk of non-communicable diseases like type 2 diabetes mellitus, osteoarthritis, cardiovascular diseases, musculoskeletal dysfunction, pancreatitis, gall bladder disease and certain types of cancers. However, all obese individuals are not affected and are said to have metabolically healthy obesity. Metabolically healthy obesity is a transient state and may progress to metabolically unhealthy obesity. The duration of metabolically healthy obesity cannot be predicted as it is different in different individuals. In this study author has estimated the prevalence of MHO amongst educated North Indian young adults. A total of 374 persons (189 female) of the age group 18-29 years were classified on the basis of their body mass index (BMI, in kg/m2) into normal (BMI 18.0-22.9), overweight (BMI 23.0-24.9) and obese (BMI  $\geq$  25) categories, defined according to consensus statement for diagnosis of obesity, abdominal obesity and metabolic syndrome for Asian Indians. Their blood pressure, fasting blood glucose and lipid profiles were obtained. Metabolically healthy individuals were identified as those with blood pressure < 120/80 mm of Hg, fasting blood glucose <100 mg/dL, fasting total cholesterol <200 mg/dL, fasting triglycerides <150 mg/dL, and fasting HDL-cholesterol >40 mg/dL. The table below shows the number and percentage of normal persons in each category.

Category Total=374	Normal Weight N=110		Overweight N=120		Obese N=144	
	Male	Female	Male	Female	Male	Female
Number	39	51	45	50	45	61
Percentage	73.6	89.5	72.6	86.2	64.3	82.4

The percentage of metabolically healthy persons declined with increase in weight and was 64.3% in male and 82.4% in female individuals with obesity.

