

Assessing the Prevalence of Overweight and Obese Adolescents in Tarkeshwor Municipality: An In-Depth Examination of Dietary, Behavioural and Psychological Patterns - A Descriptive Cross-Sectional Study

Anjila Pandey, Durga Khadka Mishra, Manmohan Memorial Institute of Health Sciences

RATIONALE/ OBJECTIVE

Overweight and obese adolescents reportedly are shown to suffer from low self-esteem and weight associated stigma from external forces while internally being prone to multiple risk factors for chronic co-morbidities as type-2 diabetes and cardiovascular diseases. These pertain to develop and worsen in their adulthood when overweight and obese adolescents are not optimally instructed to administer ultra-processed diet control, moderate to vigorous physical activities engagement and regular BMI and health monitoring.

The study aims for identification of prevalence of overweight and obesity among adolescents residing in a semi-urban setting of Nepal while seeking in-depth information on their perception towards own weight, concurrent food habits and behavioural aspects (physical activity, health screening) for healthy BMI attainment and future chronic diseases risk mitigation.

Specific objectives of the study entail:

- To measure the prevalence of overweight and obesity among secondary school adolescents
- To determine the attitude of overweight and obese adolescents towards their weight and general sense of being
- To assess their diet, physical activity and health monitoring pattern

METHODS/ ANALYSIS

The study had a descriptive cross-sectional methodology being conducted among school going adolescents of Tarkeshwor Municipality. Quantitative data collection was carried out among 231 adolescents through survey and anthropometric measurement (height and weight for BMI) using semi-structured pre-tested questionnaire and standard anthropometric tools respectively.

These tools included electronic weighing machine and stature meter for measurement of weight and height respectively to mediate calculation of Body Mass Index (BMI) primarily at the survey site, using standard formulae of weight in kg divided by square of height in metres (kg/m²).

Major topics of inquiry were psychological (bullying, motivation), environmental factors (food accessibility, travel), dietary patterns and behavioural aspects (physical activity and BMI screening).

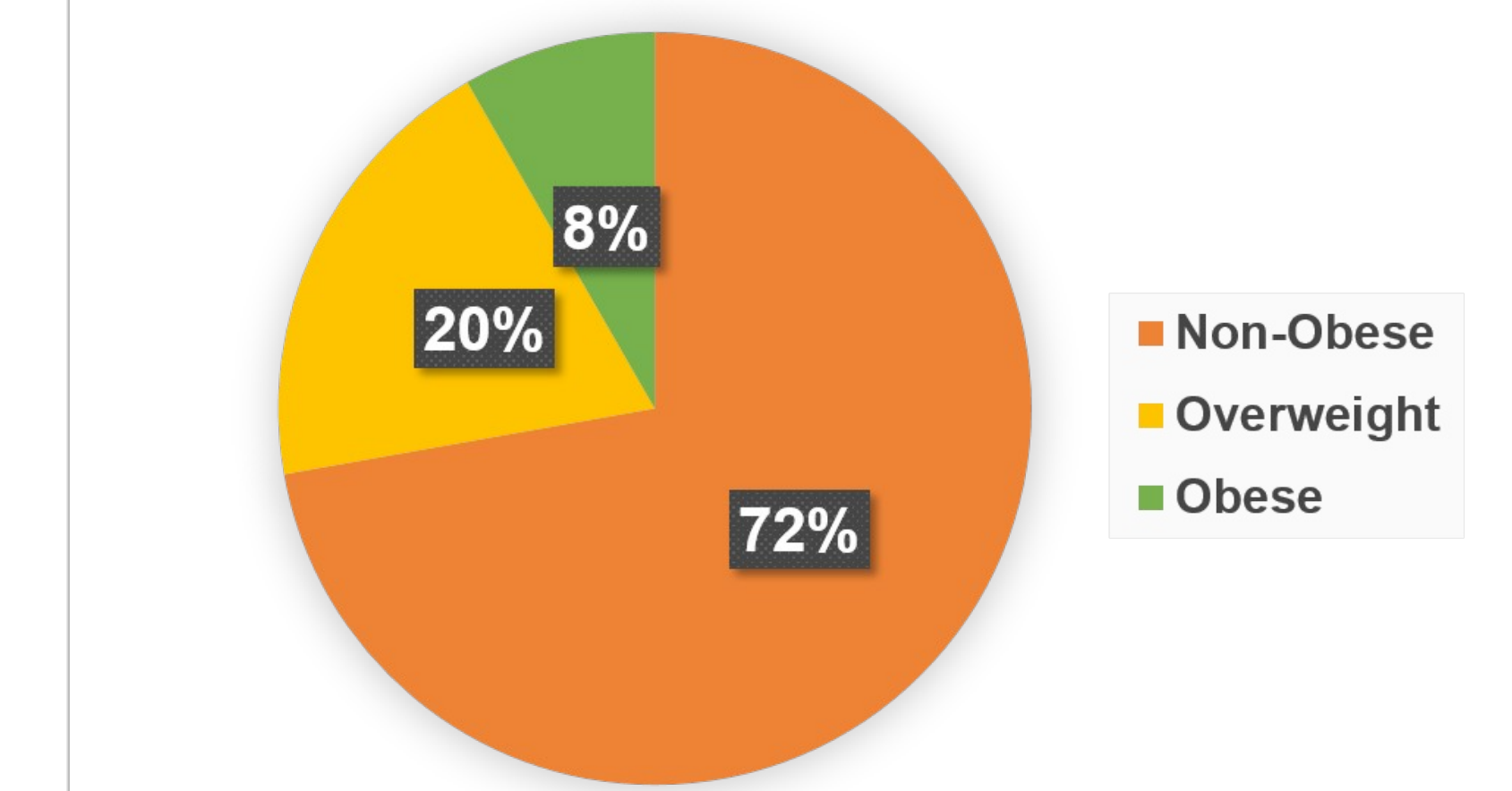
Data analysis was done using IBM SPSS Statistics-25. Bi-variate and multivariate analysis of variables was done while Likert scale was devised for attitude and behaviour score. Reliability coefficient of the questions that are asked using Likert Scale was provided by Cronbach's alpha through SPSS. Chi-Square and Fisher Exact test was performed at 95% of CI. Both independent and dependent variables were dichotomized according to BMI of the respondents i.e. obese (overweight and obese) and non-obese (underweight/normal) respondents.

RESULTS/ FINDINGS

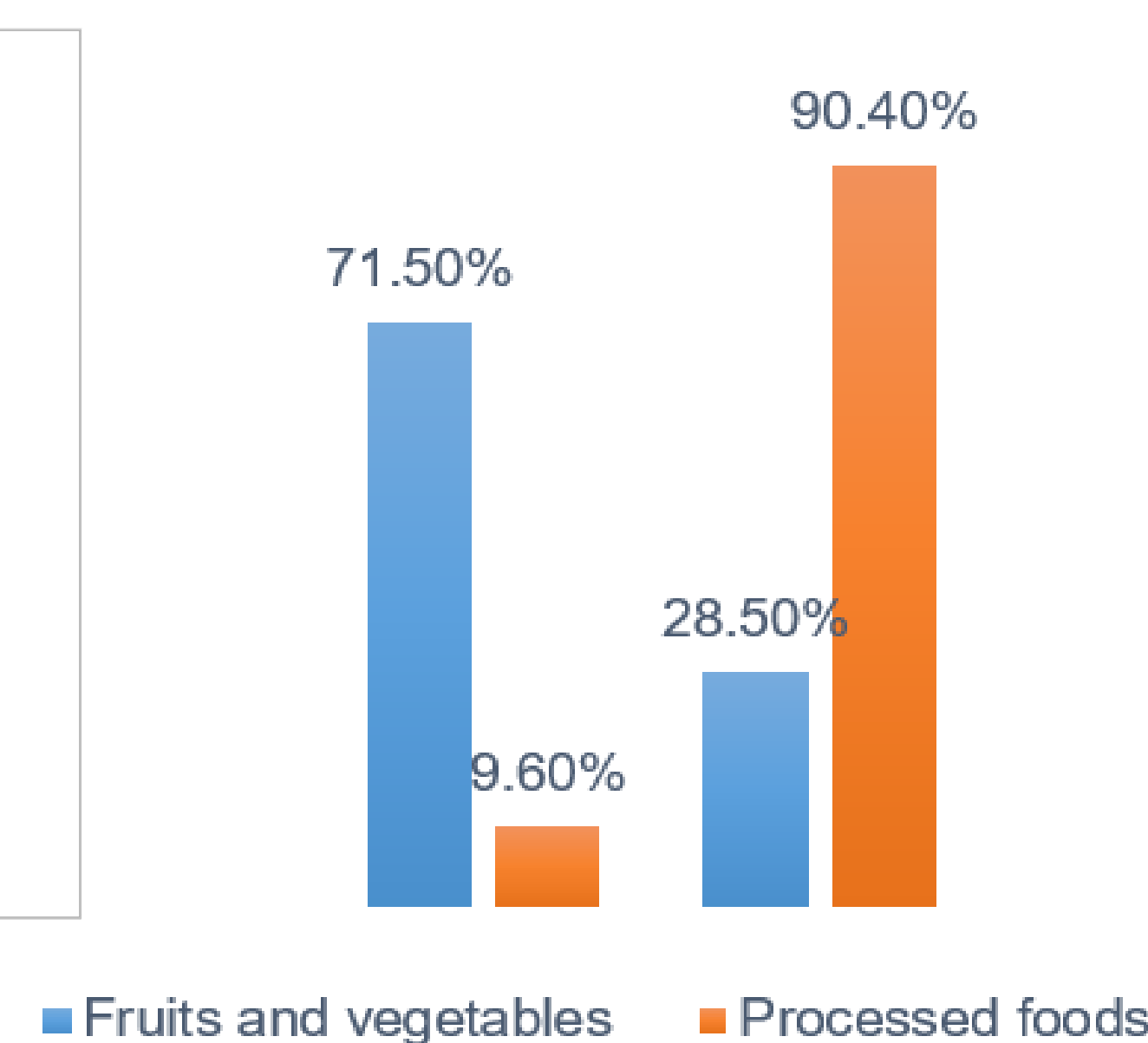
The prevalence of overweight and obesity was found to be 19.5% and 8.3% respectively.

90.4% of overweight and obese adolescents were found to have positive attitude score. 71.5% of them consumed healthy foods (fruits and vegetables) on a daily basis, while on a weekly basis, 94.3% of them had packaged and processed foods. 90.4% of them engaged in less than 3 mild-moderate to vigorous activities on average. Being overweight/obese was significantly associated with being upset (p=0.010) and being nervous in mass (p=0.035). Bullying status and attitude (p=0.002), internet access and behaviour (p=0.042) were significantly associated in the study.

Overweight and Obesity Prevalence

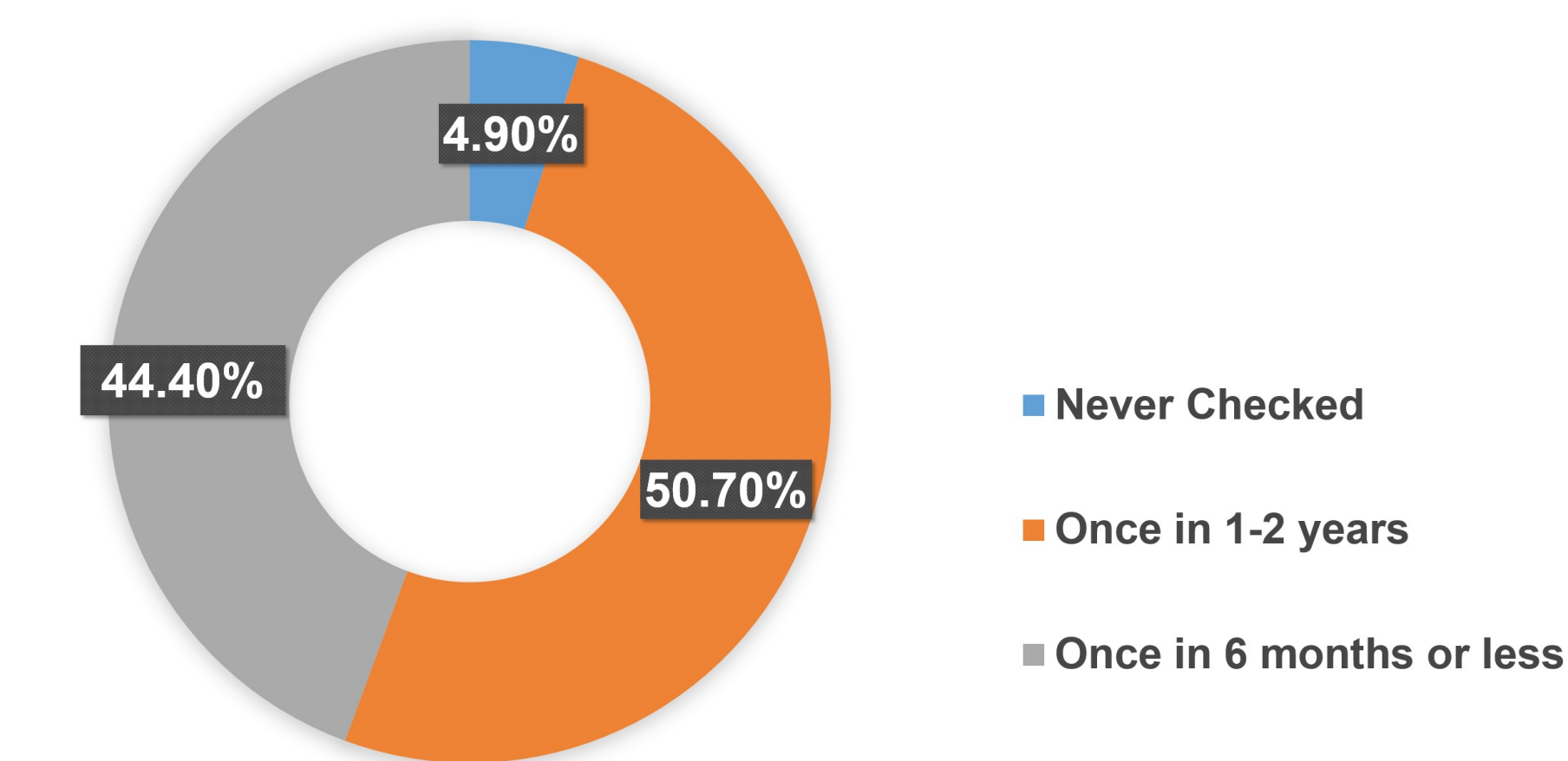


Healthy vs. Processed Foods Intake

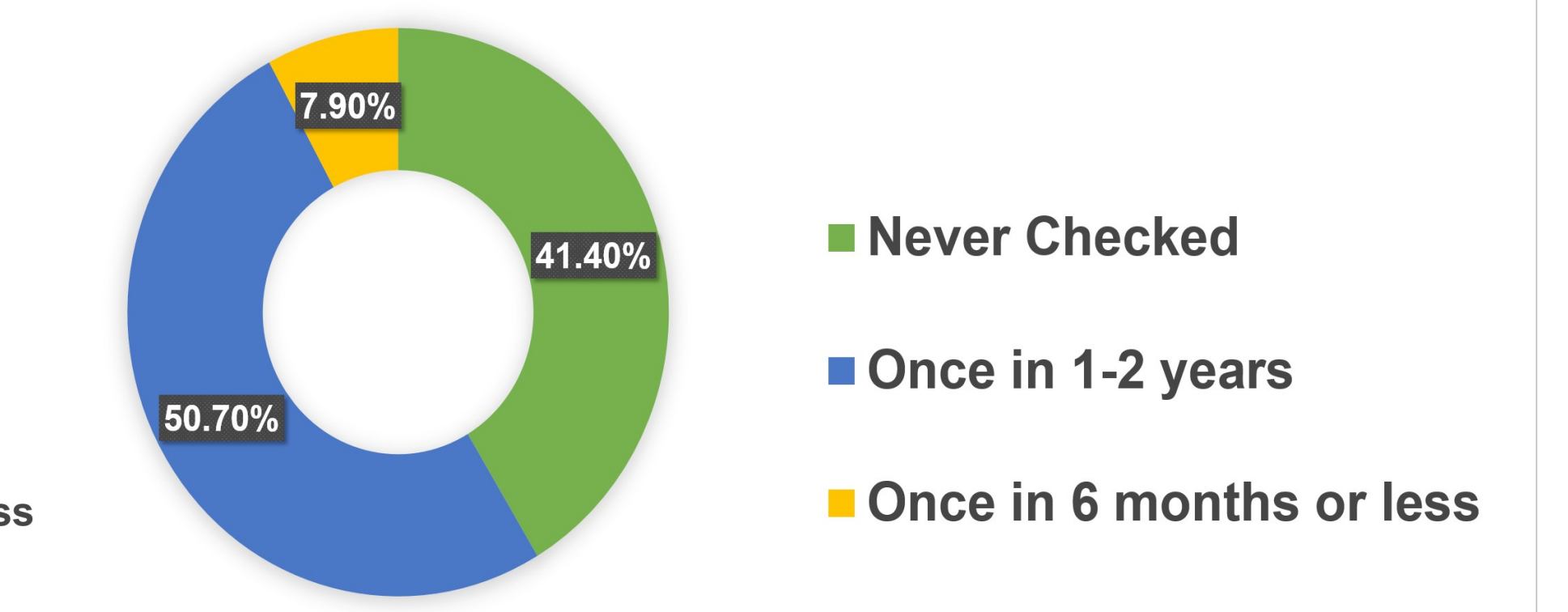


Physical Activity	Frequency	
	≤3 activities	>3 activities
Sedentary	92.1%	7.9%
Mild	87.3%	12.6%
Moderate- Vigorous	93.6%	6.4%

BMI Screening among Overweight/ Obese Adolescents



Blood Checkup among Overweight/Obese Adolescents



Attitude attribute	P- Value
Being upset	0.010
Being nervous in mass	0.035

The given p- value indicates significance of association between being overweight/ obese and being upset and nervous in mass.

Independent and Dependent Variable	P- Value
Bullying Status and Attitude	0.002
Internet Access and Behaviour	0.042

The given p- value indicates respective significant association observed between an independent variable and a dependent variable among obese/ overweight respondents.

IMPLICATIONS

The study serves as a data driven evidence of escalating burden of overweight and obesity among adolescents in a semi-urban setting of a developing South Asian country like Nepal. It advocates for developing sensitive policies for early obesity de-stigmatization, up-scaled interventions for conducive home and school environment for healthy diet maintenance and sports activities inclusive for every adolescent.

Following family and institutional interventions are highly recommended:

- Person to person, formal or informal activities for developing self-esteem and confidence of overweight and obese adolescents should be encouraged.
- Relevant activities on the promotion of physical activities, sports and active learning in the school premise are recommended that comparatively prevents limiting the students to merely relaxed classroom setting.
- Adolescents should be sensitized and their parents/guardian play pivotal role in enrolling their children in physical activities such as household chores at their home instead of prolonged electronic devices use.

