



# Dietary fat consumption frequency and body mass index of middle-age adults in Mumbai city, India during COVID-19 pandemic

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Obesity and COVID-19 are global pandemics listed by World Health Organization, which need urgent attention. Obesity involves low grade chronic inflammation, which is characterised by sustained pro-inflammatory innate immune responses mediated through activation of the NLR family pyrin domain-containing 3 (NLRP3) inflammasome/IL-1 axis, and is a strong risk factor for Diabetes and Heart diseases<sup>(1)</sup>. Dietary fats provide energy, satiety, source of fat-soluble vitamins and essential fatty acids – Omega 3 (n-3) and Omega 6 (n-6) fatty acids, but must be consumed in right amounts and ratios. Essential fatty acids (EFA) deficiency and n-6/n-3 imbalance is linked with chronic illnesses such as, heart attacks, cancer, insulin resistance, stroke, obesity, and diabetes<sup>(2)</sup>. Excess dietary fat intake and imbalance of fatty acids, contribute to obesity, inflammation, comorbidities and faster disease progression. A cross-sectional survey aimed to understand the fatty food frequency of overweight and obese middle age adults from Mumbai, India during the COVID-19 outbreak. Using purposive sampling, 100 adults (30-60 years), a questionnaire (demographics, anthropometrics and fat food frequency questionnaire) was administered. Data was analysed using SPSS 26.0. As per BMI standards, 60.2% participants were overweight, 12.6% were obese and 27.1% had normal BMI. For visible fat consumption, sunflower oil (47.6%), ghee (38.8%), rice bran oil (34%) groundnut oil (11.7%) and invisible fats – milk (100%). Other dairy products, nuts and oilseeds were consumed weekly. twice a week, majority (92.3%) consumed packaged high fat foods as compared to eating deep-fried items (58.9%). We concluded that excess dietary fat intake is high risk factor for obesity and related comorbidities diabetes, and hypertension. High BMI increases the risk for non-communicable diseases (NCDs) such as obesity, cardiovascular disease (CVD), insulin resistance and type 2 diabetes. People with comorbidities are high risk groups for COVID-19 infection susceptibility. Hence, managing weight could be a cost-effective preventive strategy to help in delaying the onset and progression of NCDs, thereby lowering the susceptibility to COVID-19. Our findings have important implications in working towards adopting healthy fats and reducing mortality and reducing the global burden of pandemic. High dietary fat intake is a modifiable risk factor for overweight and obesity. Comorbidities increased risk for COVID-19 infection, disease severity and mortality. Hence, there is a need to understand the dietary fat consumption patterns in obesity and COVID-19. Dietary carbohydrate, sugar and fat quality in relation to obesity and pandemic such as, COVID-19 could be explored in future studies.

**Keywords:** dietary patterns; food frequency questionnaire; non-communicable diseases; obesity

## Ethics Declaration

Yes

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## References

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