IOSR Journal Of Humanities and Social Science (IOSR-JHSS)
Volume 30, Issue 9, Series 5 (September, 2025) 41-44
e-ISSN: 2279-0837, p-ISSN: 2279-0845.
www.iosrjournals.org

Assessment Of Applied Nutrition Knowledge And Its Impact On Dietary Practices Among Housewives In Narayanganj District

Rahana Akther
Bangladesh Institute Of Research And Training On Applied Nutrition ***(BIRTAN)***

Abstract
Background: Applied nutrition knowledge is essential for ensuring adequate dietary practices and preventing diet-related diseases. Housewives, being the primary decision-makers in household food preparation, directly influence family health. Despite progress in nutrition awareness, gaps remain in knowledge-to-practice translation.
Objective: To assess applied nutrition knowledge among housewives in Narayanganj District, Bangladesh, and explore its relationship with dietary practices and body mass index (BMI).
Methods: A cross-sectional survey was conducted with 275 respondents using a structured questionnaire. A composite nutrition knowledge score (0–11) was computed. Descriptive statistics, Chi-square, ANOVA, correlation, and regression analyses were performed to examine associations between knowledge, socio-demographic variables, and BMI.
Results: Most respondents were housewives (93%), with secondary (37%) or higher secondary (26%) education. Average BMI was 25.3 (SD=5.5), with 48% overweight/obese. Knowledge scores were significantly associated with education (ANOVA, $p<0.001$) and income ($p=0.001$). Regression showed low education and low income predicted poor nutrition knowledge. No direct correlation was found between knowledge score and BMI.
Conclusion: Education and income strongly predict applied nutrition knowledge; however, knowledge alone does not translate into healthier BMI outcomes. Community-based nutrition education programs, especially targeting low-income and less-educated women, are recommended.

Key Words: *Applied Nutrition Knowledge, Dietary Practices, Housewives, Body Mass Index (BMI).*

Date of Submission: 15-09-2025 Date of Acceptance: 25-09-2025

I. Introduction

Nutrition knowledge is a critical determinant of dietary practices and health outcomes. Globally, malnutrition—both undernutrition and overweight/obesity—remains a major challenge, contributing to 45% of child deaths and increasing adult morbidity from non-communicable diseases (FAO, 2020; WHO, 2022). Applied nutrition knowledge, defined as the ability to select, prepare, and consume foods in line with dietary guidelines, bridges the gap between theoretical awareness and practical dietary behavior (Contento, 2016).

In Bangladesh, rapid urbanization and dietary transitions are reshaping food habits. Studies indicate that while awareness about nutrition is increasing, poor translation into practice is evident, particularly among women with lower education and income (Khan et al., 2021). Narayanganj, a highly urbanized and industrialized district, provides a unique context where socioeconomic disparities and lifestyle changes affect food practices.

Comparatively, in South and Southeast Asia, similar challenges exist. Research in India, Nepal, and Sri Lanka shows that higher education correlates with better nutrition knowledge, but dietary practices often remain suboptimal due to cultural preferences, affordability, and limited food environment diversity (Rathi et al., 2017; Aryal et al., 2019). Globally, evidence from Europe, Australia, and North America suggests that nutrition knowledge positively influences dietary quality, yet the effect size is modest when structural and behavioral barriers are unaddressed (Worsley, 2002; Spronk et al., 2014).

II. Methods

Study design and participants: A community-based cross-sectional survey was conducted among 275 respondents in Narayanganj District. Inclusion criteria were housewives aged 18–60 years. Exclusion criteria included pregnant or lactating women and individuals with chronic illness affecting diet.

Data collection tool: A structured questionnaire was designed covering socio-demographics, applied nutrition knowledge, dietary practices, hygiene, and anthropometric measures.

Nutrition knowledge score: Constructed from 11 items, awarding 1 point per correct response. The score range was 0–11.

Anthropometric measures: Height and weight were measured; BMI was calculated using WHO cut-offs (underweight <18.5, normal 18.5–24.9, overweight 25–29.9, obese ≥30).

Data analysis: Data were analyzed using SPSS. Descriptive statistics summarized variables. Chi-square tested categorical associations, ANOVA compared group means, correlation tested relationships, and regression identified predictors of nutrition knowledge

III. Results

Table 1. Socio-demographic characteristics of respondents (n=275)

Variable	Categories	Frequency (n)	Percentage (%)
Occupation	Housewife	257	93.5
Occupation	Student	14	5.1
Occupation	Teacher	1	0.4
Occupation	Farmer	1	0.4
Occupation	Social worker	1	0.4
Education	No formal	13	4.7
Education	Primary	56	20.4
Education	Secondary	102	37.1
Education	Higher secondary	72	26.2
Education	Graduate+	32	11.6
Monthly income	<10,000 BDT	146	53.1
Monthly income	10,000–20,000	75	27.3
Monthly income	20,000–30,000	33	12.0
Monthly income	>30,000	14	5.1

Table 2. Distribution of BMI among respondents

BMI Category	Frequency (n)	Percentage (%)
Underweight (<18.5)	21	7.7
Normal (18.5–24.9)	123	44.9
Overweight (25–29.9)	92	33.6
Obese (≥30)	39	14.2

IV. Discussion

This study highlights education and income as key predictors of applied nutrition knowledge among housewives in Narayanganj, Bangladesh. These findings align with previous national surveys where lower socioeconomic status correlated with poor dietary knowledge and practices (Khan et al., 2021). Despite better knowledge among educated women, overweight/obesity remains prevalent, reflecting the nutrition transition in urban Bangladesh.

Comparative insights show similar trends across South Asia and globally. Indian and Nepalese studies demonstrate education as a strong predictor of knowledge, but affordability and cultural practices limit application (Rathi et al., 2017; Aryal et al., 2019). In Europe, Australia, and North America, nutrition knowledge contributes to healthier diets, yet behavioral and structural barriers reduce the effect size (Spronk et al., 2014; Worsley, 2002).

Findings from the same institutional other author's earlier work reinforce these insights. For example, Razzak et al. (2016) demonstrated that nutrition education significantly improved adolescent girls' nutritional status in North-West Bangladesh. Similarly, in Sunamganj, poor nutrition knowledge and sanitation practices were associated with widespread malnutrition among adolescent girls (Razzak et al., 2020). These parallels indicate that while education enhances knowledge, broader interventions are needed to ensure improved dietary practices and outcomes.

Strengths of this study include community-based design and composite scoring of nutrition knowledge. Limitations include cross-sectional design, reliance on self-reported practices, and limited generalizability.

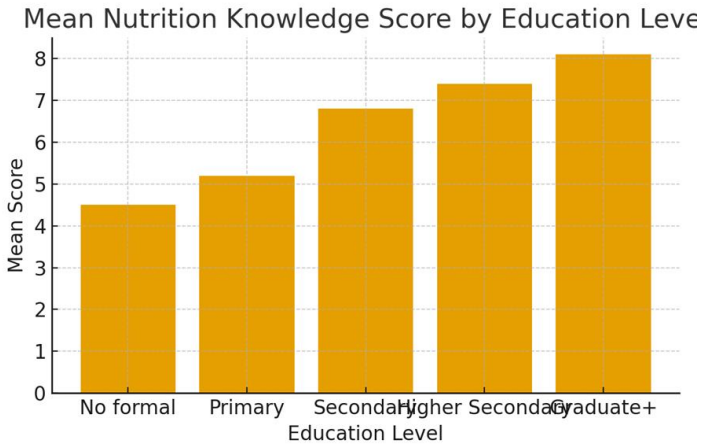
V. Conclusion

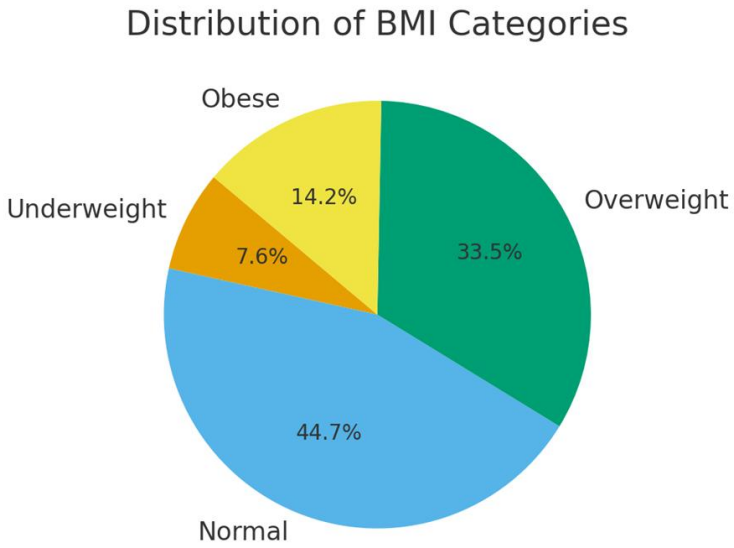
Applied nutrition knowledge among housewives in Narayanganj is significantly influenced by education and income. However, knowledge alone does not translate into improved dietary practices or healthier BMI. Findings align with evidence from Bangladesh, Asia, and global studies showing that education

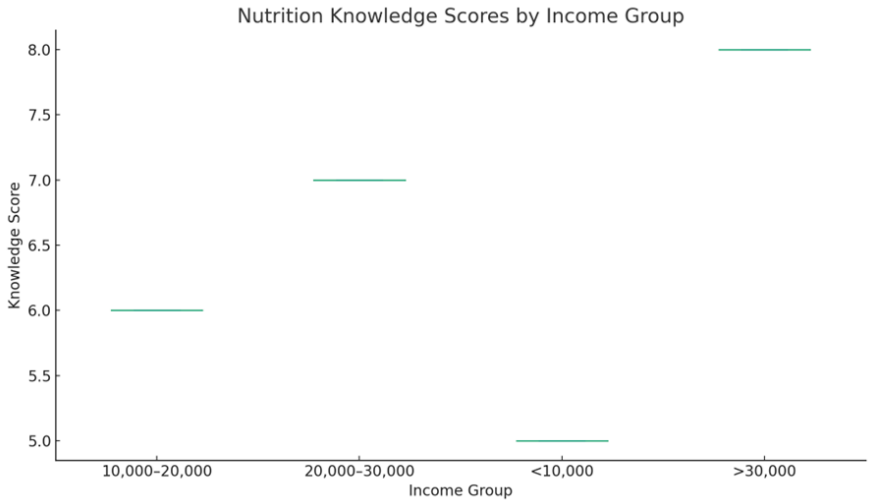
improves awareness but must be coupled with behavioral change programs and structural interventions.

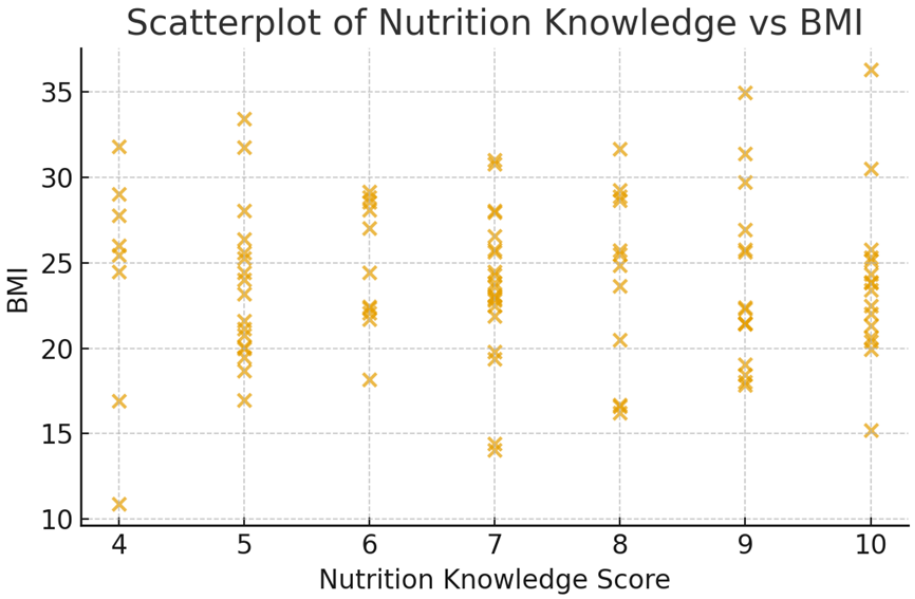
References

[1]. Aryal KK Et Al. (2019). Dietary Practices, Nutritional Knowledge, And Associated Factors Among Women In Nepal. BMC Nutrition, 5(1), 19.
[2]. Contento IR. (2016). Nutrition Education: Linking Research, Theory, And Practice. Jones & Bartlett.
[3]. FAO. (2020). Nutrition Guidelines And Food-Based Approaches. Rome: FAO.
[4]. Kabir A, Miah S, Islam A. (2019). Nutrition Literacy And Food Diversity Among Bangladeshi Women. Public Health Nutrition, 22(12), 2315–2323.
[5]. Khan MS Et Al. (2021). Nutrition Literacy And Dietary Practices In Bangladesh. Public Health Nutrition, 24(8), 2321–2329.
[6]. Rathi N, Riddell L, Worsley A. (2017). Food Consumption Patterns Of Urban Indian Adolescents: A Study Of Nutrition Knowledge And Practices. Nutrients, 9(6), 595.
[7]. Razzak A, Hasan SYMA, Rahman SS, Et Al. (2016). Role Of Nutrition Education In Improving The Nutritional Status Of Adolescent Girls In North West Areas Of Bangladesh. IJSER, 7(11), 1340–1346.
[8]. Razzak A, Saha P, Moazzem MS, Et Al. (2020). Nutritional Status, Dietary Habits And Sanitation Practices Of Adolescent Girls In Sunamganj District Of Bangladesh. Int J Nutr Sci, 5(4), 197–211.
[9]. Spronk I, Kullen C, Burdon C, O'Connor H. (2014). Relationship Between Nutrition Knowledge And Dietary Intake. Br J Nutr, 111(10), 1713–1726.
[10]. Truninger M. (2019). Food Knowledge And Healthy Eating. Sociology Compass, 13(7), E12705.
[11]. WHO. (2022). World Health Statistics 2022. Geneva: WHO.
[12]. Worsley A. (2002). Nutrition Knowledge And Food Consumption: Can Nutrition Knowledge Change Food Behaviour? Asia Pac J Clin Nutr, 11(Suppl), S579–S585.






Nutrition Knowledge Scores by Income Group
Knowledge Score
8.0
7.5
7.0
6.5
6.0
5.5
5.0
10,000–20,000
20,000–30,000
<10,000
>30,000
Income Group


Scatterplot of Nutrition Knowledge vs BMI
BMI
35
30
25
20
15
10
4
5
6
7
8
9
10
Nutrition Knowledge Score