

The macronutrient intake and the relationship between the anthropometric measures and body composition of the adult population in Kegalle and Ratnapura districts, Sri Lanka

D4N 20
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BACKGROUND

- Diet is a modifiable risk factor for non-communicable diseases, which cause 75% of deaths in Sri Lanka.
- Shifting diets and sedentary lifestyles have increased obesity and metabolic disorders.
- This study aims to determine macronutrient intake and its relationship with BMI and body composition in adults in predominantly rural Kegalle and Ratnapura districts of Sri Lanka.

METHODS

- A descriptive cross-sectional study recruited 5,000 adults (18–80 years) from 10 GN Divisions via electoral lists, excluding those with severe illnesses or pregnancy.
- Data on socio-demographics, anthropometry, body composition, and diet were collected using standard tools.
- Measurements followed WHO/Sri Lankan cut-offs.
- Macronutrient intake was categorized as per 2022 national guidelines.
- Analyses included descriptive, correlational, and regression methods.
- Ethical approval was obtained from the University of Colombo ERC (EC-18-094).

RESULTS

- The study included 4,776 adults (68.4% female, mean age 52 years). Most reported low carbohydrate (61.3%) and fat (53.6%) intake, while 51.4% met or exceeded protein needs.
- A sample of 4,583 was assessed for body composition.
- Low muscle mass affected 45.2%, mostly women; visceral fat was normal in the majority (81.2%). High body fat (33.4%) and overweight/obesity were commoner in women.
- Fat peaked in middle age (40–59), especially in women, and declined more in males during older age.
- The risk of central obesity was higher in females.
- BMI was predicted by WHR, gender, protein and carbohydrate intake; WHR by body fat, visceral fat, gender, and age.

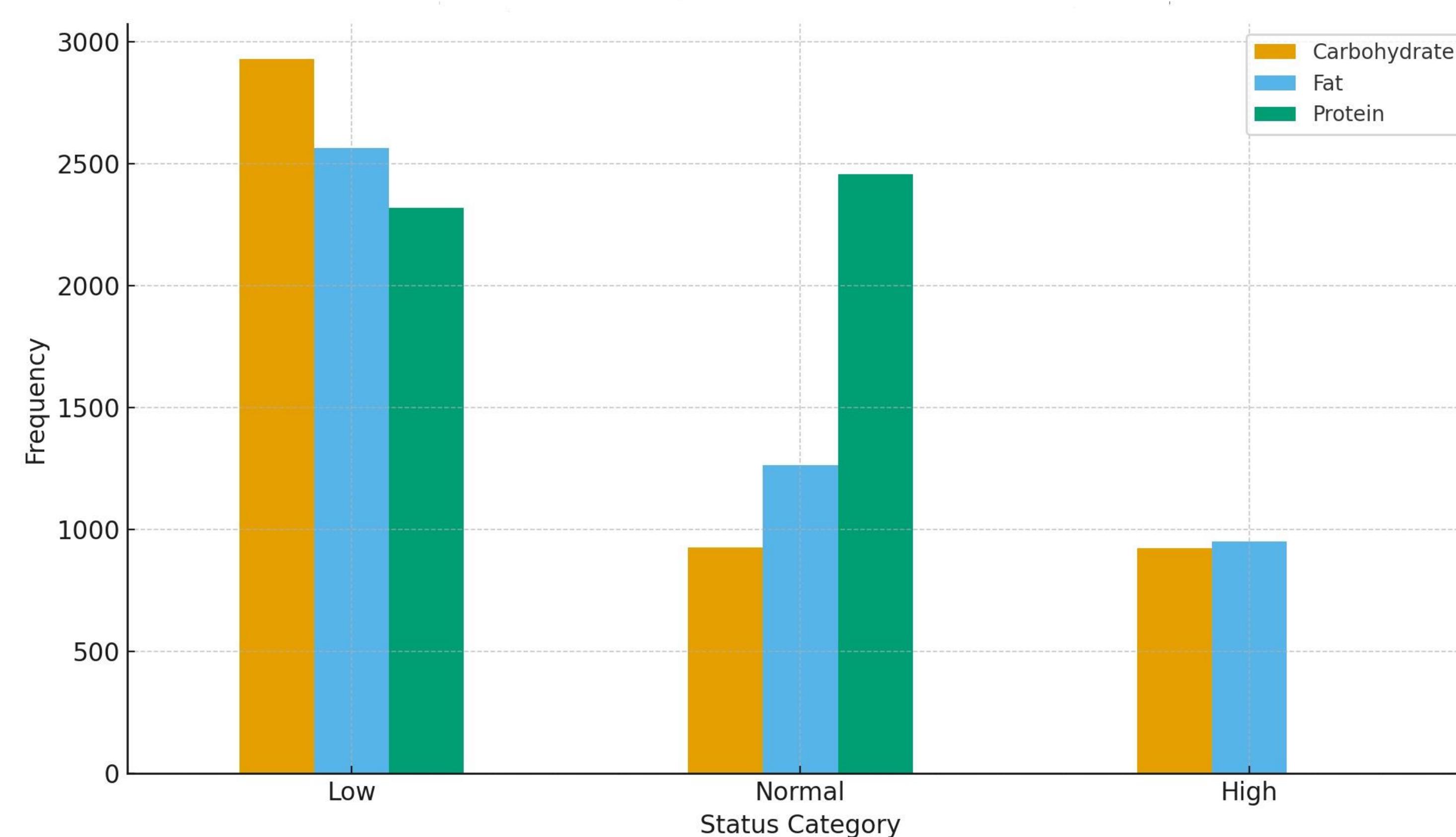


Figure 01: Macronutrient intake of the population

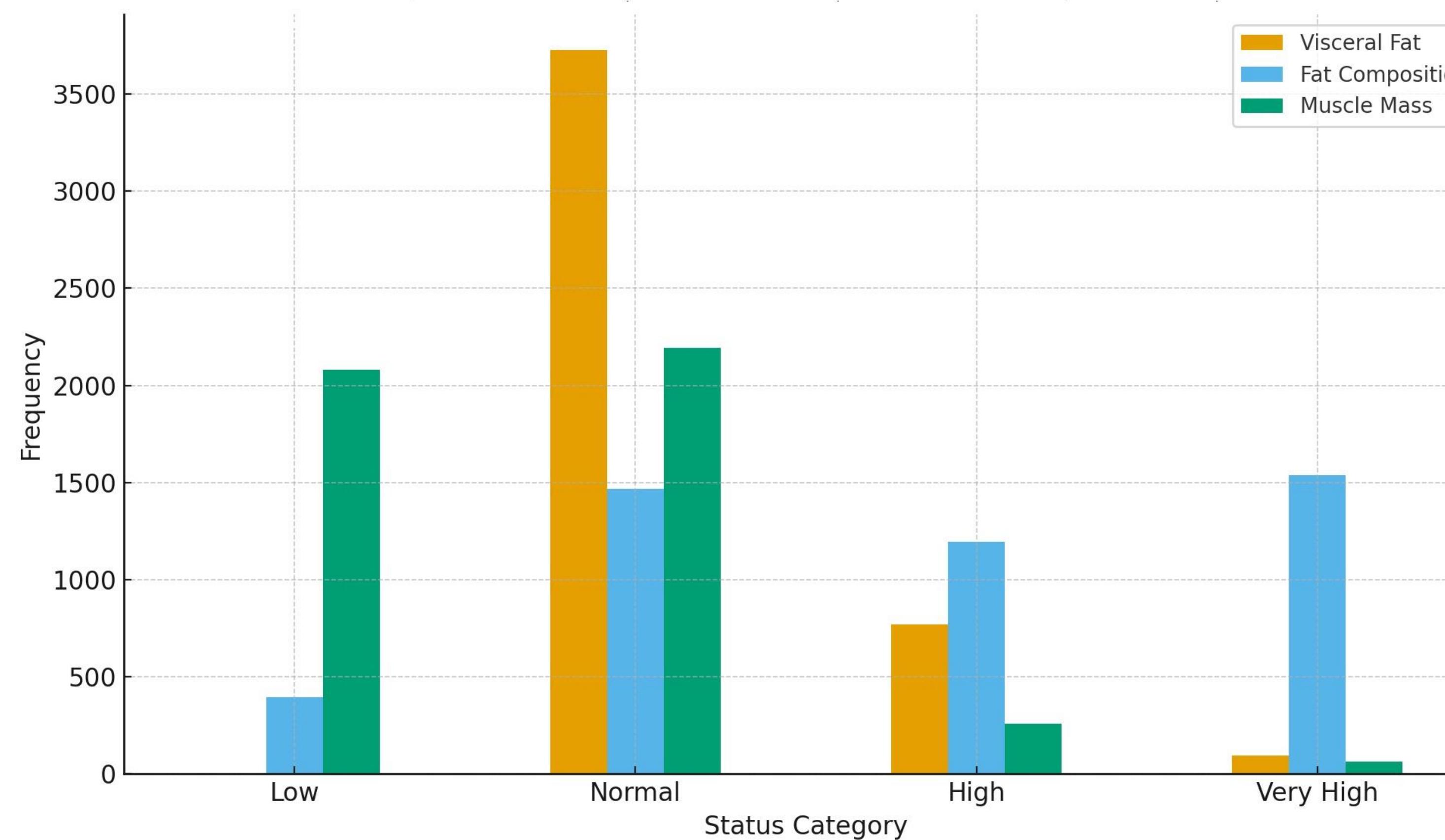


Figure 02: Body composition of the population

CONCLUSION

- The findings show the need of culturally relevant strategies to improve diet quality, promote physical activity, and tackle under and overnutrition.
- A life-course approach with education, community programs and policy support can help ensure healthier diets and reduce future disease risks.
- Scaling up requires a multi-sectorial approach involving health, education, and agriculture, community-based organizations, and private partners.
- Actions include updating guidelines, integrating screening, promoting nutrition education, increasing physical activity, and encouraging home gardening to improve diets and health.

Acknowledgement: Global Health Research Unit, Regional Director of Health Services, Kegalle and Ratnapura Districts

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