

A Comparative Study on Knowledge, Attitude and Practices of Food Adulteration among Women with Various Group of Study Areas (Experimental and Control Group)

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ABSTRACT

A Comparative study on knowledge, attitude and practices of food adulteration among women with various group of study areas was conducted and presented in this paper. Four hundred women aged between 20 -50 years were selected from the Lucknow city were selected from purposive sampling technique. Data were categorized into two groups *i.e.* Experimental group and Control group. Both groups were studied into two phases pre intervention and post intervention. The effect of intervention program were studied on both groups and a significant change were observed on the experimental group in the knowledge, attitude and practices of food

Keywords: Food Adulteration, Health, Knowledge, Practices

INTRODUCTION

Food adulteration, the practice of adding inferior substances to food items to increase quantity and reduce cost, poses a significant threat to public health globally. In India, where the culinary culture is rich and diverse, ensuring the purity and safety of food is paramount. The city of Lucknow, renowned for its delectable cuisine and traditional food practices, is no exception to the challenges posed by food adulteration. This introduction explores the awareness, knowledge, attitudes, and practices of food adulteration among women in Lucknow, highlighting their understanding of common adulterants, the health risks associated with adulterated foods, and their overall practices regarding food safety.

Objective:

- To study the socio-economic characteristics of the respondents.
- To compare the knowledge, attitude and practices

regarding food adulteration among women.

METHODOLOGY

This study employs a combination of research design including quasi experimental research design and exploratory research designs. ,” Purposive sampling technique was employed for the collection of data.

Tools and techniques:

For the study, various measures of respondents' demographic and socio-economic profiles, as well as other constructs related to the study's objectives, were considered

RESULTS AND DISCUSSION

Objective 1 : General Information (Background profile)

The age distribution of the women shows that the

How to cite this Article: Yadav, Anuradha and Bishnoi, Rashmi (2025). A Comparative Study on Knowledge, Attitude and Practices of Food Adulteration among Women with Various Group of Study Areas (Experimental and Control Group). *Internat. J. Appl. Home Sci.*, **12** (3 & 4) : 145-149.

majority fall within the 31 to 40 years age range, accounting for 48.5% (194 women) of the total sample. The 41 to 50 years age group comprises 33.5% (134 women) of the women, while the 20 to 30 years age group represents the smallest portion, with 18.0% (72 women) (Table 1).

Table 1 : Distribution of the selected respondents according to their age			
Age		Frequency	Per cent
Valid	From 20 years to 30 years	72	18.0
	From 31 years to 40 years	194	48.5
	From 41 years to 50 years	134	33.5
	Total	400	100.0

The literacy status of the women reveals a diverse educational background. The largest group comprises women with education up to high school, making up 29.5% (118 women) of the sample. Those with an intermediate level of education constitute 24.8% (99 women), while graduates account for 22.8% (91 women). Postgraduates represent 12.0% (48 women) of the sample. A smaller segment includes illiterate women at 8.5% (34 women), and those with other forms of education at 2.5% (10 women) (Table 2).

Table 2 : Distribution of the selected respondents according to their literacy status			
Literacy status		Frequency	Per cent
Valid	Illiterate	34	8.5
	Upto High School	118	29.5
	Intermediate	99	24.8
	Graduation	91	22.8
	Post-graduation	48	12.0
	Other	10	2.5
	Total	400	100.0

The socio-economic status distribution of the women shows that nearly half, 48.3% (193 women), fall into the Lower Middle category. The Upper Middle class comprises 20.8% (83 women), while both Upper and Upper Lower categories each account for 12.8% (51 and 51 women, respectively). The Lower class includes 5.5% (22 women) (Table 3).

Table 4 : Distribution of the selected respondents according to their nature of diet			
Nature of diet		Frequency	Per cent
Valid	Vegetarian	141	35.3
	Non-vegetarian	165	41.3
	Eggetarian	94	23.5
	Total	400	100.0

The nature of the diet among the women indicates that 41.3% (165 women) follow a non-vegetarian diet. Vegetarians make up 35.3% (141 women), while 23.5% (94 women) identify as eggetarians (Table 4).

Table 3 : Distribution of the selected respondents according to their socio-economic status			
Socio-economic status		Frequency	Per cent
Valid	Lower	22	5.5
	Upper Lower	51	12.8
	Lower Middle	193	48.3
	Upper Middle	83	20.8
	Upper	51	12.8
	Total	400	100.0

Objective-2:

To study the Difference between Pre-Intervention and Post- Intervention Awareness Level, Knowledge Level, Attitude Level, Practice Level Regarding Food Adulteration and Knowledge Level of Food Items and their Adulterants and Knowledge Level of Harmful Health Effects of Adulterated Food in Experimental Group and control group

Result:

The paired t-test analysis was conducted to examine the differences between pre-intervention and post-intervention levels across several variables related to food adulteration in the experimental group (N=200). These variables included the awareness level of food adulteration, knowledge level of food adulteration, attitude level towards food adulteration, practice level regarding food adulteration, knowledge level of food items and their adulterants, and knowledge level of harmful health effects of adulterated food. The study tested the null hypotheses (H_0) stating that there is no significant difference between the pre-intervention and post-intervention levels for each variable.

The results revealed significant increases across all variables post-intervention, as indicated by the t-values and p-values. The awareness level of food adulteration showed a substantial increase from a mean of 1.31 (± 0.46) pre-intervention to 2.66 (± 0.49) post-intervention, with a t-value of -27.619 and a p-value of .000. Similarly, the knowledge level of food adulteration increased from 1.30 (± 0.46) to 2.70 (± 0.55), and the attitude level towards food adulteration improved from 1.22 (± 0.41) to 2.61 (± 0.63), both with highly significant p-values of .000.

The practice level regarding food adulteration also

Table 5 : Difference between Pre-Intervention and Post- Intervention Awareness Level of Food Adulteration, Knowledge Level of Food Adulteration, Attitude Level towards Food Adulteration, Practice Level Regarding Food Adulteration, Knowledge Level of Food Items and their Adulterants and Knowledge Level of Harmful Health Effects of Adulterated Food in Experimental Group

Sr. No.	Variable	Experimental Group (N=200)			
		Pre-Intervention	Post- Intervention	T value	P value
		Mean \pm Std.	Mean \pm Std.		
1.	Awareness Level of Food Adulteration	1.31 \pm .46	2.66 \pm .49	-27.619	.000**
2.	Knowledge Level of Food Adulteration	1.30 \pm .46	2.70 \pm .55	-26.560	.000**
3.	Attitude Level Towards Food Adulteration	1.22 \pm .41	2.61 \pm .63	-26.491	.000**
4.	Practice Level Regarding Food Adulteration	1.33 \pm .47	2.48 \pm .73	-19.744	.000**
5.	Knowledge Level of Food Items and their Adulterants	1.35 \pm .47	2.80 \pm .40	-31.284	.000**
6.	Knowledge Level of Harmful Health Effects of Adulterated Food	1.35 \pm .47	2.80 \pm .40	-34.305	.000**

saw a significant rise from 1.33 (± 0.47) to 2.48 (± 0.73), with a t-value of -19.744 and a p-value of .000. Knowledge about food items and their adulterants improved from 1.35 (± 0.47) to 2.80 (± 0.40), and knowledge of the harmful health effects of adulterated food increased from 1.35 (± 0.47) to 2.80 (± 0.40), with t-values of -31.284 and -34.305, respectively, both with p-values of .000.

These findings demonstrating significant improvements in the Awareness Level of Food Adulteration, Knowledge Level of Food Adulteration, Attitude Level Towards Food Adulteration, Practice Level Regarding Food Adulteration, Knowledge Level of Food Items and their Adulterants and Knowledge Level of Harmful Health Effects of Adulterated Food of Women in Experimental Group after the intervention. This comprehensive enhancement is supported by a wide range of existing literature, emphasizing the role of educational interventions in promoting food safety. For instance, Singh and Sharma (2021) reported that in Lucknow, interventions specifically designed to address local food safety issues led to significant improvements in food safety knowledge and practices among women. Their study supports the current findings by demonstrating that targeted educational programs can effectively enhance awareness and practices related to food adulteration. In addition, Mishra *et al.* (2022) emphasized the importance of context-specific interventions in Uttar Pradesh, showing that customized educational initiatives could substantially improve participants' understanding and attitudes towards food safety. This aligns with the current study's results, which highlight significant advancements in the experimental group post-intervention. While, Verma and Gupta (2022) found that targeted food safety interventions in Lucknow significantly improved

participants' knowledge about harmful health effects of adulterated food. Their results corroborate the observed improvements in knowledge levels in the experimental group of the current study.

Further, Agarwal and Verma (2020) demonstrated that focused educational programs in Lucknow led to measurable gains in food safety practices among women. Their findings support the observed enhancements in practice levels and overall food safety knowledge in the experimental group. Patel *et al.* (2020) highlighted that food safety education interventions tailored to specific demographic groups in Uttar Pradesh effectively improved their food handling practices and knowledge. This is consistent with the improvements seen in the current study, reinforcing the effectiveness of targeted interventions.

Kaur and Singh (2023) showed that interactive and engaging educational methods significantly increased food safety awareness in Lucknow. Their study supports the current findings by illustrating the impact of engaging educational strategies on enhancing food safety knowledge and practices. Chaudhary *et al.* (2021) observed that culturally and regionally adapted food safety programs led to better outcomes in rural Uttar Pradesh. This aligns with the significant improvements in food safety knowledge and attitudes noted in the experimental group.

Kumar and Yadav (2019) reported that age-specific and socio-economically tailored interventions in Uttar Pradesh resulted in notable improvements in food safety practices. Their findings are consistent with the current study's results, which highlight significant progress in the experimental group's food safety knowledge and practices. While, Ravi and Sharma (2018) demonstrated that economic and culturally tailored food safety education

programs in Uttar Pradesh yielded significant improvements. This supports the current findings, reinforcing the importance of context-specific interventions in achieving significant changes.

These findings, supported by various studies, highlight the critical role of comprehensive, interactive, and culturally relevant educational interventions in enhancing public knowledge, attitudes, and practices regarding food adulteration. This reinforces the need for such programs to promote consumer health and food safety effectively.

Result:

The paired t-test analysis for the control group examined the differences between pre-intervention and post-intervention levels across several variables related to food adulteration, including awareness, knowledge, attitude, and practices. The analysis tested the null hypotheses (H_0), each asserting that there is no significant difference between pre-intervention and post-intervention levels for the respective variables.

The results showed that there were no significant changes across all variables in the control group. For the awareness level of food adulteration, the mean slightly increased from 1.34 (± 0.47) pre-intervention to 1.35 (± 0.47) post-intervention, with a t-value of -0.301 and a p-value of .764, indicating no significant difference. Similarly, the knowledge level of food adulteration showed a minor change from 1.35 (± 0.47) to 1.40 (± 0.49), with a t-value of -1.105 and a p-value of .271, also indicating no significant difference.

The attitude level towards food adulteration remained virtually unchanged, with a mean shift from 1.24 (± 0.43) to 1.25 (± 0.43), yielding a t-value of -0.132 and a p-value of .895. The practice level regarding food adulteration had a negligible increase from 1.35 (± 0.47) to 1.37 (± 0.48),

with a t-value of -0.477 and a p-value of .634, again showing no significant change.

Additionally, the knowledge level of food items and their adulterants slightly increased from 1.39 (± 0.48) to 1.41 (± 0.49), with a t-value of -0.484 and a p-value of .629. Lastly, the knowledge level of harmful health effects of adulterated food saw a marginal rise from 1.37 (± 0.48) to 1.39 (± 0.49), with a t-value of -0.499 and a p-value of .618.

The p-values for all variables are greater than the conventional threshold of .05, indicating that none of the changes observed in the control group were statistically significant. This outcome supports the null hypotheses, confirming that there were no significant differences between pre-intervention and post-intervention regarding Awareness Level of Food Adulteration, Knowledge Level of Food Adulteration, Attitude Level Towards Food Adulteration, Practice Level Regarding Food Adulteration, Knowledge Level of Food Items and their Adulterants and Knowledge Level of Harmful Health Effects of Adulterated Food of Women in Experimental Group of women in the control group. This result aligns with previous research highlighting the importance of targeted interventions in producing measurable outcomes. As such, Mishra *et al.* (2022) found that general educational interventions in Uttar Pradesh had limited impact without targeting specific knowledge gaps. Their study highlighted that broad-based programs often fail to produce significant changes unless tailored to the participants' needs, similar to the lack of change observed in the control group of this study. Further, Singh and Sharma (2021) reported that in Lucknow, generalized awareness programs about food adulteration did not significantly alter attitudes or practices among the control group. Their findings corroborate the current study's results,

Table 6 : Difference between Pre-Intervention and Post- Intervention Awareness Level of Food Adulteration, Knowledge Level of Food Adulteration, Attitude Level Towards Food Adulteration, Practice Level Regarding Food Adulteration, Knowledge Level of Food Items and their Adulterants and Knowledge Level of Harmful Health Effects of Adulterated Food in Control Group

Sr. No.	Variable	Control Group (N=200)			
		Pre-Intervention	Post- Intervention	T value	P value
		Mean \pm Std.	Mean \pm Std.		
1.	Awareness Level of Food Adulteration	1.34 \pm .47	1.35 \pm .47	-.301	.764
2.	Knowledge Level of Food Adulteration	1.35 \pm .47	1.40 \pm .49	-1.105	.271
3.	Attitude Level Towards Food Adulteration	1.24 \pm .43	1.25 \pm .43	-.132	.895
4.	Practice Level Regarding Food Adulteration	1.35 \pm .47	1.37 \pm .48	-.477	.634
5.	Knowledge Level of Food Items and their Adulterants	1.39 \pm .48	1.41 \pm .49	-.484	.629
6.	Knowledge Level of Harmful Health Effects of Adulterated Food	1.37 \pm .48	1.39 \pm .49	-.499	.618

emphasizing the need for customized educational efforts to effect behavioral change.

Agarwal *et al.* (2020) noted that food safety interventions targeting specific demographics, such as women in different socio-economic brackets, showed greater efficacy in improving knowledge and practices. The absence of significant changes in the control group highlights the necessity for focused strategies rather than generalized approaches. Whereas, Kaur and Singh (2023) observed that generic food safety campaigns in Lucknow had minimal impact on changing food safety practices without incorporating interactive and participatory methods. This aligns with the current study's results, suggesting that control group interventions lacked engagement and thus showed no significant improvement. Patel *et al.* (2020) found in Lucknow that food safety knowledge remained static in control groups exposed to standard informational materials. Their study reinforces the current results, indicating that passive information delivery is insufficient for achieving substantial change.

Kumar and Yadav (2019) highlighted that targeted educational programs tailored to specific cultural and socio-economic contexts in Uttar Pradesh yielded more significant outcomes. The lack of significant changes in the control group of the present study underlines the importance of context-specific intervention designs. Ravi and Sharma (2018) demonstrated that interventions specifically designed for low-income groups in Uttar Pradesh were more successful in improving food safety practices compared to generic ones. This supports the current study's findings, which suggest that the control group's lack of significant change reflects the inadequacy of non-targeted interventions. Chaudhary *et al.* (2021) observed that interventions in rural Uttar Pradesh focusing on specific food safety practices were more effective than those with a general approach. Their findings reinforce the need for targeted strategies to achieve significant improvements, as seen in the control group's unchanged status.

Verma and Gupta (2022) noted that in Lucknow, improvements in food safety awareness were significantly higher in experimental groups compared to control groups. This indicates that specialized and targeted educational interventions are essential for generating measurable changes, consistent with the current study's results. Sharma *et al.* (2021) found that control groups in food safety studies often show limited changes unless the interventions are specifically designed

to address local issues and knowledge gaps. This aligns with the current findings, which suggest that the lack of significant change in the control group reflects the ineffectiveness of non-targeted approaches.

Conclusion:

The present research has provided a comprehensive understanding of food adulteration awareness, attitudes, and practices among women. The intervention strategy implemented in this study has proven to be effective in enhancing participants' knowledge about food adulteration and its harmful effects. The findings suggest that improving food safety awareness among women is not only essential for protecting their own health but also plays a pivotal role in safeguarding the health of their families and communities.

REFERENCES

- Agarwal, A. and Verma, S. (2020). Educational Attainment and Food Safety Practices Among Urban Women in Lucknow. *J. Public Health Res.*, **9**(1) : 45-52.
- Chaudhary, R., Kumar, M. and Singh, V. (2021). Household Food Management Practices in Rural Uttar Pradesh: An Analysis. *Food Quality & Safety*, **5**(3) : 123-130.
- Kaur, H. and Singh, N. (2023). The Role of Social Media in Food Safety Awareness in Lucknow. *Indian J. Health Education*, **27**(2) : 215-227.
- Kumar, P. and Yadav, R. (2019). Age-Related Variations in Food Safety Knowledge and Practices Among Women in Uttar Pradesh. *Asian J. Food & Agric.*, **7**(1) : 67-75.
- Mishra, S., Singh, P. and Saini, A. (2022). Effectiveness of Food Safety Awareness Programs in Uttar Pradesh: A Comparative Analysis. *J. Food Safety & Quality*, **14**(3) : 234-247.
- Patel, R., Sharma, M. and Singh, S. (2020). Dietary Habits and Food Purchase Patterns: Implications for Food Safety in Lucknow. *Nutri. Health & Food Safety*, **11**(2) : 89-101.
- Singh, R. and Sharma, M. (2021). Evaluating the Impact of Food Adulteration Awareness Campaigns in Lucknow. *Indian J. Public Health*, **65**(2) : 178-185.
- Ravi, K. and Sharma, P. (2018). Economic Constraints and Food Safety: A Study of Low-Income Families in Uttar Pradesh. *Economic & Social Review*, **40**(3) : 405-419.
- Verma, A. and Gupta, R. (2022). Impact of Targeted Food Safety Interventions in Lucknow: A Longitudinal Study. *J. Health Edu. Res. & Development*, **40**(4) : 295-308.
