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Nutritional Knowledge and Food Practice among Reproductive aged Women of Rainas Municipality, Lamjung

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ABSTRACT

Introduction: Nutrition knowledge covers principles related to diet and health, including disease and diet correlation, nutrient sources, and dietary guidelines. Food consumption pertains to how and why people eat, and knowledge of dietary practices is vital in evaluating nutrition knowledge. Healthy eating habits improve immunity, while unhealthy behavior may result in malnutrition, obesity, and other chronic diseases. The study aimed to determine the nutritional knowledge and practice among aged women of Raina's municipality in the Lamjung district.

Methods: A descriptive cross-sectional study involving 233 participants was conducted with prior ethical approval obtained for data collection. Information was collected through face-to-face interviews using semi-structured questionnaires. Convenient sampling was utilized for both area and respondent selection. The gathered data were coded and entered on Epidata then exported to SPSS version 26 for descriptive and inferential statistical analysis.

Results: The study revealed that a notable proportion of participants, specifically 55.5%, possessed a good level of knowledge concerning nutrition, whereas 44.5% demonstrated a deficiency in their understanding. In parallel, a majority of the respondents, comprising 56.7%, exhibited poor food practices, while 43.3% showcased good practices.

Conclusions: The study concludes that while respondents demonstrated good knowledge regarding nutrition, their practical implementation of this knowledge in their dietary practices was relatively poor. This highlights the need for interventions and strategies aimed at bridging the gap between knowledge and practice to promote healthier behaviors and improve overall nutrition among the studied population.

Keywords: *Nutritional knowledge, practice, and reproductive-aged women*

INTRODUCTION

Nutrition knowledge refers to knowledge of concepts and processes related to nutrition and health including knowledge of diet and health, diet and disease, foods representing major sources of nutrients, and dietary guidelines and recommendations.[1] The term food consumption or eating habits also can be stated as why and how people eat, which foods they eat, and with whom they eat, as well as the ways people obtain, store, use, and discard food.[2] Nutrition knowledge is vital for well-being and dietary choices. Adequate nutrition improves health and work capacity. Limited data on food intake and nutritional knowledge in Nepal are influenced by various factors. Most people consumed starchy staples while less attention has been given to the consumption

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of vegetables, meat, fruits, and dairy products in Nepal.[3] The study aimed to determine the nutritional knowledge and practice among aged women of Raina's municipality in the Lamjung district.

METHODS

A community-based cross-sectional study was conducted in Rainas Municipality, Lamjung, with a specific focus on 233 women aged 18-45 years residing in wards 1 and 2. The study was carried out from January 15, 2022, to July 4, 2022. Ethical approval was obtained from the Institutional Research Committee of the National Academy for Medical Sciences (NAMS) (ref no: 504/078/079) and the respective ward of Rainas Municipality Informed verbal or written consent was diligently obtained from each participant, emphasizing their right to information and ensuring their understanding of the study's purpose. Throughout the research, strict measures were taken to maintain privacy and confidentiality. The study population comprised women aged 18-45 years living in Rainas Municipality - wards 1 and 2. Participants under 18 and those who declined to participate were excluded. The selection of the study area (Rainas Municipality) and its specific wards (1 and 2) was done conveniently to facilitate the research process and represent the population effectively. The municipality was considered the sampling unit, while the women aged 18-45 years served as the study unit.

The sample size of the study was determined by using the formula for the prevalence rate of nutritional knowledge of women to be 66% [4] with a 95% confidence interval and 6% margin of error, sample size was calculated by using the following statistical formula for the infinite population.

Sample size (n) = z^2pq/d^2

Where,

n= Sample size with infinite population

Z= 1.96 at 95% level of confidence

p= 0.66

q=(1-p)=0.34

d= Acceptable margin error (6%)

Therefore, the calculated sample size of the study was 233.

Nutritional Knowledge and Food Practices were the dependent variables, while socio-demographic factors (such as Age, Education, Marital Status, Occupation, Family Type & Income, Religion, and ethnicity), food myths, food barriers, and food accessibility were considered independent variables. Data collection involved face-to-face interviews conducted in a natural and neutral setting after obtaining written and verbal consent from the respondents. A semi-structured questionnaire, developed based on extensive literature and pre-testing, was translated into Nepali. Nutritional knowledge was categorized as Poor or Good based on 14 dimensions, including hearing about nutrition, understanding the importance of protein, carbohydrates, fats, vitamins, and diseases related to high and low sugar and salt intake, as well as knowledge about the consumption of green vegetables and water. Knowledge was assessed using mean scores and divided into two categories. The mean score of knowledge was 9.34, where a score of 9.34 or higher was considered good knowledge, while a score below 9.34 was considered poor knowledge. The practice was evaluated based on 16 dimensions, including eating habits, consumption of junk food, food hygiene, and intake of vegetables, meat, eggs, and milk, as well as food-related myths (e.g., avoiding dairy products during menstruation or not consuming milk and meat on the same day). The mean score for Food practices was 13, with a score above 13 considered as good practice, and a score below 13 considered as poor practice. The collected data were coded, entered into Epidata, and exported to SPSS Version 23. The association between variables was analyzed using the Chi-square test. A descriptive analysis was performed, presenting the results in terms of frequency and percentage.

RESULTS

In Table 1 shows out of 233 participants, only 182 had heard about nutrition, while the remaining 81 participants were not aware of it. The mean knowledge score was 9.34. Scores below the mean (<9.34) indicated poor knowledge, while scores above the mean (>9.34) indicated good knowledge. The study revealed that more than half of the participants had good nutritional knowledge, while 44.5% had poor knowledge. The mean practice score was 13.45. Scores below the mean (<13.45) indicated poor practice, while scores above the mean (>13.45) indicated good practice. Among the total participants (n=233), the study found that 56.7% had poor food practices, while 43.3% had good practices.

Table 1. Knowledge and practice score (n=233)

Characteristics	Frequency(n%)
Knowledge	
Poor	81(44.5)
Good	101(55.5)
Practice	
Poor	132(56.7)
Good	101(43.3)

Table 2 provides an overview of the socio-demographic characteristics of the respondents. The age of participants ranged from 18 to 45 years, with the

majority (44.2%) falling within the 18-25 age group. The average age of respondents was 30.65, with a standard deviation of 8.71. In terms of ethnicity, the janajati population accounted for the largest proportion (35.2%), followed by Brahmins (33%) and Chhetris (21.9%). Married individuals constituted a significantly higher percentage compared to unmarried individuals, and a majority (65.2%) belonged to nuclear families. Among the 233 participants, those with higher levels of education accounted for 28.7%, while 26.2% had completed secondary education and 15.9% had completed primary education. Agriculture emerged as the primary occupation in the community, and 36.9% of participants had a monthly income ranging from Rs. 10,000 to 20,000. Additionally, 32.6% had an income of less than Rs. 10,000, while 9% had an income exceeding Rs. 40,000.

Table 2. Socio-demographic characteristics of the participants (n=233)

Characteristics	Frequency (%)
Age	
18-25	103(44.2)
25-35	56(24)
35-45	74(31.8)
Ethnicity	
Brahmin	77(33)
Chhetri	51(21.9)
Janjati	82(35.2)
Dalit	19(8.2)
Muslim	4(1.7)
Marital status	
Married	160(68.7)
Unmarried	55(23.6)
Divorced	8(3.4)
Widow	10(4.3)
Family Type	
Nuclear Family	152(65.2)
Joint Family	81(34.8)
Educational Level	
Illiterate	8(3.4)
Literate	30(12.9)
Primary Level	37(15.9)
Secondary Level	61(26.2)
Higher Level	67(28.7)
Bachelor and above	30(12.9)
Occupation of the respondent	
Agriculture	74(31.8)
Job	43(18.5)
Business	48(20.6)
Government Job	28(12)
Students	40(17.1)
Average monthly income of the household	76(32.6)
Rs.<10000	86(36.9)
Rs. 10000-20000	50(21.5)
Rs. 20000-30000	21(9)
More than 40000	

Table 3 shows that 69.6% of the participants sourced their food from their farms, while around 68.2% reported easy access to food. However, 31.8% faced challenges in obtaining food on a daily basis. Among those who experienced difficulties accessing food, 66.2% attributed the problems to poor infrastructure. In terms of food myths, the majority of participants (71.7%) did not hold any, while 28.3% had food-related myths. The most prevalent myth was the belief that individuals with low blood pressure should avoid consuming bitter gourd (43.9%). Additionally, 32.9% of participants believed in the myth of avoiding milk during menstruation.

Table 3. Food accessibility and food-related myths (n=233)

Characteristics	Frequency (n%)
From where you obtain food (n=233)	
Own farm	162(69.6)
Market	46(19.7)
Both	25(10.7)
Easy access to food (n =233)	
Yes	159(68.2)
No	74(31.8)
If no, what(n=74)	
Geographical structure	19(25.7)
Cost of food	6(8.1)
Poor infrastructure	49(66.2)
Food-related myths (n=233)	
Yes	66(28.3)
No	167(71.7)
If yes, what (66)	
Avoid milk during menstruation	23(32.9)
BP low person should not eat bitter gourd	29(43.9)
Mean and milk shouldn't eat on the same day	14(21.2)

Table 4 shows the cross-tabulation between nutritional knowledge and food practices. While examining the relationship between nutritional knowledge and food practices it was found that the relationship was statistically significant (p-0.004)

Table 4. Relationship between nutritional knowledge and food practices

		Nutritional knowledge scoring		Total	p-value
		Poor knowledge	Good knowledge		
Dietary practice scoring	Bad practice	51(62.9%)	42(41.5%)	93	0.004*
	Good practice	30(37.1%)	59(58.5%)	89	
Total		**81**	**101**	**182**	

DISCUSSION

In this study, it was observed that a majority of the respondents had good nutritional knowledge (55.5%) and practiced good food habits (43.3%). These percentages were higher compared to the findings of a similar study titled "Food and Nutrition-Related Knowledge, Attitudes, and Practices among Reproductive-age Women in Marginalized Areas in Sri Lanka," where the percentage was reported as 50.7%. Most women have a positive attitude about receiving nutritional knowledge but have low-level practice about a healthy diet.[5] Food-related misconceptions such as avoiding milk during menstruation and the belief that meat and milk should not be consumed on the same day influenced food practices. Surprisingly, even individuals with higher education believed and adhered to these myths, which is concerning and not considered acceptable.

The research at the University of Nebraska at Lincoln was conducted on the nutritional knowledge, attitudes, and food patterns of women. Results showed that mean test scores for nutritional knowledge were higher for questions relating to nutrition for the athlete than for general nutrition. Attitudes toward nutrition were generally favorable, with a positive correlation between nutritional knowledge and attitudes. Athletes who had received some form of nutrition education had higher nutritional knowledge and attitude scores than those who had not. Respondents were especially concerned with diet as it relates to weight control; those with higher knowledge scores consistently followed food patterns for weight-control diets similar to those used in training and pre-event diets.[6] Some of the women in Rainas had not received any nutritional education, resulting in lower nutritional knowledge and poorer food practices as compared to athlete women. Nutrition education did not significantly influence perceptions, food intake, or knowledge[7], which didn't support the finding. Those who had good nutritional knowledge had healthy or good food practices.

Education and knowledge are the ones that are enough to target dietary interventions and improve healthy eating patterns. However, according to Eating patterns and energy and nutrient intakes of US women, knowledge of demographics such as income and education is not enough to target dietary interventions.[8] As a developing country education is important to change people's perception regarding food practices. Eating patterns 61% at home, and 39% away from home consumed the most healthful diets.[8] Which was similar to the study regarding Eating patterns and energy and nutrient intakes of US women.

Just 47.2% reported eating all meals regularly, most of them skip their meal and which was like the study regarding Food and Nutrition-Related Knowledge, Attitudes, and Practices among Reproductive-age Women in Marginalized Areas in Sri Lanka.[5] Consumption of staple foods rich in carbohydrates, more than 80% of the women in Hill and two-thirds of the women consumed cereals more than once a day. Most women in Hill and Terai consumed pulses/legumes once a day in Mountain, more than 45% of women consumed green vegetables once a day. In all three ecological regions, most of the women consumed meat and fruits once a week. 30% of women consumed milk and milk products once a day in all three ecological regions.[3] The dietary pattern of Rainas was much better than overall in Nepal but the consumption of pulses is very low as compared to the National dietary pattern.

In our study, good food hygiene practice was observed. However, despite having good nutritional knowledge, the food practices of the respondents were poor, which included unhealthy diets and high consumption of junk food. There were also difficulties in obtaining food due to poor infrastructure and geographical conditions, and food-related myths persisted among the educated population. The study recommends raising awareness to eliminate these myths and promote healthy food practices. Additionally, the study found a significant relationship between nutritional knowledge and food practice, consistent with previous research.

There were a few limitations in the study. The study had a limited sample size due to constraints and focused on a specific age group of women. Girls under 18 were excluded due to consent issues. The study used a quantitative design and was conducted in a selected ward of Rainas Municipality in Lamjung that cannot be generalized.

CONCLUSIONS

Women had good nutritional knowledge, but their food practices did not align with it. Less than half had good food practices. The relationship between nutritional knowledge and food practice was found to be statistically significant, indicating that those with knowledge tend to have better practices. Difficulties in food availability and food-related myths also affect food choices. Skipping meals due to workload and financial constraints were common issues. The study highlights that despite good nutritional knowledge, people tend to have poor food practices, often opting for junk food and unhealthy habits. Merely having knowledge is not enough; promoting healthy eating behavior is crucial for a healthier life.

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CONFLICT OF INTEREST

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