A STUDY TO ASSESS THE NUTRITIONAL STATUS, REPRODUCTIVE HEALTH, AND LEVEL OF STRESS AMONG WORKING WOMEN IN SELECTED EDUCATIONAL INSTITUTIONS

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ABSTRACT:

Introduction: Working women face multiple challenges in balancing their professional and personal lives, which can impact their nutritional status, reproductive health, and stress levels. This study aims to assess the nutritional status, reproductive health, and level of stress among working women in selected educational institutions.

Methods: It's a descriptive study. About 60 working women aged between 30 to 59 years using nonprobability sampling technique and based on inclusion criteria samples were selected. After the explanation of the procedure, Informed consent was obtained. By questionnaire was given and the data. The study goal was made clear and confidentiality was upheld. The Investigator collected the data using a self-administered questionnaire and Blood Samples were collected for Haemoglobin analysis.

Results: The present study findings show most of them 31 (51.6) women were Overweight,31 (51.6) had Mild Anemia,16 (26.7) had Normal and 13 (21.7) had Moderate Anaemic and 57 (95.0) working women had Mild risk of reproductive Health Status, 3 (5.0) working women had Moderate risk of reproductive health a and 31 (51.6) working women had mild stress level, 16 (26.7) working women had moderate stress and 13 (21.7) working women had Moderate stress level.

Conclusions: The study concluded that there is a significant health concerns among working women, including overweight status, mild anemia, mild risk of reproductive health issues, and mild stress levels. A notable correlation was found between stress and reproductive health status.

Introduction

The nutritional status, reproductive health, and stress levels among working women in educational institutions represent a critical intersection of health, gender, and occupational studies. As women increasingly participate in the workforce, particularly in educational settings, understanding the implications of their dual roles as professionals and caregivers becomes paramount. This demographic often faces unique challenges that can adversely affect their health outcomes, necessitating a comprehensive assessment of their nutritional status, reproductive health, and stress levels.
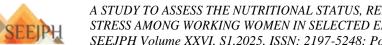
The nutritional status of working women is a vital aspect of their overall health and well-being. Adequate nutrition is essential for maintaining physical health, supporting reproductive functions, and ensuring optimal performance in both professional and personal domains. However, many working women struggle to meet their nutritional needs due to time constraints, workplace environments that may lack healthy food options, and societal expectations regarding their roles in food preparation and family care. Research indicates that inadequate dietary intake can lead to various health issues, including obesity, anemia, and other nutrition-related disorders, which can have cascading effects on reproductive health and overall quality of life (Muktamath, 2024; Gebremichael, 2023).

Reproductive health is another critical area of concern for working women. The interplay between nutrition and reproductive health is well-established, with evidence suggesting that poor nutritional

status can lead to complications during pregnancy, such as low birth weight, gestational diabetes, and preeclampsia (Klein, 2023). Furthermore, the stressors associated with balancing work and family responsibilities can exacerbate reproductive health issues, leading to irregular menstrual cycles, fertility challenges, and increased risk of pregnancy complications (Aiswarya & Bhagya, 2021). Understanding the reproductive health needs of working women is essential for developing targeted interventions that promote healthy pregnancies and maternal well-being.

Stress is an omnipresent factor in the lives of working women, often arising from the dual pressures of professional responsibilities and family obligations. The phenomenon of "role strain"—the stress experienced when the demands of one role conflict with another—can significantly impact women's mental and physical health (Koiri, 2020). Studies have shown that high levels of stress are associated with unhealthy coping mechanisms, such as emotional eating or neglecting self-care, which can further compromise nutritional status and reproductive health (Millan et al., 2021). Moreover, chronic stress can lead to mental health issues, including anxiety and depression, which can create a vicious cycle affecting overall health and well-being (Pradhan et al., 2023).

The importance of addressing these interconnected issues cannot be overstated. By assessing the nutritional status, reproductive health, and stress levels of working women in educational institutions, we can identify the specific challenges they face and develop evidence-based interventions to support their health. This study aims to provide a comprehensive analysis of these factors, drawing on existing literature and empirical data to highlight the need for targeted health promotion strategies that empower working women to achieve optimal health outcomes.

In summary, the intersection of nutritional status, reproductive health, and stress among working women in educational institutions is a complex and multifaceted issue that warrants thorough investigation. As women's roles in the workforce continue to evolve, it is imperative to understand the unique challenges they face and to develop supportive measures that promote their health and well-being. This study seeks to contribute to the growing body of literature on women's health by providing insights into the specific needs of working women and advocating for policies and programs that address these critical issues.

Materials and Methods

The research methodology systematically addresses the research problem by defining the problem, formulating the hypothesis, adopting data collection methods, and using appropriate statistical techniques for analysis. This study utilized a descriptive design to assess the nutritional status, reproductive health, and stress levels among working women. The sample comprised 60 working women aged 30-50 years from Dr. MGR Educational and Research Institution, including faculties from Pharmacy, Physiotherapy, Allied Health Science, and Nursing departments, selected through non-probability convenient sampling. The research instrument consisted of four parts: Part A captured demographic data (e.g., age, marital status, education, designation, working hours, family income, etc.), Part B assessed nutritional status through height, weight, BMI, and haemoglobin levels, Part C used a modified reproductive health assessment tool to evaluate reproductive health status, and Part D employed a modified stress assessment tool to measure stress levels. Scoring interpretations for reproductive health indicated mild risk (<21), moderate risk (21-42), and severe risk (>42), while stress levels were categorized as mild (<25), moderate (26-40), and severe (>40).

Ethical clearance for the study was obtained from the institutional ethical committee of A.C.S Medical College and Hospital. Formal permissions were secured from the respective authorities, and informed consent was obtained from all participants with confidentiality assured throughout the study. Data were collected using a self-administered questionnaire, and blood samples were taken for hemoglobin analysis. Descriptive statistics such as frequency and percentage distribution were used to analyze

demographic variables, while inferential statistics like the Chi-square test were applied to assess associations with selected demographic variables.

Results

Table 1 shows that most of the working women 27 (45.0) were aged between 30-35 years, and 57 (95.0) were married.33 (55.0) were post-Graduate,25 (41.7) were Assistant Professor,23 (38.3) were a distance from 5-10 km, 22 (36.7) were use mode of public and college buses,25 (41.7) were less than 40,000, 31 (51.7) were Nuclear family, 43 (71.7) were not Undergone any reproductive Screening 36 (60.0) were not practicing Monthly Self-breast Examination.

Table 2 shows that most of the 31 (51.6) women were Overweight. Table 3 shows that 31 (51.6) had Mild Anemia, 16 (26.7) had Normal and 13 (21.7) had Moderate Anemia. Table 4 shows that 57 (95.0) working women had a Mild risk of reproductive Health Status, and 3 (5.0) working women had a Moderate risk of reproductive health. Table 5 shows that 31 (51.6) working women had mild stress levels, 16 (26.7) working women had moderate stress, and 13 (21.7) working women had Moderate stress levels.

The findings reveal a significant correlation between stress levels and the reproductive health status of working women at the 0.05 level of significance. There is a significant association between nutritional health status, specifically hemoglobin levels, and selected demographic variables such as working hours per week and the distance of residence from the workplace at $**p<0.01$. Similarly, a significant association is observed between reproductive health status and family income at $*p<0.05$. Additionally, there is a significant association between stress levels and selected demographic variables, including working hours per week and family income, at $**p<0.01$ and $*p<0.05$, respectively.

Table 1: Demographic Variables of the school children

Demographic Variables	Frequency (n)	Percentage (%)
Age (in years)		
30 – 35	27	45.0
36 – 40	17	28.4
41 – 45	8	13.3
46 – 50	8	13.3
Marital status		
Married	57	95.0
Unmarried	3	5.0
Divorced	-	-
Educational Qualification		
Undergraduate	16	26.7
Postgraduate	33	55.0
Doctorate	11	18.3
Designation		
Professor	17	28.3

Associate professor	8	13.3
Assistant professor	25	41.7
Lecturer	4	6.7
Tutor	5	10.0
Working hours per week		
40 – 45 hrs.	28	46.7
45 – 48 hrs.	17	28.3
49 – 56 hrs.	15	25.0
Distance of residence from the working area		
Within 5 km	16	26.7
5 – 10 km	23	38.3
10 – 20 km	11	18.3
Above 20 km	10	16.7
Mode of transport		
Public transport	22	36.7
College bus	22	36.7
Two-wheeler	14	23.3
Four – wheeler	2	3.3
Family income (Rs. per month)		
Less than 40000	25	41.7
40000 – 60000	17	28.3
More than 60000	18	30.0
Type of family		
Nuclear family	31	51.7
Joint family	29	48.3
Have you done any reproductive screening		
Yes	17	28.3
No	43	71.7
Practicing Monthly self-breast examination		
Yes	24	40.0
No	36	60.0

Table 2: Frequency and percentage distribution of level of Body Mass Index among working women.

Level of BMI	Frequency (n)	Percentage (%)
Underweight	1	1.7
Healthy Normal	12	20.0
Overweight	31	51.6
Obesity	16	26.7

Table 3: Frequency and percentage distribution of level of Haemoglobin among working women.

Level of Hb	Frequency (n)	Percentage (%)
Mild Anemia	31	51.6
Moderate Anemia	13	21.7
Normal	16	26.7

Table 4: Frequency and percentage distribution of level of Reproductive Health Status among working women.

Level of Reproductive Health Status	Frequency	Percentage
Mild risk (<21)	57	95.0
Moderate risk (21 – 42)	3	5.0
Severe risk (>42)	-	-

Table 5: Correlation between nutritional health status, reproductive health status, and stress among working women.

Variables		HS	Stress	BMI	Hb
HS	Pearson Correlation		**.309***	.011	-.172
	Sig. (2-tailed)		**.016**	.931	.188
Stress	Pearson Correlation	**.309***		-.017	.214
	Sig. (2-tailed)	**.016**		.895	.101
BMI	Pearson Correlation	.011	-.017		-.143
	Sig. (2-tailed)	.931	.895		.275
Hb	Pearson Correlation	-.172	.214	-.143	
	Sig. (2-tailed)	.188	.101	.275	

Discussion

The findings of the present study indicate that a significant proportion of working women exhibit overweight status (51.6%), mild anemia (51.6%), and mild stress levels (51.6%). Additionally, a substantial number of women (95.0%) are categorized as having a mild risk of reproductive health status. These results align with existing literature that highlights the prevalence of similar health issues among working women, particularly in developing countries. The prevalence of overweight and anemia among working women is a pressing public health concern. A study by Kusrini et al. Muktamath (2024) found that nearly 18% of pregnant women in Indonesia experienced concurrent malnutrition and anemia, indicating a double burden of nutritional deficiencies that is consistent with the findings of the present study. This study supports the notion that women can be both overweight and anemic, which complicates their overall health status.

Similarly, Fatima et al. ÖZSAN (2023) reported a high prevalence of anemia among women in Telangana, India, with microcytic anemia being particularly common. This finding corroborates the present study's results, which indicate that a significant number of working women are affected by mild anemia. The association between nutritional status and anemia is further supported by the work of Ponny et al. (Mkandawire et al., 2022), who noted that excessive blood loss during menstruation contributes to iron deficiency anemia among women, highlighting the multifactorial nature of anemia in this demographic.

The study's findings regarding reproductive health risks are also supported by existing research. Wu et al. Gebremichael (2023) found that sociodemographic factors, including low income and educational status, significantly influenced the prevalence of anemia among women of reproductive age in China. This aligns with the present study's findings that family income is significantly associated with reproductive health status. The implications of these findings suggest that economic factors play a crucial role in determining the health outcomes of working women. Moreover, the significant correlation between stress levels and reproductive health status observed in the present study is consistent with findings from Marchionatti and Parisi (Nie et al., 2023), who noted that stress can adversely affect reproductive health outcomes. The interplay between stress and reproductive health is critical, as high stress levels can lead to hormonal imbalances that may exacerbate reproductive health issues.

The present study also highlights the significant association between stress levels and demographic variables such as working hours per week and family income. This is supported by the findings of Deloughery (Helmy, 2023), which indicate that socioeconomic factors, including income and work-related stress, significantly impact the health and well-being of women. The study emphasizes the need for interventions that address the stressors faced by working women, particularly those related to their work environment and economic conditions. Additionally, the study by Assefa Klein (2023) found that women with lower family incomes were more likely to experience higher levels of anemia, which further supports the present study's findings regarding the association of reproductive health status with family income. This suggests that improving economic conditions may have a positive impact on the health outcomes of working women.

CONCLUSION

The study highlights significant health concerns among working women, including overweight status, mild anemia, mild risk of reproductive health issues, and mild stress levels. A notable correlation was found between stress and reproductive health status. These findings underscore the need for healthcare professionals to focus on awareness programs addressing reproductive health, nutrition, and stress management. Furthermore, there is a critical need for health-related policies tailored to working women to enhance their overall health and well-being.

Recommendations
The study can be duplicated in different settings. A comparison study might be undertaken between Medical and Non-medical Health care professionals.

Financial support

Conflicts of Interest
No

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