

## **Awareness of Risk Factors of Metabolic Syndrome in Young Adults**

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### **ABSTRACT**

**Background:** The Metabolic Syndrome (MS) is defined as a constellation of interconnected physiological, biochemical, clinical, and metabolic factors that directly increases the risk of cardiovascular diseases, type 2 diabetes mellitus and all-cause mortality. It is clustering of hyperglycemia or insulin resistance, obesity, high cholesterol, and hypertension. Metabolic syndrome is a major and escalating public health crisis among young adults in recent times. Increasing calorie intake, sedentary lifestyle, lack of exercise and chronic stress are the contributing factors for metabolic syndrome. Metabolic syndrome in young adults has become a significant area of research due to its implications for long-term health outcomes.

**Materials and methodology:** The present study is a cross-sectional survey conducted using a convenient sampling method. The sample size was calculated using the formula  $n = Z^2 \times p \times (1 - p) / E^2$ , considering a 95% confidence level ( $Z = 1.96$ ), an estimated prevalence of 0.5, and a margin of error of 5%, which yielded a required sample size of 384 participants. The study was carried out in the Pune region over a period of six months. Data were collected using a self-made questionnaire. The study included young adults aged 18–30 years, both male and female. Individuals who were medical or paramedical students and those unable to understand English were excluded from the study.

**Results:** The study found that 70–80% of young adults showed good awareness of major lifestyle-related risk factors for metabolic syndrome, including obesity (77%), high-carb and high-fat diet (77–80%), stress (80%), poor sleep (77%), and portion control (75%).

However, 25–40% of participants showed limited or poor awareness of several medical and genetic factors. Specifically, 28% were unsure about the risk from controlled hypertension, 33–40% lacked awareness about genetic dyslipidemia, chronic kidney disease, and arterial disease risk, and around 24–27% were unsure about the reversibility of metabolic syndrome and the importance of regular health check-ups.

**Conclusion:** The study concludes that while 70–80% of young adults are aware of the major lifestyle-related risk factors of metabolic syndrome, a significant portion—25–40%—lack understanding of key medical, genetic, and long-term complications such as controlled hypertension, genetic dyslipidemia, chronic kidney disease, and arterial disease risk. Strengthening targeted health education and promoting regular screening are essential to address these gaps and reduce the future burden of metabolic syndrome.

**Keywords:** Metabolic syndrome, risk factors, awareness, young adults.