

ORIGINAL ARTICLE

Effectiveness of Nurse Led Intervention on Knowledge and Practice of Food Borne Diseases and its Prevention among Teenagers Studying in Selected School at Gonda

Vineeta Verma¹, Jeya Beulah D²

HOW TO CITE THIS ARTICLE:

Vineeta Verma, Jeya Beulah D. Effectiveness of nurse led intervention on knowledge and practice of food borne diseases and its prevention among teenagers studying in selected school at Gonda. Community Pub Health Nurs. 2026; 11(2): 89-94.

ABSTRACT

This study entitled “A study to assess the effectiveness of nurse led intervention on knowledge and practice of food borne diseases and its prevention among teenagers studying in selected school at Gonda” submitted in the year 2025.

Aims: The objectives are to assess the level of knowledge and practice of food borne diseases and its prevention among teenagers in selected school at Gonda, to evaluate the effectiveness of nurse led intervention on knowledge and practice of food borne diseases and its prevention among teenagers in selected school at Gonda, To find out the association between post-test level of knowledge and practice of food borne diseases and its prevention with their selected socio demographical variables.

Hypothesis: H₁ There will be a significant difference between pretest and post-test knowledge on knowledge and practice of food borne diseases and its prevention among teenagers studying in selected school at Gonda. H₂ There will be a significant association between post-test knowledge with selected demographic variables among teenagers in selected schools at Gonda. Design and setting: Quasi-experimental approach with one group pre-test post-test design was utilized in this study.

Methods and materials: 60 samples were selected by convenient sampling technique. A structured knowledge questionnaire was utilized to assess the knowledge of the adolescents.

Results: In pre-test mean 11.42 and standard deviation 2.07 and post-test mean 20.45 and standard deviation 1.33 with correlation value 0.08. t-value were 27.35 and df-59 significant with level of 0.05, showed the effectiveness of nurse led intervention regarding food borne disease and its prevention among teenagers.

Conclusion: The findings of post-test the level of knowledge has improved and the score has indicated an adequate level of knowledge among teenagers regarding food borne disease and its prevention. The improvement in the level of knowledge is due to the administration of the structure-teaching programme.

KEYWORDS

• Effectiveness • Nurse Led Intervention • Food Borne Diseases • Prevention

AUTHOR'S AFFILIATION:

¹ M.Sc. Nursing 2nd year Student, Department of Community Health Nursing, SCPM College of Nursing and Para Medical Sciences, Gonda, India.

² Ph.D. Nursing & HOD, Department of Community Health Nursing, SCPM College of Nursing and Para Medical Sciences, Gonda, India.

CORRESPONDING AUTHOR:

Jeya Beulah D, Ph.D. Nursing & HOD, Department of Community Health Nursing, SCPM College of Nursing and Para Medical Sciences, Gonda, India.

E-mail: jeya.beulah09@gmail.com

➤ Received: 05-05-2026 ➤ Accepted: 26-06-2026



Creative Commons Non Commercial CC BY-NC: This article is distributed under the terms of the Creative Commons Attribution NonCommercial 4.0 License (<http://www.creativecommons.org/licenses/by-nc/4.0/>) which permits non-Commercial use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the Red Flower Publication and Open Access pages (<https://rfppl.co.in>)

INTRODUCTION

Food is a fundamental need that is vital to human health and well-being. Thus, it is crucial to make sure that food is handled and prepared safely. 31 global hazards were responsible for 600 million food-borne illnesses and 420,000 deaths in 2010, according to the WHO Initiative to Estimate the Global Burden of Food-borne Diseases. Salmonella was the primary cause of diarrheal disease agents in most regions, but *Taenia solium*, hepatitis A virus, and aflatoxin were also important causes of food-borne illness.^{2,3} In 2010, there were 33 (95% UI 25–46) million Disability Adjusted Life Years (DALYs) worldwide due to these 31 risks; children under five accounted for 40% of the food-borne disease burden.¹

A survey was carried out to look into consumers' knowledge, attitudes, and related behavior about foodborne illnesses and food handling procedures in one area of Italy. Mothers of children attending public schools were selected at random and given a self-administered questionnaire. Only 11.1% of the 394 mothers who responded correctly identified six linked food vehicles, despite 36% of them being aware of all six foodborne pathogens under investigation; this knowledge was predicted by education level. Women with larger families and those who had been told about foodborne illnesses by doctors were much more likely to wash their hands both before and after handling unwrapped food.²

In 2023, cross-sectional research was carried out between April and November. Participants were enrolled at Xinhua University using a cluster random sampling technique. Information about foodborne illnesses was gathered using a 47-item questionnaire. The study comprised 445 college students, whose mean age was 19.76 ± 1.24 years. 64.7% of participants were from rural areas, and the majority of participants (78.9%) were not medical students. These findings showed gaps in knowledge, attitudes, and practices around foodborne illnesses; information was inadequate, attitudes were favourable, and practices were modest to acceptable.³

From February to May 2014, the observational cross-sectional study was carried out at boy's schools in Majmaah, Kingdom of Saudi Arabia. Stratified random sampling was used to gather data from students between the ages of 8 and 25. Students in primary school

had lower levels of knowledge than those in high school ($p=0.026$). Students in primary school had a higher attitude level than those in intermediate school ($p<0.001$). Practice levels did not significantly differ between the groups ($p=0.152$).⁴

Food sellers in Jos North Local Government Area elementary schools participated in a descriptive cross-sectional survey to assess their knowledge and practices about food safety and hygiene. With a mean knowledge score of 18.59 ± 5.90 , 106 (60.9%) of the respondents had good knowledge. Age and food safety and hygiene practices were shown to be statistically significantly correlated ($P < 0.001$). Structured food safety and hygiene training is necessary to raise the study's level of food safety and hygiene knowledge and practice.⁵

Problem statement

"A study to assess the effectiveness of nurse led intervention on knowledge and practice of food borne diseases and its prevention among teenagers studying in selected school at Gonda".

OBJECTIVES OF STUDY

To assess the level of knowledge and practice of food borne diseases and its prevention among teenagers in selected school at Gonda.

1. To evaluate the effectiveness of nurse led intervention on knowledge and practice of food borne diseases and its prevention among teenagers in selected school at Gonda.
2. To find out the association between post-test level of knowledge and practice of food borne diseases and its prevention with their selected socio demographical variables. Hypothesis
3. **H₁** - There will be a significant difference between pretest and posttest knowledge on knowledge and practice of food borne diseases and its prevention among teenagers studying in selected school at Gonda.

Hypothesis

H₂: There will be a significant association between post-test knowledge with selected demographic variables among teenagers in selected schools at Gonda.

Assumptions

School children may have inadequate knowledge regarding food borne diseases and its prevention.

MATERIAL METHOD

Sample size

Sample size consisted of 60 adolescents.

Sampling Technique

Nonprobability convenient sampling technique was adopted.

Criteria for sample selection

Inclusive criteria

- Teenagers between the age group 13 - 17 years.
- Teenagers who were studying in selected school in Gonda U.P.
- Teenagers who were willing to participate in the study.

Exclusive criteria

- Teenagers who were not present on the date of data collection.
- Teenagers who were not willing to participate in the study.

Description of the tool

The study tool considered of two sections,

Section A: Socio demographic variables consist of baseline information of teenagers regarding age, sex, class, family income, religion, type of family, food habits, previous knowledge about topic, source of information.

Section B: Multiple-choice questionnaire regarding selected aspects of food borne disease and its prevention.

Content validity:

Experts were chosen based on their experience and interest in this area requested to give their opinions and suggestions regarding the tool. The entire tool was validated by medical experts and nursing experts. 5 experts were requested to judge of the tool for its clarity, relatedness, sequency meaning fullness and content. Few modifications were made as per suggestions given by the experts. The tool was developed in English and it was translated into Hindi. Retranslation was done and language validity was established.

Reliability of the tool:

To establish the reliability of tool, Karl person's correlation coefficient formula test re test method used. Tool administered to 6 teenagers who were not included in the main study. The reliability score $r=0.8$ which indicate that tool was highly reliable.

Procedure for data collection:

Written permission was obtained from the school principal and oral permission from local authority. The data for the main study was collected from 1 April to 30 April. Teenagers who fulfilled the inclusion criteria were selected by using non-probability convenient sampling method. The researcher introduce self her to the teenagers and developed good rapport with them for their co-operation. The researcher assured the participants for the confidentiality for their responses. The purpose of the study was explained to every sample, so as to get their full cooperation. Adequate privacy was provided. Pre-test was done with the help of multiple-choice questionnaire. A nurse led intervention conducted as an intervention with the help of power point presentation. Finally, post-test was done.

RESULTS AND INTERPRETATION

Table 1: Effectiveness of Nurse led intervention regarding food borne disease and its prevention among teenagers

N=60

	Mean	N	Std. Deviation	Critical value	t-value	df	Correlation	Significant
Pre-test	11.42	60	2.07	3.46	27.35	59	0.08	0.05S
Post-test	20.45		1.33					

Table 1 shows the effectiveness of nurse led intervention regarding food borne disease and its prevention among teenagers. In pre-test mean 11.42 and standard deviation 2.07 and post-test mean 20.45 and standard deviation

1.33 with correlation value 0.08. t-value were 27.35 and df-59. Here t-value 27.35 is greater than critical value 3.46 which shows significant at the level of 0.05.

Table 2: Association between level of pre-test knowledge of teenagers regarding food borne disease and its prevention with selected socio demographic variables N=60

Socio-demographic Variable	Chi-Square	DF	Critical Value	P-Value	Inference
Age	33.81	3	27.81	P>0.05	Significant
Dietary pattern	55.31	2	52.99	P>0.05	Significant
Education	46.52	3	27.81	P>0.05	Significant
Parents occupation	47.44	3	27.81	P>0.05	Significant
Type of family	6.56	1	3.84	P>0.05	Significant
Religion	8.29	2	52.99	P>0.05	Significant
Sex	25.05	1	27.81	P>0.05	Non-significant
Family income	51.18	2	52.99	P>0.05	Non-significant
Source of information	29.66	3	27.81	P>0.05	Non-significant
Previous knowledge	47.68	2	52.99	P>0.05	Non-significant

Table 2 reveals that there was association between pre-test knowledge score regarding food borne disease and its prevention and socio demographic variable i.e. age, dietary pattern, education, parent occupation, type of family and religion as chi square value 33.81, 55.31, 46.52, 47.44, 6.56, 8.29 was greater than table value 27.81, 52.99, 27.81, 27.81, 3.84 and 52.99 they was significant and sex, family income source of information and previous knowledge were not significant with knowledge level.

Hence hypothesis (H2) is rejected regarding level of pre-test knowledge score and socio demographic variable i.e. sex, family income source of information and previous knowledge which are not significant respectively in relation to nurse led intervention.

Hence hypothesis (H2) is accepted regarding level of pre-test knowledge socio demographic variable i.e. age, dietary patter, education, parent occupation, type of family and religion.

DISCUSSION

This study Finding reveals that, teenagers most of them 22(36.67%) were 17-18 years, maximum participants 60% were female, most of them that is 34 (56.67%) were studying 11th standard and Maximum teenagers 47 (78.33%) were coming from joint family. 56 (93.33%) were Hindu and 3(5%) were Muslim. Most of their parent's income 34(56.67%) were 10001 to 20000 months. The findings also shows that the food pattern of the teenagers 23(38.33%) were vegetarian, 21(35%) were non-vegetarian and 16(26.67%) were eggetarianan. Based on the source of information of the teenagers 14(23.33%) were obtained information from media, 18 (30%) were through School,

25(41.67%) were received from family and relatives and 3(5%) were others. According to previous knowledge of the teenagers 28(46.67%) were having below average, 18(30%) were average and 14(23.33%) were above average knowledge.

In Pre-test knowledge regarding food borne disease and its prevention among teenagers 43 (71.67%) had Inadequate level of knowledge and 17 (28.33%) had Moderate knowledge and the Mean 11.42 and standard deviation 2.07. Whereas in Post-test knowledge regarding food borne disease and its prevention among teenagers 14 (20%) had Moderate level of knowledge and 46 (80%) had Adequate knowledge, the Mean value is 20.45 and standard deviation is 1.33. with correlation value 0.081. t-value were 27.35 and df-59 significant with level of 0.05. Hence, nurse led intervention was effective in enhancing knowledge regarding food borne diseases and its prevention. Also, knowledge level is significantly associated with socio demographic variables like age, dietary patter, education, parent occupation, type of family and religion.

CONCLUSION

The study revealed that teenagers initially possessed an inadequate level of knowledge regarding foodborne diseases and their prevention. However, following the intervention, post-test scores demonstrated a significant improvement, reaching an adequate level of knowledge. These results indicate that the structured teaching programme was an effective tool in enhancing awareness and health literacy among the adolescents.

Implication of the study

Nursing Administration

Nursing Administration can be taken interest and effort in motivating the teenagers to improve their educational status by updating their knowledge by conducting regular health education and awareness programme regarding food borne disease and its prevention. The nursing personnel in the community level can be educated to motivate to the general public. They can be educated by conducting scientific based education and their educational status can be improved.

Nursing Practice

Community health nurse should educate and make awareness about food borne disease and its prevention. Nurses in community selected school should organize awareness programme which can improve community people knowledge

Nursing Education

The present study emphasizes on the enhancements in the knowledge regarding food borne disease and its prevention in nursing education. Therefore, nurses must have adequate knowledge regarding all aspects of food borne disease and its prevention for providing education. Techniques of education can be used to motivate public participation in food borne disease and its prevention educational programme. Nursing student should be made aware of the importance of educating the public regarding food borne disease and its prevention. The nurses can take active participation in community health education programme.

Nursing Research

The findings of the present study can be helpful for the nursing professionals and nursing students to conduct further studies to find out the effectiveness of various methods of providing education on food borne disease and its prevention among general public. The emphasis on research and clinical studies is needed to improve the quality of nursing care. Nurses need to engage in multi-disciplinary research, so that it will help to improve the knowledge and by applying it many health problems can be solved. This study also brings about facts that more studies need to be done in different settings, which is culturally acceptable as better teaching strategies of

education. Comparative study can be selected to compare assess knowledge between teenagers and married teenagers regarding food borne disease and its prevention.

Improving teenagers' diet and physical activity behaviour can be assessed for emergent role of health identity.

Recommendations

- The study can be replicated using a large sample, there by findings can be generalized.
- A comparative study to assess knowledge regarding food borne disease and its prevention among teenagers residing in selected urban and rural selected school.
- Mass educational programme may be planned in regional language to educate the public regarding food borne disease and its prevention.
- A similar study can be conducted by descriptive approach.

Acknowledgement: I would like to say heartfelt gratitude my family and colleagues for their valuable support to complete my study.

Funding and Conflict of Interest: None

REFERENCES

1. Kirk, M.D.; Pires, S.M.; Black, R.E.; Caipo, M.; Crump, J.A.; Devleesschauwer, B.; Döpfer, D.; Fazil, A.; Fischer-Walker, C.L.; Hald, T.; et al. World Health Organization estimates of the global and regional disease burden of 22 foodborne bacterial, protozoal, and viral diseases, 2010: A data synthesis. *PLoS Med.* 2015, 12, e1001921.
2. Italo F. Angelillo, Maria Rita Foresta, Carmela Scozzafava, Maria Pavia. Consumers and foodborne diseases: knowledge, attitudes and reported behavior in one region of Italy. *International Journal of Food Microbiology.* Volume 64, Issues 1-2. 2001, Pages 161-166. [https://doi.org/10.1016/S0168-1605\(00\)00451-7](https://doi.org/10.1016/S0168-1605(00)00451-7).
3. Ma, X., Bo, L., & Zhou, X. (2024). Knowledge, attitude, and practice toward foodborne disease among Chinese college students: A cross-sectional survey. *Frontiers in Public Health*, 12, 1435486. <https://doi.org/10.3389/>

- fpubh.2024.1435486.
4. Almansour, M., Sami, W., Al Rashedy OSh, A. R., Alfayez, A. S., & Almarri, N. R. (2016). Knowledge, attitude, and practice (KAP) of food hygiene among school's students' in Majmaah city, Saudi Arabia. *J Pak Med Assn*, 66(4), 442-6.
 5. Afolaranmi TO, Hassan ZI, Bello DA, Misari Z. Knowledge and practice of food safety and hygiene among food vendors in primary schools in Jos, Plateau State, North Central Nigeria. *J Med Res*. 2015;4(2):16-22.