A Quasi-Experimental Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge Regarding Peptic Ulcers Disease and Its Prevention Among Young Adults in Selected Colleges of District Kangra Himachal Pradesh

SAKSHI SANDAL[1], MRS. APURVA[2]

Netaji Subhash College of Nursing/M.Sc. Nursing, Medical Surgical Nursing[1],

ASSISTANT PROFESSOR /Netaji Subhash College of Nursing, Palampur[2]

Corresponding Author: SAKSHI SANDAL/ Netaji Subhash College of Nursing/M.Sc. Nursing, Medical Surgical Nursing[1]

E-mail: rhythmicsakshii143@gmail.com, apurvamahajan247@gmail.com.

ABSRACT

Background: Peptic ulcer disease is a common gastrointestinal condition that occurs due to discontinuation in the mucosal layer of digestive tract due to stomach acid such as pepsin. Young adults are a critical demographic for implementing health education on Peptic ulcer disease which can contribute significantly to reducing complications, enhancing quality of life, and minimizing healthcare burdens.

Methodology: A quantitative research approach and quasi-experimental one group pre-test and post-test research design was adopted to conduct this study. Non- probability purposive sampling technique was used to select the 60 young adults studying in Govt Degree College of Rakkar, Dhaliara, Thakur PG college Dhaliara Distt Kangra Himachal Pradesh. Self-structured knowledge questionnnaire was used to assess the knowledge of young adults regarding peptic ulcer disease and its prevention. Analysis of data collection was done according to objectives of the study and data was analyzed by using descriptive and inferential statistics.

Result: The results revealed that majority were aged 25–27 years 36.67%, females 60%, and from urban areas 53.33%. Most belonged to BA programs 30%, followed mixed diets 36.67%, and had no smoking 76.67% or alcohol habits 46.67%. About 63.33% had prior knowledge of peptic ulcer disease, mainly from books/libraries. In pre-test, 86.67% of participants had inadequate knowledge. After structured teaching programme, 63.33% were in moderate category and 36.67% gained adequate knowledge. The mean post-test score 76.67%, was significantly higher than the pre-test score 26.67%, with a t value of 21.45 ($p < 0.001$), showed the effectiveness of structured teaching programme. No significant association was found between post-test knowledge scores and any socio-demographic variables.

Conclusion: It was concluded that the structured teaching programme related to peptic ulcer disease and its prevention was highly effective among young adults and Socio-demographic factors had no significant impact on knowledge gain.

Key-words: Peptic ulcer disease, assess, knowledge, structured teaching programme.

INTRODUCTION:

Peptic ulcer disease isa chronic condition ofthe digestive system marked by erosion of the stomach or small intestine lining, mainly caused by Helicobacter pylori infection and the long-term use of nonsteroidal anti-inflammatory drugs (NSAIDs). Peptic ulcer disease is a chronic gastrointestinal condition characterized by mucosal erosion in the stomach or duodenum, primarily due to Helicobacter pylori infection and prolonged nonsteroidal anti-inflammatory drug (NSAID) use. Lifestyle factors such as stress, irregular diet, smoking, and alcohol consumption also contribute significantly to its occurrence. Globally, the burden of peptic ulcer disease remains high, with millions of new cases reported annually. In India, it is a major health concern, particularly in young adults who are more prone to risky behaviors and irregular lifestyles. Lack of awareness and delayed diagnosis often lead to complications such as gastrointestinal bleeding, perforation, and gastric outlet obstruction.

Educational interventions have proven effective in improving awareness about peptic ulcer disease, its causes, and preventive measures. Young adults, being more receptive to lifestyle modifications, form an ideal group for structured health education programmes. This study was undertaken to evaluate the effectiveness of a structured teaching programme on knowledge regarding peptic ulcer disease and its prevention among young adults in selected colleges of District Kangra, Himachal Pradesh.

MATERIALS AND METHODS

Research Approach and Design

A quantitative research approach with a quasi-experimental one-group pre-test post-test design was adopted. The independent variable was the structured teaching programme, and the dependent variable was the knowledge score regarding peptic ulcer disease and its prevention.

Setting

The study was conducted in selected colleges of District Kangra, Himachal Pradesh, including Government Degree College Rakkar, Government Degree College Dhaliara, and Thakur P.G. College of Education Dhaliara.

Population and Sample

The population comprised young adults aged 18–30 years enrolled in the selected colleges. A purposive sampling technique was used to select 60 participants.

Tools and Instruments

A self-structured knowledge questionnaire was used, consisting of two parts:

- **Part I:** Socio-demographic profile (age, gender, course, area of living, socioeconomic status, family history of peptic ulcer, dietary pattern, smoking and alcohol habits, previous knowledge, and sources of information).
- **Part II:** Structured knowledge questionnaire on peptic ulcer disease and prevention, consisting of 30 multiple-choice questions (scoring: 0–10 = poor knowledge; 11–20 = average; 21–30 = good).

Intervention

Participants first completed a pre-test questionnaire. Following this, a structured teaching programme covering definition, causes, risk factors, symptoms, diagnosis, management, and prevention of peptic ulcer disease was delivered. The duration of the programme was 40–45 minutes. A post-test was conducted after the intervention to assess knowledge gain.

Data Collection Procedure

- Day 1: Pre-test administration followed by structured teaching programme.
- Day 7: Post-test conducted using the same questionnaire.

Data Analysis

Data were analyzed using descriptive and inferential statistics:

- **Descriptive:** frequency, percentage, mean, standard deviation.
- **Inferential:** paired t-test for comparison of pre- and post-test knowledge scores, chi-square test for association with demographic variables.

Ethical approval was obtained, and informed consent was taken from all participants.

RESULTS

Section 1: frequency and percentage distribution of demographic variables of young adults in selected colleges of district kangra, himachal pradesh.

Table 1 - Frequency and percentage distribution of selected socio-demographic variables of young adults

VARIABLE	CATEGORY	FREQUENCY (f)	PERCENTAGE (%)
Age	18-21	9	15.00%
	21-24	15	25.00%
	25-27	22	36.67%
	28-30	14	23.33%
Gender	Male	24	40.00%
	Female	36	60.00%
Course	BA	18	30.00%
	BSc	12	20.00%
	MSc	15	25.00%
	MA	15	25.00%
Area of Living	Urban	32	53.33%
	Rural	28	46.67%
Socio economic status	Low	16	26.67%
	Middle	22	36.67%
	High	22	36.67%

Family History PUD	Yes	26	43.33%
	No	34	56.67%
Diet Pattern	Vegetarian	20	33.33%
	Non-Vegetarian	18	30.00%
	Mixed	22	36.67%
Smoking Habit	Yes	14	23.33%
	No	46	76.67%
Alcohol Use	Regularly	10	16.67%
	Occasionally	22	36.67%
	Never	28	46.67%
Previous Knowledge	Yes	38	63.33%
	No	22	36.67%
Info Source	Book/Library	16	42.11%
	Internet	12	31.58%
	Mass Media	6	15.79%
	Other	4	10.53%

Table no-1 depicts the frequency and percentage distribution of selected socio-demographic variables of young adults respectively.

It was depicted that in accordance with age group, out of 60 young adults, majority of young adults 36.67% belonged to age group of 25-27 years, 25% were in 21-24 age group, 23.33% were in 28-30 years and minority of young adults 15% belong to age group of 18-21 years.

As per gender, out of 60 young adults, the majority were females 60% and the remaining 40% were males.

In relation to educational course, out of 60 participants, the majority were from the BA program 30%, followed by MSc and MA courses 25% each, and the minority were from the BSc course 20%.

According to area of living, out the majority of young adults 53.33% were residing in urban areas, while the remaining 46.67% were from rural settings.

As per socio-economic status, out of 36.67% of the participants belonged to the middle-income group, another 36.67% to the high-income group, and the minority 26.67% to the low-income group.

In relation family history of peptic ulcer disease, out of 60 young adults 56.67% of young adults had no family history, whereas 43.33% reported having a family history of the disease.

As per diet pattern, the majority of participants 36.67% followed a mixed diet, followed by 33.33% who were vegetarian, and 30% who consumed a non-vegetarian diet.

In accordance to smoking habits, out of 60 young adults' majority of participants 76.67% had no smoking habit, while only 23.33% reported smoking.

In relation to alcohol use, out of 60 young adults the highest percentage of participants 46.67% never consumed alcohol, 36.67% consumed alcohol occasionally, and the minority 16.67% consumed alcohol regularly.

According to previous knowledge of peptic ulcer disease and its prevention, 63.33% i.e. 38 of young adults had prior knowledge, while 36.67% had no previous knowledge. Most of the young adults i.e. 42.11% of participants gained information from books or libraries followed by 31.58% through the internet, 15.79% from mass media, and 10.53% from other sources such as peer group conversations, informational camps.

Section – 2: Frequency and percentage distribution of pre-test and post-test knowledge score regarding peptic ulcer disease and its prevention among young adults in selected colleges of district kangra, himachal pradesh.

Table – 2 Frequency and percentage distribution of pre-test and pot-test knowledge scores regarding peptic ulcer disease and its prevention

Level of Knowledge	Pretest (f)	Pretest (%)	Posttest (n)	Posttest (%)
Inadequate (0-33%)	52	86.67	0	0
Moderate (36.6%-66.6%)	8	13.33	38	63.33
Adequate (70-100%)	0	0	22	36.67

Table 2 depicts that, in pre-test, out of 60 young adults' majority i.e. 86.67% had inadequate knowledge, 13.33% had moderate knowledge and none exhibited adequate knowledge. However, after the intervention. 63.33% had moderate knowledge and 36.67% had adequate knowledge and none of them had inadequate knowledge. This highlights the improvement in knowledge of young adults regarding peptic ulcer disease and its prevention.

Section – 3: Comparison between pre-test and post-test knowledge score regarding peptic ulcer disease and its prevention among young adults in selected colleges of district Kangra, Himachal Pradesh.

Table – 3- Comparison between pre-test and post-test Knowledge score regarding peptic ulcer disease and its prevention among young adults.

Group	Mean (%)	S.D.	Mean Difference	Paired t-value	p-value	Table value
Pre-test	26.67	12.45	**+50.00**	**21.45***	**<0.001**	**3.659**
Post-test	76.67	9.87				

Table 3 shows the comparison of mean pre-test and post-test knowledge scores in a paired analysis. The mean percentage before the intervention was 26.67%. with a standard deviation (SD) 12.45, while the mean percentage score after the intervention increased to 76.67% with a lower SD of 9.87. A paired t-value test was conducted to evaluate the effectiveness of the intervention, yielding a t-value of 21.45 and a p-value less than 0.001, which indicates that the improvement in scores was statistically significant. This suggests that the intervention had a meaningful and positive impact on young adults' knowledge.

Hence, the research hypotheses H_1 was accepted and null hypotheses H_{01} was rejected.

Section – 4: Associations of post-test knowledge score regarding peptic ulcer disease and its prevention among young adults with their socio-demographic variable

Table 4: Chi-square showing association of post-test knowledge score of young adults with their socio-demographic variables.

Variable	Category	Inadequate Knowledge	Moderate Knowledge	Adequate Knowledge	χ^2	p-value	DF	Table Value
1. Age	a) 18-21	0	6	3		0.55^{NS}	3	7.82
	b) 21-24	0	10	5				

	c) 25-27	0	14	8	0.34			
	d) 28-30	0	8	6				
2. Gender	a) Male	0	16	8	0.19	0.66^{NS}	1	3.84
	b) Female	0	22	14				
3. Course	a) BA	0	11	7	0.23	0.62^{NS}	3	7.82
	b) BSc	0	8	4				
	c) MSc	0	10	5				
	d) MA	0	9	6				
4. Area of Living	a) Urban	0	20	12	0.02	0.88^{NS}	1	3.84
	b) Rural	0	18	10				
5. Socioeconomic Status (SES)	a) Low	0	10	6	0.00	0.93^{NS}	2	5.99
	b) Middle	0	14	8				
	c) High	0	14	8				
6. Family History of PUD	a) Yes	0	16	10	0.06	0.80^{NS}	1	3.84
	b) No	0	22	12				
7. Diet Pattern	a) Vegetarian	0	13	7	0.06	0.96^{NS}	2	5.99
	b) Non-Vegetarian	0	11	7				
	c) Mixed	0	14	8				
8. Smoking	a) Yes	0	9	5	0.00	0.93^{NS}	1	3.84
	b) No	0	29	17				
9. Alcohol Consumption	a) Regularly	0	6	4	0.05	0.80^{NS}	2	5.99
	b) Occasionally	0	14	8				
	c) Never	0	18	10				
10. Previous Knowledge of PUD	a) Yes	0	24	14	0.00	0.97^{NS}	1	3.84
	b) No	0	14	8				
	a) Books/Library	0	7	9		0.16^{NS}	3	7.82

11. Source of Information	b) Internet	0	5	7	0.16			
	c) Mass Media	0	3	3				
	d) Other Sources	0	2	2				

Table 4 shows that the chi square test was used to examine the association between demographic variable and the level of knowledge among participants. The analysis revealed no statistically significant association between age and knowledge level ($\chi^2 = 0.34$, p = .55), gender ($\chi^2 = 0.19$, p = .66), or course ($\chi^2 = 0.23$, p = .62). Similarly, no significant association was observed with area of living ($\chi^2 = 0.02$, p = .88), socio-economic status ($\chi^2 = 0.00$, p = .93), family history of Peptic ulcer disease ($\chi^2 = 0.06$, p = .80), or diet pattern ($\chi^2 = 0.06$, p = .96), smoking ($\chi^2 = 0.00$. p = 0.93), Alcohol consumption ($\chi^2 = 0.05$, p= 0.80) or previous knowledge regarding peptic ulcer disease ($\chi^2 = 0.00$, p = 0.97) and source of information ($\chi^2 = 0.16$, p = 0.68. These findings indicate that none of the selected socio-demographic variables had a statistically significant influence on the level of knowledge among participants. Hence, the research hypotheses H_2 was rejected and null hypotheses H_{02} was accepted as research hypotheses.

DISCUSSION

This quasi-experimental one-group pre-test/post-test study among 60 young adults in selected colleges of District Kangra demonstrated a substantial and statistically significant improvement in knowledge regarding peptic ulcer disease (PUD) and its prevention after a single 40–45 minute structured teaching programme. Baseline performance reflected a considerable knowledge gap, whereas the post-test indicated marked gains. The mean difference, supported by a paired t value of 21.45 ($p < 0.001$), indicates a very large educational impact.

The magnitude of change suggests that a focused, context-specific programme can quickly correct misconceptions and fill essential knowledge gaps about PUD etiologies, risk factors, warning symptoms, and prevention strategies. Several plausible mechanisms can explain the strong effect: relevance of content to the learners, clarity and pacing of delivery, immediate reinforcement through post-testing, and structured presentation of key information.

No significant association was observed between post-test knowledge and demographic variables. This implies that the intervention was broadly equitable, benefiting learners regardless of baseline differences in age, gender, or socioeconomic background. The study supports deploying similar educational programmes across diverse cohorts without major modifications, while still remaining responsive to individual learner needs.

Although the present study did not include a control group, the direction and magnitude of gains are consistent with short-format health-education interventions reported in other contexts, where concise, single-session modules often yield immediate knowledge improvements. The findings reinforce the role of nurses as key health educators and highlight that structured, nurse-led teaching can bridge critical knowledge gaps in a cost-effective and time-efficient manner.

Practically, integrating such sessions into college health promotion activities could reduce risky self-medication practices, promote healthier dietary patterns, and encourage timely help-seeking for alarm symptoms. Standardized teaching materials and linkage to diagnostic and treatment services would further strengthen the impact.

From a methodological standpoint, the use of the same tool for pre- and post-test may have introduced some recall bias, but the very large effect size suggests true learning. The purposive sampling and limited sample size restrict generalizability, but the study nonetheless offers important preliminary evidence from Himachal Pradesh. Follow-up assessments would be valuable to determine whether knowledge gains are sustained and translate into behavioral change.

Overall, the results provide strong evidence that a concise, structured teaching programme can significantly improve young adults' understanding of PUD prevention. This finding has important implications for nursing practice and community health promotion, supporting the inclusion of targeted educational strategies in college and community settings.

CONCLUSION

The finding of the study clearly demonstrated that structured teaching programme was proved to be effective in enhancing knowledge regarding peptic ulcer disease and its prevention among young adults. The programme proved to be a valuable tool in promoting adequate knowledge regarding prevention of peptic ulcer disease and its prevention.

SUMMARY

In present study quasi-experimental study one-group pre-test post-test design to assess the effectiveness of structured teaching programme on knowledge regarding peptic ulcer disease and its prevention among young adults. The target population comprised young adults aged 18-30 years from Rakkar, Dhaliara and a sample of 60 young adults was selected through non-probability purposive sampling. Inclusion and exclusion criteria were set to ensure appropriate sample selection. A self-structured knowledge questionnaire (30 MCQs) was developed and validated by subject experts. Reliability was established using Karl Pearson's correlation coefficient (0.81 for knowledge). Data collection took place in three phases: pre-test, intervention (structured teaching programme), and post-test after 7 days. Data were analyzed using descriptive statistics (frequency, percentage, mean, SD) and inferential statistics (paired t-test and chi-square test) to assess improvement and associations with socio-demographic variables. Ethical approvals and informed consent were obtained prior to data collection. The study showed a significant improvement in knowledge and practice after the structured teaching programme. Good knowledge increased from 26.67% to 76.67% and good Paired t-tests confirmed significant differences in pre- and post-test scores for both knowledge ($t = 21.45$, $p < 0.001$). No significant link was found with socio-demographic variables. The findings support the effectiveness of structured teaching in improving awareness related to peptic ulcer disease and its prevention among adults.

LIMITATIONS

This study is limited to:

- The findings are limited to the only 60 young adults and may not be generalized to the entire population of college students in Kangra or Himachal Pradesh.

- Being a quasi-experimental design one group pre-test post-test design there is no control group for comparison, which limits the strength of causal inference.

- This study assesses immediate post-intervention knowledge, without evaluating long-term behaviour or habitual changes.

FURTHER RECOMMENDATIONS

- Future studies can consider involving a larger and more diverse population to generalize the findings across various age groups and socio-demographic backgrounds.

- Future research can include multiple colleges or organizations across different regions to compare the effectiveness of structured teaching programmes in varied cultural and educational settings.

- Studies should include practice components with knowledge level to evaluate actual preventive practices adopted by the participants in their lifestyle.

- Researchers can conduct randomized controlled trials to establish stronger evidence on the effectiveness of structured teaching programmes.

- Studies can include qualitative research to explore the attitudes, beliefs, and barriers that young adults face in understanding and preventing peptic ulcer disease.

- Researchers can replicate the structured teaching programme in school settings among adolescents to promote early health education and prevention.

ACKNOWLEDGEMENT

I extend my heartfelt gratitude to Almighty God, My Family, faculty members for their constant support and encouragement. I am sincerely thankful to Netaji Subhash College of Nursing under which I have had the opportunity to prove and excel myself. I am grateful to the participating students and the college authorities for their cooperation.

REFERENCES

1. Salari N, et al. Global prevalence of peptic ulcer disease: a systematic review and meta-analysis. 2021.
2. Bodh V, et al. Etiological trends of acute upper gastrointestinal bleeding: A 5-Year Endoscopic Review. IGMC Shimla, 2021.
3. Rajan JK. Knowledge regarding prevention of peptic ulcer disease among adolescents in Shimla. 2019.
4. Mahuri B, et al. Stress and knowledge regarding peptic ulcer disease among patients at IMS & SUM Hospital, Odisha. 2025.

5. Yadav A, et al. Effectiveness of structured teaching programme on prevention of peptic ulcer disease among nursing students. 2024.
6. Rajaselvi G. Structured Teaching Programme on Knowledge Regarding Peptic Ulcers among Students. 2023.
7. Patidar K, Patel N. Effectiveness of structured teaching programme on knowledge of risk factors of peptic ulcer. 2019.
8. Ramu K, Natekar SD, Dhanpal HN. Structured teaching programme on lifestyle practices for prevention of peptic ulcer disease. 2022.
9. WHO. Global burden of disease statistics for peptic ulcer. 2020.
10. CDC. Peptic ulcer disease surveillance and prevention guidelines. 2022.