



Assessment of Dietary Sustainability and its Relation with the Knowledge and Nutritional Status of College-Going Students in Urban Delhi



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INTRODUCTION/RATIONALE

The current food systems are affecting the planet in an adverse manner. Diets are not just the outcomes of the food system but also its drivers (Meybeck & Gitz, 2017). If people switch to sustainable diets which are food group compositions that are good for health of the people and the planet; they can help bring down the costs of health care and climate change (FAO, 2021).

OBJECTIVES

The broad objective was to assess the dietary sustainability and its relation with the knowledge and nutritional status of college-going students in urban Delhi. The specific objectives were to assess the knowledge towards food sustainability, to determine the dietary adequacy, to estimate the sustainability of the diet and to derive an association of dietary sustainability with knowledge and dietary adequacy.

METHODOLOGY

Study design: Cross-sectional analytical study

Sample: The sample size was 131 and included male (47%) and female (53%) college going students in urban Delhi.

Tools and Techniques: Questionnaires were used for socio-demographic profile, dietary history, and knowledge regarding dietary sustainability (García-González et al., 2020). The dietary intake (food groups and nutrients) was assessed using 24-hour dietary recall (2 days). World Index for Sustainability and Health (WISH) score (standardised tool) was used for the assessment of dietary sustainability. It is based on the food group recommendations given by the EAT-Lancet Commission. (Trijsburg et al., 2021).

Statistical Analysis: Descriptive analysis included mean and standard deviation which were used to summarize the data from continuous variables while categorical variables were expressed using percentages and frequencies. Various tests of inferential statistics like Kruskal-Wallis H test, Karl Pearson's product moment correlation, Spearman's Rank Correlation and Chi-square test were used for analysis.

RESULTS

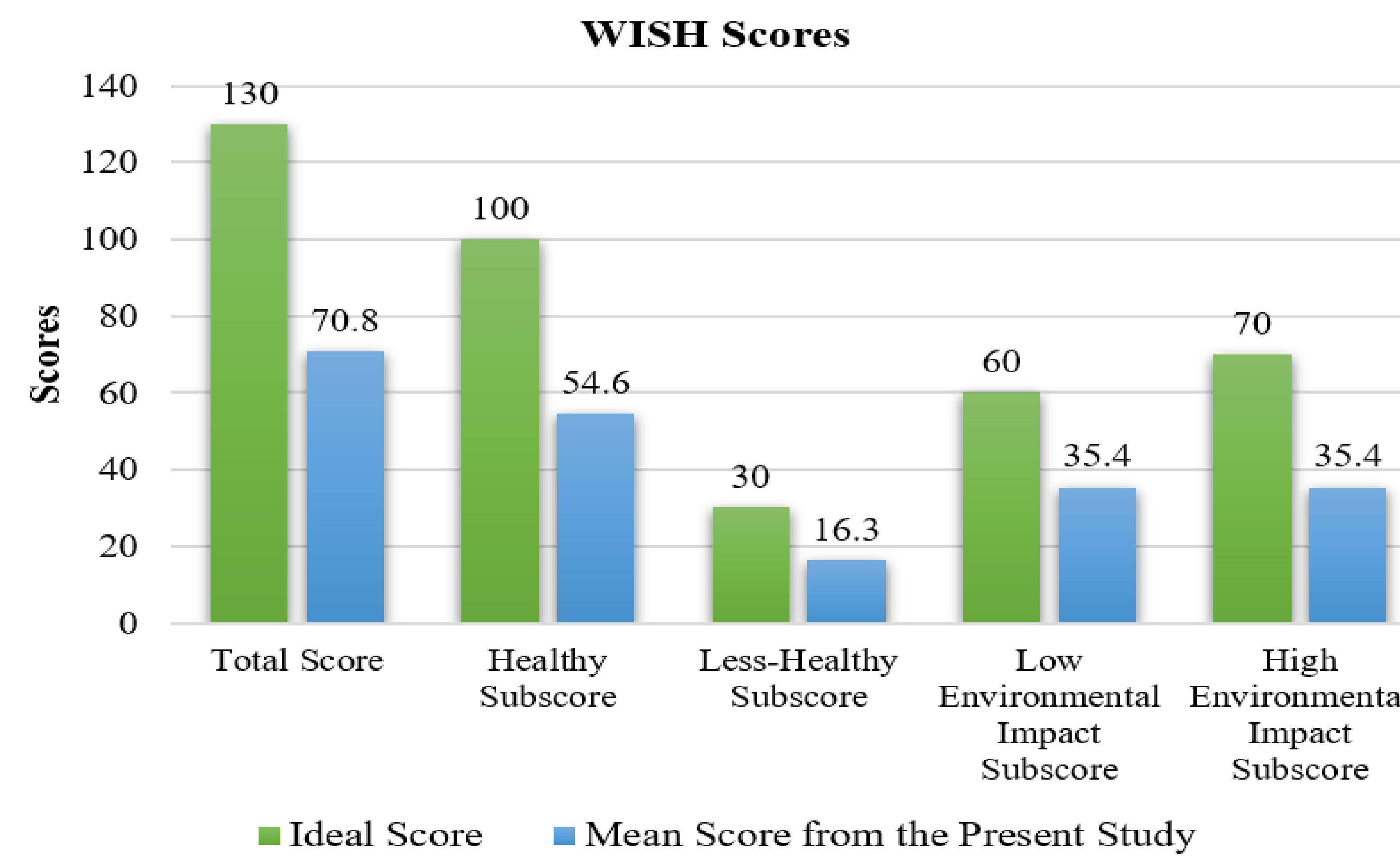


Figure 1. The participants achieved a low mean WISH score of 70.8 out of 130. The population had about 50% adequacy for all sub-scores

Knowledge of Dietary Sustainability: The participants were aware of terms like local products (89.3%) and environmental impact (87.8%) but did not have much knowledge about the concepts of carbon footprint (38.2%) and green water (22.1%).

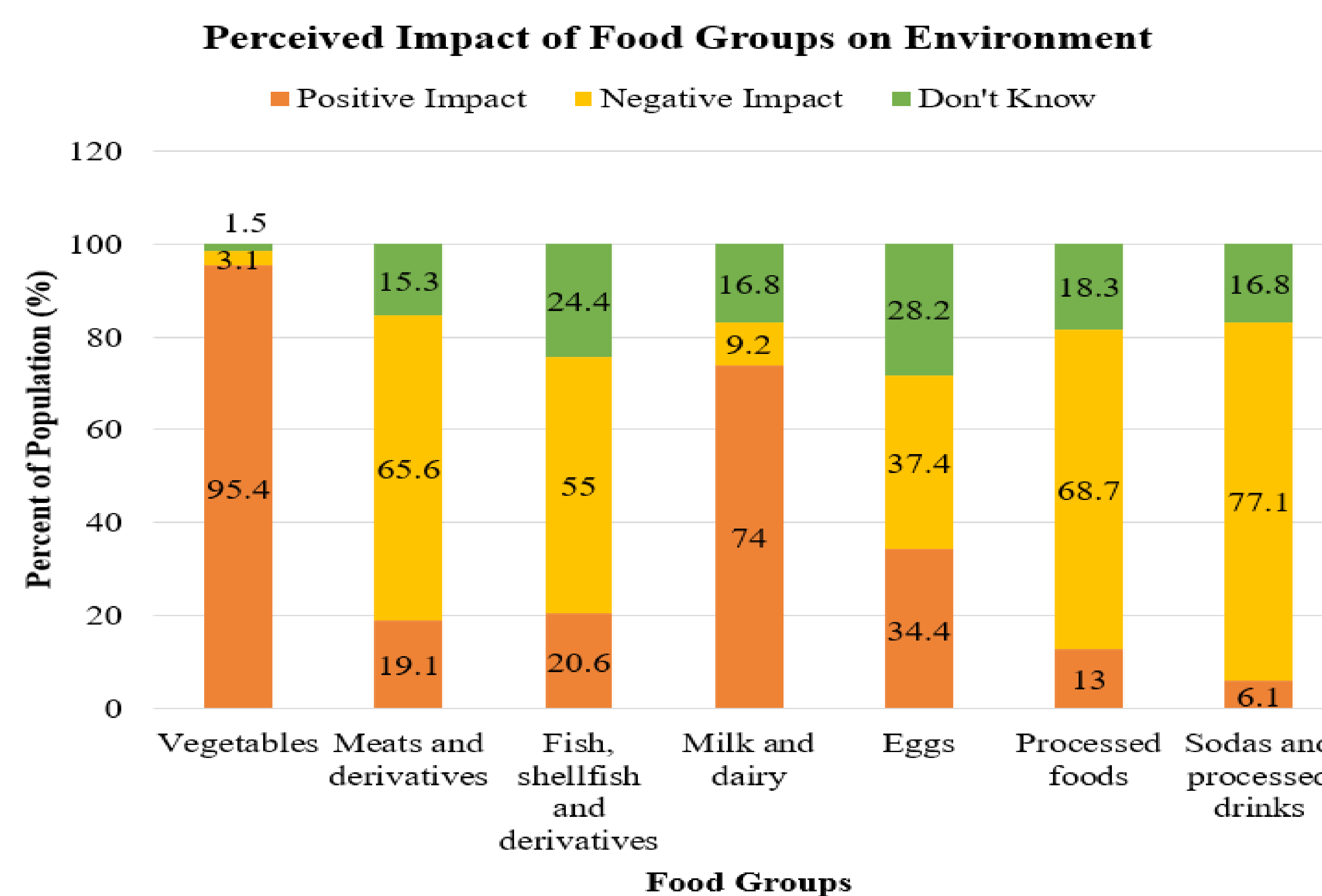


Figure 2. Majority of the participants had a correct perception of the impact of food groups on the environment.

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Correlation of Dietary Sustainability and Knowledge: There was a positive correlation of WISH score with knowledge of sustainability terms like carbon footprint ($p=0.00$), greenhouse gases ($p=0.03$), local food ($p=0.00$) and environmental impact ($p=0.01$). Also, people who had a correct perception about impact of food groups on the environment, had a higher WISH score.

Correlation of Dietary Sustainability and Dietary Adequacy: This is shown in table below.

Food Groups	Pearson's Correlation Coefficient 'r'	'p' value
Green Leafy Vegetables	0.22	0.01*
Other Vegetables	0.24	0.01*
Roots and Tubers	0.3	0.00*
Fruits	0.45	0.00*
Milk	-0.24	0.01*
Nutrients	Pearson's Correlation Coefficient 'r'	'p' value
Carbohydrates (g)	0.26	0.00*
Zinc (mg)	0.2	0.02*
Magnesium (mg)	0.48	0.00*
Vitamin A (mcg)	0.26	0.00*
Thiamine (mg)	0.34	0.00*
Niacin (mg)	0.2	0.02*
Vitamin B6 (mg)	0.26	0.00*
Vitamin C (mg)	0.45	0.00*
Total Foliates (mcg)	0.48	0.00*

* Statistically significant $p < 0.05$

IMPLICATIONS

- National food based dietary guidelines in South Asian countries can incorporate an element of sustainability for health of the people and planet in giving recommendations for food groups.
- Nutrition education and behaviour change program can help impart knowledge of sustainable diets among the people thereby encouraging them to adopt these in their life.
- Further scope of research lies in understanding the relation of dietary sustainability and prevalence of disease outcomes.