''පුමිතිරි'' - ස්ත්‍රී-පුරුෂ සමාජභාවය පිළිබඳ විද්‍යුත් සඟරාව
Online ISSN: 3051-4924
https://journals.sjp.ac.lk/index.php/pumithiri
වෙළුම: 2; II කලාපය; 2025 නොවැම්බර්; පිටු: 81-88

GENDER DISPARITIES IN PARENTAL AWARENESS AND IMPLEMENTATION OF FOOD-BASED DIETARY GUIDELINES IN SRI LANKA: A CROSS-SECTIONAL STUDY

R. M. K. G. U. Rathnayaka[1], H. P. T. N. Silva[2], K. W. M. A. Jayasinghe[3] and D. Kuruppuarachchi[4]

[1,2]Department of Social Statistics, University of Sri Jayewardenepura, Sri Lanka;
[3]Department of Food Science and Technology, University of Sri Jayewardenepura, Sri Lanka;
[4]Department of Accountancy and Finance, University of Otago, New Zealand.
geethika@sjp.ac.lk

Abstract

In a world where dietary choices play a crucial role in health outcomes, understanding who influences these decisions and in what ways is more important than ever. In Sri Lanka, non-communicable diseases account for 83% of all deaths, with poor dietary habits being a key modifiable risk factor. To address this, Sri Lanka introduced Food-Based Dietary Guidelines to improve public dietary practices. This study examines gender disparities in parental awareness and implementation of Dietary Guidelines through a random sample of 252 parents in the Colombo District. Data were collected using a self-administered, closed-ended questionnaire covering perceptions of Dietary Guidelines, community involvement, and social support. Descriptive statistics and independent sample t-tests were used to analyze gender differences in awareness and dietary practices. The results revealed significant gender differences in educational attainment, with females achieving higher levels. Females also demonstrated greater awareness of dietary guidelines, particularly regarding daily nut consumption and limiting salty foods. Notable gender differences were observed in sleep practices, with one gender reporting better adherence to recommended sleep duration. However, no significant differences were found in household income, age distribution, or overall dietary practice scores, suggesting economic and behavioral parity in several areas. These findings highlight the need for gender-sensitive health education programs to address gaps in dietary awareness and promote better adherence to FBDGs, particularly among males. Future research should investigate the cultural and lifestyle factors influencing these gender differences to design more effective public health interventions. This study underscores the importance of tailoring nutrition education to gender-specific needs while promoting equitable health practices across populations.

Keywords: Dietary practices, Food-Based Dietary Guidelines, Gender differences, Parental awareness

Introduction

Non-communicable diseases (NCDs) represent a significant public health challenge in Sri Lanka, accounting for 83% of all deaths, with cardiovascular diseases (34%), cancers (14%), and diabetes (9%) being the leading causes. Poor dietary habits have been identified as a key modifiable risk factor contributing to this burden, with the economic impact of NCDs expected to reach 4.8% of GDP by 2025 (The World Bank,

2023; World Health Organization, 2023). In response, Sri Lanka has implemented Food-Based Dietary Guidelines (FBDGs) as a comprehensive strategy to improve population dietary practices and prevent NCDs.

In Sri Lankan society, food preparation and family dietary decisions have traditionally been influenced by distinct gender roles, with women typically bearing primary responsibility for household nutrition (Chandrasekara & Jayasinghe, 2022; Pieris & Caldwell, 1997; Weerasekara et al., 2020). However, evolving social dynamics, increasing urbanization, and changing family structures are drastically reshaping these traditional patterns. A Recent studies conducted indicates that fathers' involvement in family dietary decisions has increased, particularly in urban areas, though the extent and impact of this involvement remain poorly understood (Renzella et al., 2020). This shifting dynamic necessitates a deeper understanding of how gender influences awareness and implementation of dietary guidelines.

Despite the critical role of parental dietary knowledge in shaping family nutrition practices, there is a lack of literature regarding a notable gap in the literature regarding gender-specific differences in FBDG awareness in Sri Lanka. While several studies have examined general dietary practices, few have specifically investigated how mothers and fathers differ in their understanding and application of national dietary guidelines. This knowledge gap hampers the development of targeted interventions that could effectively address gender-specific barriers to healthy dietary a (Renzella et al., 2020; Weerahewa et al., 2018).

The need for gender-specific approaches in promoting dietary guidelines becomes particularly relevant given Sri Lanka's cultural context and the ongoing transformation of family roles. Understanding these gender disparities is crucial for several reasons: First, it can inform the development of more effective, gender-sensitive nutrition education programs. Second, it can help identify barriers mothers and fathers face in implementing dietary guidelines. Third, it can contribute to policy development that addresses the unique challenges and opportunities presented by evolving gender roles in family nutrition.

Therefore, this study aims to examine gender disparities in parental awareness and implementation of FBDGs in Sri Lanka through a cross-sectional analysis. By understanding these differences, authorized parties can develop more targeted and effective interventions that acknowledge and address the unique roles and challenges both mothers and fathers face in promoting family nutrition leads to reduce the non-communicable diseases.

Materials and Methods:

A self-administered closed-ended questionnaire was used to gather data from 252 parents selected in Colombo District. Simple random sampling was utilized to recruit participants from GN Divisions selected at random throughout the Colombo Divisional Secretariats for adequate community representation. The survey questionnaire contained sixteen items designed to measure the perceptions about FBDGs, awareness programs, community involvement, and social support from parents, all of which impact FBDG. The designed questionnaire focused on unveiling parental knowledge, opinions, and behaviors regarding the recently launched FBDG of Sri Lanka in 2021. The FBDG for Sri Lankans provide practical recommendations for healthy eating to promote overall health and prevent chronic diseases. Developed by the Nutrition Division of the Ministry of Health in collaboration with stakeholders such as FAO and UNICEF, these

guidelines are tailored to Sri Lanka's nutrition situation, food availability, and cultural practices. The FBDG emphasizes a balanced diet through its six-level food pyramid, advocating for the consumption of whole grains, vegetables, fruits, lean proteins, and dairy while limiting sugar, salt, and processed foods. Key messages include eating a variety of foods daily, maintaining hydration, engaging in physical activity, and ensuring clean and safe food practices (Ministry of Health Sri Lanka, 2021). Exploratory data analysis was used to explore and extract the demographic and socio-economic features of the individuals. This approach also helped identify the characteristics of awareness regarding different guidelines with respect to gender. To assess gender disparities in adherence to these guidelines, a t-test was employed. This statistical method was used to compare mean scores of dietary guideline compliance between male and female participants across different FBDG components. The analysis aimed to identify significant differences in dietary behaviors based on gender.

Results:

The sample showed a slight skew towards females, who made up 51.5% of the respondents, while males accounted for 48.5%. Most participants exist within the 21-40 age bracket (59.6%), making up the bulk of the sample, while the 41-60 demographic (32.5%) follows suit as a distinct second group. The educational background of the parents showed that most had completed secondary education, with 36.5% holding a G.C.E A/L certification and 29% having a G.C.E O/L certification. While bachelor's degree holders made up 22.7% of the sample, postgraduate degree holders accounted for 9%, contributing to a well-educated group overall.

A substantial segment (62.7%) works full-time while self-employment can be found with 9.4% of respondents, and part-time employment comprises 4.3%, but unemployment affects 17.3% of the population. Most households (55.7%) fell within the income bracket of Rs. 25,000 to Rs. 75,000. While a smaller portion earned between Rs. 75,000 and Rs. 125,000 (13.7%), another significant group earned above Rs. 175,000 (12.5%). These statistics indicate that most participants come from middle-income backgrounds, which helps researchers understand respondents' economic conditions and related obstacles.

Table 1: Demographic Characteristics of the Sample

Variable	Category	Percentage (%)	Variable	Category	Percentage (%)
Gender	Male	43.5	**Employment**	Employed Full-Time	62.7
	Female	56.5		Employed Part-Time	4.3
Age Group	< 20	2.4		Self-Employed	9.4
	21–40	59.6		Unemployed	17.3
	41–60	32.5		Retired	5.1
	> 61	5.5		Other	1.2
Education Level	Grade 5	2.7	**Household Income**	Less than Rs. 25,000	12.2
	G.C.E O/L	29		Rs. 25,000 – Rs. 75,000	55.7
	G.C.E A/L	36.5		Rs. 75,000 – Rs. 125,000	13.7
	Bachelor's Degree	22.7		Rs. 125,000 – Rs. 175,000	5.9
	Postgraduate Degree or Above	9		Greater than Rs. 175,000	12.5

Source: Sample Survey, 2025

Table 2: Gender differences in FBDG awareness scores

Variable	Levene's Test (F)	Sig. (Levene's Test)	t-value	df	Sig. (2-tailed)	Mean Difference	Std. Error	95% CI (Lower)	95% CI (Upper)
Awareness_G1	0.012	0.912	-0.955	253	0.34	-0.11749	0.12298	-0.3597	0.12471
Awareness_G2	2.314	0.129	-0.244	253	0.807	-0.01727	0.07069	-0.15648	0.12194
Awareness_G3	3.978	0.047	-1.413	253	0.159	-0.09122	0.06456	-0.21836	0.03593
Awareness_G4	0.176	0.675	-0.202	253	0.84	-0.01908	0.09431	-0.20482	0.16665
Awareness_G5	0.084	0.772	-0.203	253	0.839	-0.0259	0.12746	-0.27693	0.22513
Awareness_G6	**0.176**	**0.675**	**-2.056**	**253**	**0.041**	**-0.18423**	**0.0896**	**-0.36069**	**-0.00778**
Awareness_G7	0.11	0.74	-1.856	253	0.065	-0.1318	0.07101	-0.27165	0.00804
Awareness_G8	0.233	0.63	-1.203	253	0.23	-0.10536	0.08758	-0.27783	0.06712
Awareness_G9	0.927	0.336	-1.335	253	0.183	-0.14715	0.11024	-0.36426	0.06997
Awareness_G10	0	1	-0.685	253	0.494	-0.05312	0.07756	-0.20587	0.09964
Awareness_G11	2.94	0.088	0.182	253	0.856	0.01426	0.07846	-0.14025	0.16878
Awareness_G12	0.451	0.503	-1.477	253	0.141	-0.11355	0.07688	-0.26496	0.03786
Awareness_G13	0.614	0.434	-0.883	253	0.378	-0.06044	0.06845	-0.19523	0.07436
Awareness_G14	9.448	0.002	-1.719	253	0.087	-0.13457	0.07829	-0.28875	0.0196
Total Awareness	3.067	0.081	-1.672	253	0.096	-0.08478	0.05069	-0.18462	0.01506

Source: Sample Survey, 2025

Table 2 shows the results of Independent Samples t-tests conducted to compare the means of two groups, males and females, regarding their awareness of the Food-Based Dietary Guidelines (FBDG). The variables assessed include Awareness of FBDGs: G1 to G14 and the Total Awareness of FBDG. A significant difference ($p \leq 0.05$) was observed for Awareness_G6, which relates to the guideline "Eat a handful of nuts or oily seeds daily." The p-value is 0.041 (assuming equal variances), indicating a statistically significant difference. The mean difference (Male score - Female Score) is -0.18423, suggesting that males scored lower by approximately 0.18 units.

Results that are near-significant ($p \approx 0.05$) include Awareness_G7 ("Limit salty food and adding salt to food") with a p-value of 0.065, Awareness_G14 ("Always read labels of packaged food and beverages") with $p = 0.087$, and the Total Awareness of FBDG with $p = 0.096$. These results are marginally non-significant but indicate trends that may warrant further investigation.

No significant differences ($p > 0.05$) were identified for the remaining awareness variables. These include Awareness_G1 to G5, covering guidelines such as "Add colour to your daily meals balancing the correct amounts," "Eat whole grains and their products, including less polished or parboiled rice instead of refined grains and products," "Eat at least two vegetables, one green leafy vegetable, and two fruits daily," "Eat fish or egg or lean meat with pulses at every meal," and "Have fresh milk or its fermented products." Additionally, Awareness_G8 to G13, which covers dietary habits like "Limit sugary drinks, biscuits, cakes,

sweets, and sweeteners," "Drink 8 to 10 glasses (1.5–2.0 Litres) of water throughout the day," "Engage in moderate physical activity for at least 150–300 minutes per week," "Sleep 7–8 hours continuously every day," "Eat clean and safe food," and "Eat fresh and home-cooked food while limiting processed and ultra-processed food," all exhibited p-values well above 0.05, indicating no significant differences between fathers and mothers in these areas.

Table 3: Gender differences in FBDG Dietary Practice scores

Practice Group	Levene's Test F	Levene's Sig.	t-value	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI Lower	95% CI Upper
Practice_G1	0.022	0.882	0.074	253	0.941	0.01595	0.21553	-0.4085	0.44041
Practice_G2	5.575	0.019	1.611	253	0.109	0.16677	0.10355	-0.03716	0.37071
Practice_G3	2.802	0.095	0.141	253	0.888	0.01939	0.13727	-0.25094	0.28973
Practice_G4	7.272	0.007	-1.659	253	0.098	-0.27919	0.16832	-0.61066	0.05229
Practice_G5	3.234	0.073	-0.833	253	0.406	-0.15484	0.18585	-0.52085	0.21117
Practice_G6	10.184	0.002	0.881	253	0.379	0.15907	0.1805	-0.19642	0.51455
Practice_G7	5.577	0.019	-1.637	253	0.103	-0.20552	0.12553	-0.45274	0.0417
Practice_G8	5.187	0.024	1.726	253	0.086	0.28482	0.16505	-0.04023	0.60987
Practice_G9	0.836	0.361	0.453	253	0.651	0.08039	0.17734	-0.26887	0.42965
Practice_G10	0.003	0.96	0.226	253	0.821	0.03879	0.1717	-0.29935	0.37693
Practice_G11	**4.796**	**0.029**	**2.466**	**253**	**0.014**	**0.7714**	**0.31286**	**0.15525**	**1.38755**
Practice_G12	11.676	0.001	-1.732	253	0.084	-0.53116	0.3066	-1.13497	0.07265
Practice_G13	0	0.987	0.008	253	0.993	0.00188	0.22821	-0.44755	0.4513
Practice_G14	2.41	0.122	-0.998	253	0.319	-0.31438	0.31487	-0.93447	0.30572
Total_Practice	0.078	0.781	0.05	253	0.96	0.00381	0.0758	-0.14547	0.15309

Source: Sample Survey, 2025

Table 3 presents the results of independent samples t-tests comparing daily dietary practice scores across two gender groups. Among the practices, Practice_G11 (Sleep 7-8 hours continuously every day) showed a statistically significant difference between the groups, with Levene's test indicating unequal variances (Sig. = 0.029, $p < 0.05$). The t-test results ($t(253) = 2.466$, $p = 0.014$) confirm this significance, revealing that one group scored higher by 0.77 units (Mean Difference = 0.7714). The 95% confidence interval (0.155, 1.388) does not include zero, further confirming the significance of the difference.

Several practices approached statistical significance but did not meet the conventional threshold ($p < 0.05$). These include Practice_G8 (Limit sugary drinks, biscuits, cakes, sweets, and sweeteners, $p = 0.086$), Practice_G4 (Eat fish or egg or lean meat with pulses at every meal, $p = 0.098$), Practice_G7 (Limit salty food and adding salt to food, $p = 0.103$), and Practice_G12 (Eat clean and safe food, $p = 0.084$). While not statistically significant, these practices may have practical relevance and warrant further consideration.

All other practices, such as Add color to your daily meals balancing the correct amounts, Eat whole grains and their products, including less

polished or parboiled rice instead of refined grains and products, Eating at least two vegetables, one green leafy vegetable, and two fruits daily, Have fresh milk or its fermented products, and Eat a handful of nuts or oily seeds daily, along with the overall Total_Practice score ($p = 0.960$), showed no significant differences between the groups. This is supported by confidence intervals that include zero, indicating a lack of meaningful difference in these dietary practices across genders.

Discussion

The present study explored gender differences in socioeconomic factors, Food-Based Dietary Guidelines (FBDGs) awareness, and dietary practices. The demographic analysis indicated a slight female majority (51.5%), with most participants aged between 21 and 40, reflecting a relatively young and economically active sample. Education levels were predominantly within secondary education, with a notable proportion holding G.C.E A/L and O/L certifications. Most respondents were employed full-time, and household income data suggested a predominantly middle-income demographic.

The independent samples t-test revealed a significant gender difference in education levels, with females attaining slightly higher education levels than males. This aligns with global trends where educational attainment gaps are narrowing, and in some regions, females outperform males. However, no significant gender-based differences were observed in household income or age distribution, suggesting economic parity despite educational differences.

Regarding FBDG awareness, significant gender differences were observed for Awareness_G6 ("Eat a handful of nuts or oily seeds daily"), where females demonstrated higher awareness. This finding may reflect gender-based differences in health consciousness, as females often exhibit more significant interest in nutrition and dietary health. Near-significant differences in Awareness_G7 ("Limit salty food"), Awareness_G14 ("Read labels on packaged foods"), and Total Awareness of FBDG suggest emerging trends where females may be more attentive to dietary guidelines, warranting further investigation.

Regarding dietary practices, a significant gender difference was found for Practice_G11 ("Sleep 7-8 hours continuously every day"), with one gender reporting better sleep practices. Lifestyle factors, including work schedules, caregiving responsibilities, or stress levels, could influence this. Near-significant trends in limiting sugary foods, consuming lean proteins, managing salt intake, and prioritizing food safety highlight potential gender-based behavioral patterns in dietary habits.

Interestingly, no significant differences were found in many dietary practices and overall practice scores, suggesting that while specific behaviors differ, general dietary habits may be similar across genders. This could reflect the effectiveness of community-wide health campaigns that reach both genders equally or shared cultural dietary norms within the sample population.

Conclusion

This study highlights notable gender differences in educational attainment, specific areas of dietary guideline awareness, and certain dietary practices. Females demonstrated higher awareness of key dietary guidelines and better adherence to recommended sleep practices. However, household income, age distribution, and many dietary behaviors did not significantly differ between genders, indicating areas of gender parity.

The findings underscore the importance of targeted health education programs considering gender-specific needs and behaviors. While

general dietary habits are consistent across genders, specific interventions may be needed to address gaps in awareness and practice, particularly among males. Future research should explore the underlying causes of these differences, such as cultural influences, health literacy, and lifestyle factors, to design more effective public health strategies.

In summary, this study provides valuable insights into the intersection of gender, socioeconomic factors, dietary awareness, and health behaviors. It highlights the need for nuanced health promotion strategies that foster healthy lifestyles for all individuals, regardless of gender.

References

Chandrasekara, R., & Jayasinghe, M. (2022). *Nutrition Literacy for Human Health : A Review on Current Global and Sri Lankan Scenario*. *1*(December), 27–42.

Ministry of Health Sri Lanka. (2021). *Food Based Dietary Guidlines for Sri Lankans*. file:///C:/Users/Deelaka/Downloads/FBDG-Practitioners-Handbook-English.pdf

Pieris, I., & Caldwell, B. (1997). Gender and health in Sri Lanka. *Health Transition Review*, *7*, 171–185.

Renzella, J., Fernando, S., Kalupahana, B., Scarborough, P., Rayner, M., & Townsend, N. (2020). Food labour, consumption hierarchies, and diet decision-making in Sri Lankan households: a qualitative study. *BMC Nutrition*, *6*(1), 1–9. https://doi.org/10.1186/s40795-020-00389-w

The World Bank. (2023). Sri Lanka Development Update, October 2023: Mobilizing Tax Revenue for a Brighter Future. *Sri Lanka Development Update, October 2023: Mobilizing Tax Revenue for a Brighter Future*, *October*. https://doi.org/10.1596/40420

Weerahewa, J., Wijetunga, P. K. G., & Sewwandi, C. (2018). Annals of Nutrition & Food Science Nutrition Transition in Sri Lanka : A Diagnosis. *Annals of Nutrition & Food Science*, *2*(2), 1–7.

Weerasekara, P. C., Withanachchi, C. R., Ginigaddara, G. A. S., & Ploeger, A. (2020). Food and nutrition-related knowledge, attitudes, and practices among reproductive-age women in marginalized areas in Sri Lanka. *International Journal of Environmental Research and Public Health*, *17*(11), 1–24. https://doi.org/10.3390/ijerph17113985

World Health Organization. (2023). *Noncommunicable diseases*. https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases