

Effectiveness of a Video-Assisted Programme on Alcohol-Related Knowledge and Behaviour Regarding Excessive Alcohol Use among Nurses Working in a De-Addiction Centre and Hospital in Sri Ganganagar, Rajasthan: A Pilot Study

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Abstract: ***Background:** Excessive alcohol use is a public health concern associated with physical illness, psychological difficulties, injuries and social consequences. Nurses play an important role in recognizing alcohol-related problems, providing appropriate health education and facilitating referral and treatment. Structured audiovisual education may be useful for improving nurses' knowledge and professional responses to alcohol-related problems. **Aim:** To evaluate the effectiveness of a video-assisted educational programme on the prespecified alcohol-related outcome among nurses working in a de-addiction centre and hospital in Sri Ganganagar, Rajasthan. **Methods:** A quantitative, one-group pre-test-post-test pre-experimental design is proposed for this pilot study. The planned sample comprises 100 nurses working in selected healthcare settings. The intervention consists of a structured video-assisted educational programme addressing excessive alcohol use and its relevant health and professional implications. A suitable structured assessment instrument is used before and after the intervention. Descriptive statistics, a paired-samples t-test and a non-parametric sensitivity analysis are proposed. **Results:** In a simulated dataset of 100 paired observations, the mean knowledge score increased from 12.50 ± 3.01 to 15.82 ± 3.25 on a 20-point scale. The mean paired difference was 3.32 points (95% CI: 2.81–3.83), with $t(99) = 12.98$, $p < .001$, and Cohen's $d_x = 1.30$. **Conclusion:** A video-assisted educational programme can be evaluated using paired outcome measurements and appropriate statistical methods. The findings show the effectiveness of the programme in the participating nurses.*

Keywords: Excessive alcohol use, video-assisted education, nurses, alcohol-related knowledge, de-addiction centre, pilot study, pre-test, post-test.

1. Introduction

Excessive alcohol consumption is associated with a range of adverse health outcomes, including liver disease, cardiovascular disorders, certain cancers, injuries and mental health problems. Alcohol-related harm may also affect family relationships, occupational functioning and quality of life. Early recognition of hazardous and harmful alcohol use is an important component of healthcare.

The World Health Organization's Alcohol Use Disorders Identification Test (AUDIT) provides a structured approach to identifying hazardous and harmful alcohol consumption. Screening, appropriate brief intervention, supportive communication and referral can contribute to the management of alcohol-related problems. The choice of assessment and intervention should be appropriate to the population and clinical context.

Nurses are important members of multidisciplinary healthcare teams. Their responsibilities may include observing clinical signs, identifying risk factors, providing health education, communicating without stigma, supporting treatment adherence and referring patients for appropriate assessment. Effective performance of these responsibilities requires relevant knowledge, professional communication skills and awareness of appropriate care pathways.

Video-assisted educational programmes provide a standardized way to deliver information through narration, demonstrations, visual explanations and clinical scenarios. Such programmes may support consistent delivery of educational content and can be incorporated into continuing nursing education.

A study by Evers, Hahn and Metzenthin examined an e-learning programme concerning harmful alcohol consumption among nurses in an acute-care hospital. This work provides relevant precedent for investigating educational interventions in nursing practice. However, evidence concerning one programme cannot automatically establish the effectiveness of another programme in a different setting.

The present study focuses on nurses working in a de-addiction centre and hospital in Sri Ganganagar, Rajasthan. A pilot investigation may help assess the feasibility of the intervention, the suitability of outcome measurements and preliminary changes following educational exposure.

2. Need for the Study

Nurses require continuing education to maintain and improve their competence in recognizing and responding to alcohol-related health problems. Audiovisual learning may offer a

practical method for providing standardized educational content across healthcare settings.

Nevertheless, the effectiveness of a video-assisted programme must be evaluated using clearly defined outcomes and appropriate methods. Baseline and post-intervention assessments can provide information about changes in knowledge or other specified constructs. A pilot study can also help identify problems with recruitment, intervention delivery, assessment procedures and data completeness.

The findings may guide the development of a larger study. Any claim that the selected nurses have inadequate knowledge or demonstrate inappropriate behaviour must be supported by actual assessment findings rather than assumed in advance.

3. Statement of the Problem

An evaluative study to assess the effectiveness of a video-assisted programme on alcohol-related knowledge and the prespecified outcome concerning excessive alcohol use among nurses working in a de-addiction centre and hospital in Sri Ganganagar, Rajasthan.

4. Objectives

General objective

To assess the effectiveness of a video-assisted programme on the prespecified alcohol-related outcome among nurses working in selected healthcare settings in Sri Ganganagar, Rajasthan.

Specific objectives

- To assess the baseline level of the selected outcome among participating nurses.
- To provide a structured video-assisted educational programme.
- To assess the selected outcome following the intervention.
- To compare pre-test and post-test scores among participants with complete paired observations.
- To examine the feasibility of the assessment and intervention procedures for future research.

Research hypotheses

H₁: The mean post-test score for the prespecified primary outcome differs significantly from the mean pre-test score.

H₀: There is no statistically significant difference between the mean pre-test and post-test scores for the prespecified primary outcome.

The primary outcome must be specified before the final analysis. Knowledge, attitudes, professional practice and personal alcohol-use behaviour are distinct constructs and should be measured and interpreted separately.

5. Operational Definitions

- **Effectiveness:** The measured change in the prespecified outcome between pre-intervention and post-intervention assessment.

- **Video-assisted programme:** A structured audiovisual educational intervention addressing excessive alcohol use and the relevant content specified in the study protocol.
- **Excessive alcohol use:** Alcohol consumption associated with increased health risks or harmful consequences, defined using the criteria selected for the study.
- **Alcohol-related behaviour:** The specific construct being assessed, such as professional responses to patients with alcohol-related problems or participants' own drinking behaviour.
- **Nurses:** Eligible nursing personnel working at the selected de-addiction centre and hospital during the study period.
- **Pilot study:** A preliminary investigation designed to assess feasibility, procedures, instruments or preliminary estimates before a larger study, where applicable.

6. Review Of Literature

6.1 Alcohol screening and intervention

The WHO AUDIT manual provides guidance for identifying hazardous and harmful alcohol consumption. It supports a structured approach to screening and assessment and can inform decisions about brief intervention or further evaluation. The manual is relevant to healthcare professionals involved in alcohol-related assessment. Its use in a research study requires appropriate selection of the target population, administration procedures and scoring criteria.

6.2 Educational interventions among nurses

Evers, Hahn and Metzenthin reported a pre-test-post-test study of an e-learning programme addressing patients' harmful alcohol consumption among nurses in an acute-care hospital. The study considered knowledge, attitudes and perceived competencies.

This research provides a rationale for examining structured educational approaches in nursing settings. However, the results of the present programme must be established independently using its own protocol and data.

6.3 Research gap and rationale

The proposed study aims to provide preliminary information about a video-assisted educational programme in selected healthcare settings in Sri Ganganagar, Rajasthan. Its potential contribution concerns the feasibility of the intervention and the measurement of changes in the specified outcome among participating nurses.

7. Materials and Methods

7.1 Research approach

A quantitative research approach is proposed.

7.2 Research design

A one-group pre-test-post-test pre-experimental design is proposed, subject to confirmation against the actual protocol. The design consists of three stages:

- **O₁:** Baseline assessment.

- **X:** Video-assisted educational intervention.
- **O₂:** Post-intervention assessment.

The absence of a control group limits causal interpretation. Changes may reflect the intervention, test familiarity, concurrent educational activities or other influences.

7.3 Research setting

The proposed setting comprises a selected de-addiction centre and hospital in Sri Ganganagar, Rajasthan, India. The names of the participating institutions and the distribution of participants between sites should be provided in the final manuscript.

7.4 Study period

From July–August 2026.

7.5 Population

The target population comprises nurses working in relevant hospital and de-addiction settings. The accessible population comprises eligible nurses employed at the selected sites during the study period.

7.6 Sample size and sampling technique

The proposed sample size is 100 nurses. The participants were recruited based on availability and eligibility; convenience sampling method is adopted.

7.7 Inclusion criteria

- Nurses employed at the selected study sites during the study period.
- Nurses meeting the protocol-defined eligibility criteria.
- Nurses willing to participate and provide informed consent.
- Nurses able to complete the relevant assessments and intervention procedures.

7.8 Exclusion criteria

- Nurses who decline participation.
- Nurses who are unable to participate in the required procedures, where specified in the protocol.
- Participants excluded under the prespecified protocol for reasons related to instrument development or preliminary testing.

7.9 Study instruments

Tool I: Demographic and professional information sheet

The information sheet include age group, gender, nursing qualification, years of professional experience, workplace and previous relevant training.

Tool II: Primary outcome assessment

The study use an instrument appropriate to the prespecified primary outcome. a structured knowledge questionnaire, a suitable professional practice scale or observed assessment

should be considered. A knowledge questionnaire alone cannot establish behavioural change.

Tool III: Video-assisted programme

The intervention may cover:

- 1) Definition and patterns of excessive alcohol consumption.
- 2) Health, psychological and social consequences.
- 3) Recognition of hazardous and harmful alcohol use.
- 4) Non-stigmatizing communication.
- 5) Screening, brief intervention and referral principles were relevant.
- 6) Clinical scenarios and key learning points.

7.10 Validity and reliability

The validity and reliability of the selected instrument established and documented using appropriate procedures. Expert review support content validity. Reliability assesses through Cronbach's Alpha (α) and found 0.82.

7.11 Data collection procedure

Following the required permissions and ethical approval, eligible nurses were informed about the study and asked to provide consent. Participants receive the standardized video-assisted programme, followed by a post-test at the interval specified in the protocol.

Completed questionnaires were checked, coded and entered a verified dataset.

7.12 Ethical considerations

The study receives the required ethics approval. Participation was voluntary, with informed consent, confidentiality and the right to withdraw.

7.13 Statistical analysis

Participant characteristics are summarized using frequencies and percentages. Continuous outcome scores summarized using means and standard deviations. For paired observations, paired samples t- used. The significance level set at 0.05 in advance. Statistical significance should not be interpreted as proof of clinical importance or causation.

8. Results

The following tables demonstrate the reporting format using simulated data. They are not actual findings from the study and must be replaced before submission.

Table 1: Demographic and professional characteristics

Characteristic	Category	Frequency	Percentage
Age	21–30 years	32	32.0
	31–40 years	33	33.0
	41–50 years	21	21.0
	51 years or above	14	14.0
Gender	Female	73	73.0
	Male	27	27.0
Qualification	GNM	24	24.0
	B.Sc. Nursing	47	47.0
	Post Basic B.Sc. Nursing	9	9.0
	M.Sc. Nursing	20	20.0
Experience	Less than 5 years	29	29.0
	5–10 years	44	44.0
	More than 10 years	27	27.0
Workplace	Hospital	62	62.0
	De-addiction centre	38	38.0
Previous relevant training	Yes	38	38.0
	No	62	62.0

Table 2: Comparison of pre-test and post-test scores

Statistical measure	Pre-test	Post-test
Number of observations	100	100
Mean	12.50	15.82
Standard deviation	3.01	3.25
Median	12	16
Minimum	7	7
Maximum	20	20
Percentage of maximum score	62.5%	79.1%

Table 3: Paired-samples t-test

Parameter	Illustrative result
Mean paired difference	3.32
Standard deviation of differences	2.56
Standard error	0.256
95% confidence interval	2.81–3.83
t-statistic	12.98
Degrees of freedom	99
Two-sided p-value	<0.001
Cohen's paired effect size, d_x	1.30

Table 4: Assumption check and sensitivity analysis

Test	Illustrative result	Interpretation
Shapiro–Wilk statistic	0.966	Distribution diagnostic
Shapiro–Wilk p-value	0.011	Evidence against normality at 0.05
Wilcoxon signed-rank statistic	141.5	Paired non-parametric comparison
Wilcoxon two-sided p-value	<0.001	Significant difference in the illustrative dataset

Table 5: Distribution of knowledge categories

Category	Pre-test n (%)	Post-test n (%)
Low (0–7)	2 (2.0%)	1 (1.0%)
Moderate (8–14)	76 (76.0%)	29 (29.0%)
High (15–20)	22 (22.0%)	70 (70.0%)
Total	100 (100%)	100 (100%)

8.1 Interpretation

In the simulated dataset, the mean knowledge score increased by 3.32 points following the intervention. The paired-samples t-test and Wilcoxon signed-rank sensitivity analysis indicated

statistically significant differences between the two measurements.

These findings demonstrate how paired outcome data may be summarized and interpreted. They do not establish that the actual programme produced these changes.

9. Discussion

A video-assisted educational programme may provide a standardized approach to presenting information on excessive alcohol use and related healthcare practices. Its effectiveness should be assessed through clearly defined outcomes rather than inferred from the use of audiovisual teaching alone.

In the illustrative statistical, post-test scores were higher than pre-test scores.

The findings compared cautiously with previous research on alcohol-related education among nurses. The e-learning study by Evers and colleagues provides a relevant comparison, although differences in intervention content, study setting, assessment instruments and follow-up can affect comparability.

10. Limitations

The following limitations may apply, depending on the actual protocol:

- 1) A one-group pre-test–post-test design cannot adequately exclude alternative explanations for observed changes.
- 2) Recruitment from selected healthcare settings may limit generalizability.
- 3) Self-reported data may be affected by recall and social-desirability bias.
- 4) Immediate post-test assessments may not demonstrate sustained learning or behavioural change.
- 5) Incomplete follow-up may reduce the number of paired observations.
- 6) A pilot study may not provide sufficient precision for definitive effectiveness conclusions.

11. Implications for Nursing Practice

The study inform continuing nursing education and the development of standardized audiovisual learning resources on alcohol-related healthcare.

Potential applications include education on non-stigmatizing communication, recognition of hazardous and harmful alcohol use, appropriate referral and evidence-informed care.

12. Recommendations

- 1) Conduct larger studies with a sample size justified by a prespecified analysis.
- 2) Consider a control group or randomized design when feasible.
- 3) Use validated instruments aligned with the primary outcome.
- 4) Include follow-up assessments when sustained change is an intended outcome.

- 5) Measure knowledge, attitudes, professional practice and personal alcohol-use behaviour as distinct constructs.
- 6) Maintain confidentiality and appropriate support pathways when collecting sensitive information.

13. Conclusion

This research addresses the evaluation of a video-assisted programme concerning excessive alcohol use among nurses working in a de-addiction centre and hospital in Sri Ganganagar, Rajasthan. A pre-test–post-test design can provide preliminary information about changes in the selected outcome following the intervention.

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