



“A Study to Evaluate the Effectiveness of Community-based Nursing Intervention Regarding Alcohol Dependence and Quality of Life among Alcohol-dependent individuals in Selected Rural Area at Udaipur”

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Abstract: Alcohol dependence is a major public health problem that adversely affects physical, psychological, social, and environmental well-being and significantly reduces quality of life (QoL). Therefore, the present study was conducted with the problem statement, “A Study to Evaluate the Effectiveness of Community-based Nursing Intervention Regarding Alcohol Dependence and Quality of Life among Alcohol-dependent Individuals in Selected Rural Area at Udaipur.” The objectives were to screen and identify alcohol-dependent individuals, assess their level of alcohol dependence and quality of life, evaluate the effectiveness of the community-based nursing intervention, determine the correlation between alcohol dependence and quality of life, and assess the association of alcohol dependence and quality of life with selected demographic variables. The hypotheses stated that there would be a significant difference in alcohol dependence and quality-of-life scores before and after the intervention, a significant correlation between alcohol dependence and quality of life, and a significant association between these variables and selected demographic characteristics. A pre-experimental, one-group pre-test post-test research design was adopted among 150 alcohol-dependent individuals residing in selected rural areas of Vallabhnagar, Udaipur, who were selected through purposive sampling. Prior to the main study, a pilot study was conducted among 15 alcohol-dependent individuals in Dabok, Udaipur, to assess the feasibility, acceptability, clarity of the tools, participant cooperation, accessibility of the setting, and time required for data collection and intervention implementation. Data for the main study were collected using a demographic data sheet, Alcohol Dependence Scale (ADS), and WHOQOL-BREF questionnaire. The community-based nursing intervention included education regarding alcohol dependence and its harmful effects, counseling, coping strategies, lifestyle modification, motivation, and relapse-prevention measures. Data were analyzed using descriptive statistics, paired *t*-test, Pearson’s correlation coefficient, and Chi-square test. The findings showed that the mean ADS score decreased from 43.12 in the pre-test to 33.19 in the post-test, with the greatest reduction observed in the tolerance domain (21.18%). The overall quality-of-life score increased from a mean of 103.7 in the pre-test to 161.9 in the post-test, with improvements observed across the physical, psychological, social-relationship, and environmental domains; perception of quality of life increased from 2.20 to 3.10, while perception of health increased from 2.15 to 3.05. Paired *t*-test findings demonstrated statistically significant improvements in alcohol dependence and quality of life

following the intervention. A strong negative correlation was found between alcohol dependence and quality of life in both the pre-test ($r = -0.934$, $p < 0.001$) and post-test ($r = -0.8871$, $p < 0.001$), indicating that higher alcohol dependence was associated with poorer quality of life. Chi-square analysis revealed significant associations of alcohol dependence and quality of life with age, gender, socioeconomic status, education, marital status, and occupation, whereas duration of alcohol use was not significantly associated with either outcome. Thus, the findings support the effectiveness of the community-based nursing intervention in reducing alcohol dependence and improving quality of life among alcohol-dependent individuals in selected rural areas of Vallabhnagar, Udaipur.

Index Term: Effectiveness, Community-Based Nursing Intervention, Alcohol Dependence, Quality-Of-Life, Rural areas.

I. INTRODUCTION

Alcohol dependence, also referred to as alcohol use disorder (AUD), is a chronic condition characterized by impaired control over alcohol use despite harmful physical, psychological, and social consequences. It is a major public health concern contributing to morbidity, mortality, family problems, social difficulties, and reduced quality of life (QoL), with the World Health Organization (WHO) estimating that alcohol consumption contributes to approximately 3 million deaths annually worldwide.¹ Quality of life is a multidimensional concept encompassing physical health, psychological well-being, social relationships, and environmental conditions, and individuals with alcohol dependence generally experience poorer QoL than the general population.² The WHOQOL-BREF is widely used to assess these multiple dimensions of QoL.³ Community-based nursing interventions, including health education, counseling, motivation, coping strategies, lifestyle modification, family support, and relapse-prevention measures, provide accessible and comprehensive support for individuals with alcohol dependence and may improve recovery and treatment outcomes.⁴

Alcohol use is also a significant public health concern in India, particularly among men, and is associated with various physical, psychological, and social problems.⁵ Alcohol dependence can substantially impair daily functioning and QoL, which WHO defines as an individual's perception of their position in life within the context of their culture, values, goals, expectations, and concerns.⁶ Global alcohol consumption increased considerably between 1990 and 2017, with a particularly marked increase in low- and middle-income countries, including India.⁷ Harmful alcohol use is associated with liver disease, cardiovascular and other chronic diseases, mental health problems, injuries, social difficulties, and premature mortality.⁸ In India, and particularly in states such as Rajasthan, alcohol-related problems remain an important health and social concern, while reliable local data on alcohol dependence in rural communities are limited. Rural populations may also face barriers to accessing specialized de-addiction services, including limited availability of services, stigma, lack of awareness, and socioeconomic constraints.

Therefore, community-based nursing interventions that provide education, counseling, motivation, coping skills, lifestyle modification, family support, and relapse prevention may offer a practical approach to reducing alcohol dependence and improving QoL. Hence, the present study was undertaken to evaluate the effectiveness of a community-based nursing intervention on alcohol dependence and quality of life among alcohol-dependent individuals in selected rural areas of Vallabhnagar, Udaipur.

1.1. PROBLEM STATEMENT

“A Study to Evaluate the Effectiveness of Community-based Nursing Intervention Regarding Alcohol Dependence and Quality of Life among Alcohol-dependent individuals in Selected Rural Area at Udaipur.”

1.2. OBJECTIVES

- To screen and identify the alcohol-dependent individuals in selected rural communities.
- To assess the existing level of alcohol dependence and quality of life among alcohol-dependent individuals.
- To determine the effectiveness of community-based nursing intervention strategies on the level of alcohol dependence and quality of life among alcohol-dependent individuals.

- To correlate the level of alcohol dependence with the quality of life among alcohol-dependent individuals.
- To assess the association of alcohol dependence and quality of life scores with selected background variables of the participants.

1.3. HYPOTHESIS

- **H₁:** There is a significant difference in the level of alcohol dependence and quality of life among alcohol-dependent individuals before and after implementing community-based nursing interventions.
- **H₂:** There is a significant correlation between the level of alcohol dependence and quality of life among alcohol-dependent individuals.
- **H₃:** There is a significant association between the overall mean difference in alcohol dependence and quality of life scores among alcohol-dependent individuals and their demographic variables.

1.4. CONCEPTUAL FRAMEWORK

Conceptualization involves developing and refining abstract ideas, while a theoretical framework consists of defined concepts and relationships used to systematically examine a phenomenon. In this study, the conceptual framework is based on **General Systems Theory (GST) by Ludwig von Bertalanffy**, which views an individual as an open system whose functioning is influenced by continuous interaction with the family, community, and environment. The theory is appropriate for the present study because alcohol dependence and quality of life are influenced by multiple interacting biological, psychological, social, and environmental factors.

In this framework:

- **Input:** Includes selected demographic variables such as age, gender, socioeconomic status, educational status, marital status, occupation, and duration of alcohol use, along with the baseline level of alcohol dependence and quality of life of alcoholic patients.
- **Throughput:** Refers to the community-based nursing intervention provided to alcoholic patients through structured teaching, group discussion, counseling, motivation, demonstration, role play, stress-management techniques, lifestyle modification, relapse-prevention strategies, and family/community support.
- **Output:** Measures the changes in alcohol dependence and quality of life following the intervention. Alcohol dependence is assessed using the Alcohol Dependence Scale (ADS), while quality of life is assessed using the WHOQOL-BREF across physical, psychological, social, and environmental domains.
- **Feedback:** Evaluates the changes between pre-test and post-test ADS and WHOQOL-BREF scores and identifies the need for continued support or modification of nursing interventions.

Thus, the framework demonstrates how the community-based nursing intervention (throughput) transforms the initial status of alcoholic patients (input) into desirable outcomes (output), particularly reduced alcohol dependence and improved quality of life. The feedback mechanism helps determine the effectiveness of the intervention and supports further improvement in care.

1.5. VARIABLES

A variable is a characteristic or attribute that may vary among alcohol-dependent individuals.

- **Dependent Variable:** In this study, the dependent variables are level of alcohol dependence and quality of life among alcohol-dependent individuals.

- **Independent Variable:** In this study, the independent variable is the community-based nursing intervention regarding alcohol dependence and quality of life.
- **Demographic Variables:** In this study, the selected demographic variables are age, gender, socioeconomic status, educational status, marital status, occupation, and duration of alcohol use.

1.6. DELIMITATIONS

- The study is limited to alcohol-dependent individuals residing in a selected rural area of Udaipur.
- The study focuses on alcohol dependence and quality of life, excluding other health aspects.
- The study is delimited to participants who are willing to participate and provide informed consent.
- The intervention period is fixed, and the study does not include patients receiving treatment from other rehabilitation programs.

II. MATERIALS AND METHOD

2.1. Research Approach: A quantitative evaluative research approach was used in the study to evaluate the effectiveness of community-based nursing intervention on alcohol dependence and quality of life among alcohol-dependent individuals in selected rural areas at Udaipur.

2.2. Research Design: A pre-experimental one-group pre-test post-test research design was used for the study.

2.3. Sample: The sample comprised 150 alcohol-dependent individuals residing in selected rural areas at Udaipur who fulfilled the inclusion criteria.

2.4. Sampling Technique: The samples were selected through a non-probability purposive sampling technique.

2.5. Criteria for Sample Selection

Inclusion criteria:

- Alcohol-dependent individuals residing in the selected rural areas of Udaipur.
- Individuals aged 18 years and above.
- Individuals diagnosed with alcohol dependence or habitual alcohol use, identified through screening tools or clinical assessment.
- Individuals who were willing to participate in the study and able to provide informed consent.
- Individuals who were not currently undergoing active de-addiction treatment or rehabilitation in other centers.
- Participants who could understand and respond to the Alcohol Dependence Scale (ADS) and WHOQOL-BREF Questionnaire.

Exclusion criteria:

- Individuals with severe mental illness or co-morbid psychiatric conditions that could interfere with study participation or responses.
- Individuals unable to comprehend or respond to the assessment tools due to language barriers, cognitive impairment, or intellectual disability.
- Pregnant women or individuals with severe physical health conditions that could influence study outcomes.
- Individuals currently undergoing active treatment, counseling, or rehabilitation for alcohol dependence in any other facility.
- Individuals who declined to participate or refused to provide informed consent.

2.6. Setting: The setting selected for the study was selected rural areas of Udaipur, Rajasthan. The main data collection was conducted in Vallabhnagar, Udaipur.

2.7. Population: The population consisted of alcohol-dependent individuals residing in selected rural areas of Udaipur.

2.8. Description of Tool: The data collection tool consisted of three parts:

Part-A: Demographic Variables: This section consisted of demographic variables such as age, gender, socioeconomic status, educational status, marital status, occupation, and duration of alcohol use.

Part-B: Alcohol Dependence Scale (ADS): The Alcohol Dependence Scale (ADS) is a standardized tool used to assess the severity of alcohol dependence. It consists of 25 items covering alcohol consumption patterns, psychological dependence, withdrawal symptoms, tolerance, and social and occupational impact. Responses are scored from 0 to 3, with a total score ranging from 0 to 75. Higher scores indicate greater alcohol dependence.

Level of Alcohol Dependence	Total Score
Minimal Dependence	0–15
Mild Dependence	16–30
Moderate Dependence	31–45
Severe Dependence	46–60
Very Severe Dependence	61–75

Part-C: WHOQOL-BREF Questionnaire: The WHOQOL-BREF is a standardized questionnaire developed by the World Health Organization to assess quality of life. It consists of 26 items, including 24 items distributed across four domains—Physical Health, Psychological Health, Social Relationships, and Environment—and two general questions regarding overall quality of life and health. Each item is rated on a 5-point scale. Domain scores are transformed to a 0–100 scale for interpretation.

Quality of Life Interpretation	Domain Score
Very Poor QoL	<25
Poor QoL	25–49
Moderate QoL	50–74
High QoL	75–100

2.9. Ethical Consideration: Ethical clearance was obtained from the Ethical Committee of Venkateshwar College of Nursing, Reference No. VCN/UDR/2025/026. Permission to conduct the research study was obtained from the concerned authorities of the selected rural areas of Udaipur. Informed consent was obtained from all participants, and anonymity and confidentiality were maintained throughout the study.

2.10. Plan for Data Analysis: The data were analyzed according to the study objectives using descriptive and inferential statistics. The plan of data analysis was as follows:

- Frequency and percentage were calculated to describe the demographic characteristics and levels of alcohol dependence and quality of life.
- Mean, standard deviation, mean difference, and mean percentage were calculated for pre-test and post-test ADS and WHOQOL-BREF scores.
- Paired ‘t’ test was used to assess the effectiveness of the community-based nursing intervention by comparing pre-test and post-test alcohol dependence and quality of life scores.
- Pearson’s correlation coefficient was used to determine the relationship between alcohol dependence and quality of life.
- Chi-square test was used to assess the association between pre-test alcohol dependence and quality of life with selected demographic variables.
- Findings were presented using tables, graphs, and diagrams.

III. RESULTS

The data obtained are divided into sections for easy and accurate interpretation of data. The data finding has organized under the following section:

Section – I: Distribution of alcohol-dependent individuals based on their demographic variables.

Section – II: Distribution of alcohol-dependent individuals based on Alcohol Dependence (ADS).

- **Part A:** Frequency distribution of alcohol-dependent individuals according to alcohol dependence levels (ADS total score).
- **Part B:** Comparison of pre-test and post-test mean scores of ADS among alcohol-dependent individuals.

Section – III: Distribution of alcohol-dependent individuals based on Quality of Life (WHOQOL-BREF).

- **Part A:** Frequency distribution of alcohol-dependent individuals according to quality-of-life levels (overall score).
- **Part B:** Domain-wise pre-test and post-test mean scores of WHOQOL-BREF (Physical, Psychological, Social, Environment).

Section – IV: Evaluation of the effectiveness of community-based nursing intervention on alcohol dependence and quality of life among alcohol-dependent individuals (comparison of pre-test and post-test using paired t-test).

Section – V: Correlation between alcohol dependence (ADS) scores and quality of life (WHOQOL-BREF) scores in pre-test and post-test.

Section – VI: Association between the pre-test levels of alcohol dependence and quality of life with selected demographic variables of alcohol-dependent individuals.

- **Part A:** Association between the pre-test levels of alcohol dependence with selected demographic variables of alcohol-dependent individuals.
- **Part B:** Association between the pre-test levels of quality of life with selected demographic variables of alcohol-dependent individuals.

SECTION – I: DISTRIBUTION OF ALCOHOL-DEPENDENT INDIVIDUALS BASED ON THEIR DEMOGRAPHIC VARIABLES:

The demographic data consists of 08 items seeking information about the age, gender, socioeconomic status, educational status, marital status, occupation, and duration of alcohol use.

Table-1: Description of demographic variables of alcohol-dependent individuals

N = 150

S.N.	DEMOGRAPHIC VARIABLES		FREQUENCY (N)	PERCENTAGE (%)
1	Age group	18-25	26	17.30
		26-35	54	36.00
		36-45	48	32.00
		46 and above	22	14.70
2	Gender	Male	114	76.00
		Female	36	24.00
		Other	0	0.00
		Prefer not to say	0	0.00
3	Socioeconomic Status	Low	69	46.00
		Middle	59	39.30
		High	18	12.00
		Very High	4	2.70
4	Educational Status	No formal education	37	24.70
		Primary education	49	32.70
		Secondary education	41	27.30
		Graduate and above	23	15.30
5	Marital status	Single	34	22.70
		Married	92	61.30

		Divorced/Separated	19	12.70
		Widowed	5	3.30
6	Occupational status	Unemployed	46	30.70
		Self-employed	62	41.30
		Private job	39	26.00
		Government job	3	2.00
7	Duration of Alcohol Use	Less than 1 year	17	11.30
		1-5 years	45	30.00
		6-10 years	52	34.70
		More than 10 years	36	24.00

- **Age group:** The majority of participants 54 (36.00%) belonged to the age group of 26–35 years, followed by 48 (32.00%) in the 36–45 years group. A smaller proportion 26 (17.30%) were between 18–25 years, while only 22 (14.70%) were aged 46 years and above.
- **Gender:** With respect to gender, the majority of participants were male 114 (76.00%), followed by female 36 (24.00%). None of the participants identified as other (0.00%) or preferred not to say (0.00%).
- **Socioeconomic status:** Considering socioeconomic status, nearly half 69 (46.00%) belonged to the low-income group, 59 (39.30%) were from the middle class, 18 (12.00%) were from the high-income group, and only 4 (2.70%) were from the very high-income group.
- **Educational Status:** In terms of educational status, the majority had primary education 49 (32.70%), followed by secondary education 41 (27.30%), no formal education 37 (24.70%), and only 23 (15.30%) were graduates and above.
- **Marital Status:** Regarding marital status, the majority were married 92 (61.30%), while 34 (22.70%) were single, 19 (12.70%) were divorced/separated, and 5 (3.30%) were widowed.
- **Occupational Status:** Occupational analysis revealed that 62 (41.30%) were self-employed, 46 (30.70%) were unemployed, 39 (26.00%) were in private jobs, and only 3 (2.00%) were in government jobs.
- **Duration Of Alcohol Use:** As for the duration of alcohol use, most participants 52 (34.70%) had been consuming alcohol for 6–10 years, followed by 45 (30.00%) for 1–5 years, 36 (24.00%) for more than 10 years, and only 17 (11.30%) for less than 1 year.

SECTION – II: DISTRIBUTION OF ALCOHOL-DEPENDENT INDIVIDUALS BASED ON ALCOHOL DEPENDENCE (ADS):

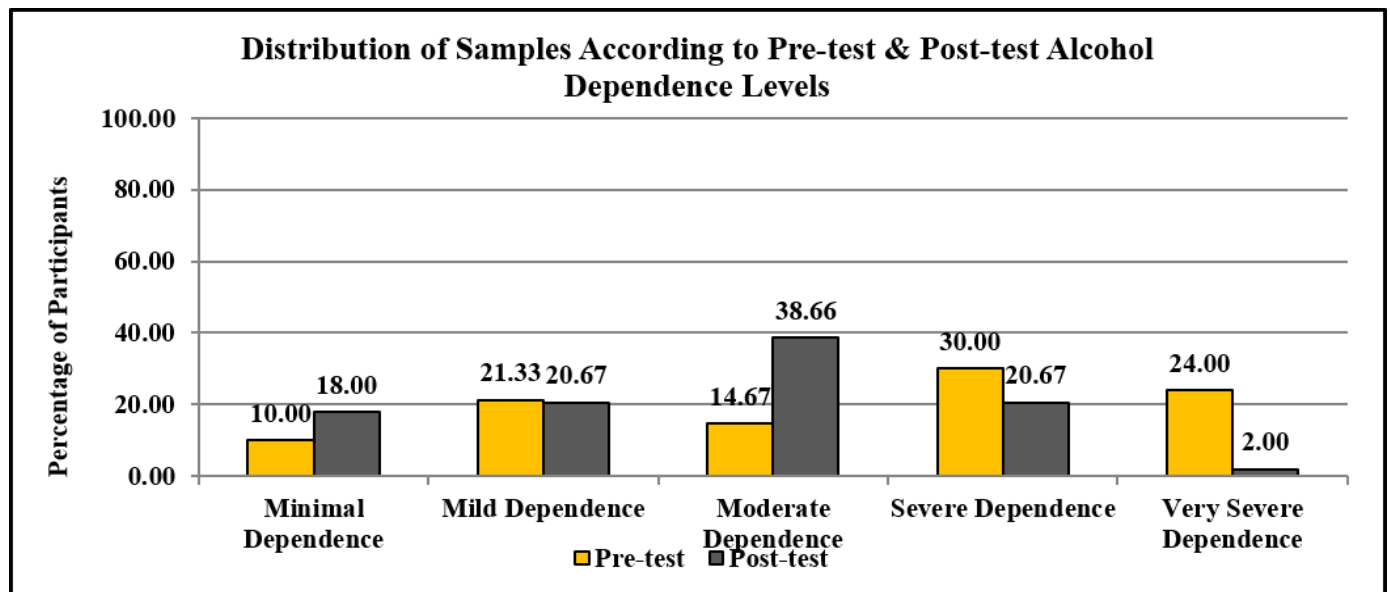
Alcohol dependence reflects the severity of alcohol-related problems among participants. The Alcohol Dependence Scale (ADS) was used to classify dependence from minimal to very severe. Pre-test and post-test distributions were compared to assess the effectiveness of the community-based nursing intervention in reducing alcohol dependence.

Part A: Frequency Distribution of Alcohol-dependent individuals According to Alcohol Dependence Levels (ADS Total Score):

This part presents the distribution of 150 alcohol-dependent individuals according to their alcohol dependence levels assessed using the Alcohol Dependence Scale (ADS). The levels were categorized as minimal (0–15), mild (16–30), moderate (31–45), severe (46–60), and very severe (61–75) dependence. Pre-test and post-test frequencies and percentages were compared to assess changes following the community-based nursing intervention.

Table-2: Frequency and percentage distribution of alcohol-dependent individuals by Alcohol Dependence Levels**N = 150**

Alcohol Dependence Levels	Sore	Pre-test		Post-test	
		Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Minimal Dependence	0–15	15	10.00	27	18.00
Mild Dependence	16–30	32	21.33	31	20.67
Moderate Dependence	31–45	22	14.67	58	38.66
Severe Dependence	46–60	45	30.00	31	20.67
Very Severe Dependence	61–75	36	24.00	3	2.00
Total		150	100.00	150	100.00

**Figure-1: Distribution of samples according to pre-test & post-test Alcohol Dependence Levels**

The data presented in Table-2 outlines the frequency and percentage distribution of alcohol-dependent individuals according to their Alcohol Dependence Scale (ADS) levels. In the pre-test, 15 (10.00%) patients were in the minimal dependence category (0–15), 32 (21.33%) in mild dependence (16–30), 22 (14.67%) in moderate dependence (31–45), 45 (30.00%) in severe dependence (46–60), and 36 (24.00%) in very severe dependence (61–75). In the post-test, the distribution shifted, with 27 (18.00%) patients in minimal dependence, 31 (20.67%) in mild dependence, 58 (38.66%) in moderate dependence, 31 (20.67%) in severe dependence, and only 3 (2.00%) in very severe dependence. This indicates a positive reduction in higher dependence levels and a corresponding improvement toward minimal and moderate categories after the community-based nursing intervention.

Part B: Comparison Of Pre-Test and Post-Test Mean Scores of ADS Among Alcohol-dependent individuals:

This part presents the domain-wise comparison of pre-test and post-test mean scores of alcohol-dependent individuals using the Alcohol Dependence Scale (ADS). The analysis compares mean scores, mean percentages, mean differences, and percentage reductions across the five domains to evaluate the effectiveness of the community-based nursing intervention.

Table-3: Domain wise Mean, Mean Percentage, Percentage reduction, Mean Difference, Standard Deviation (SD) of Pre-Test and Post-Test Alcohol Dependence Scores of Samples

Alcohol Dependence Domain	Number of Items (Max. Score)	Pre-Test Alcohol Dependence Score of Sample			Post-Test Alcohol Dependence Score of Sample			Mean Percentage reduction (%)	Mean Difference
		Mean Score	Mean Percentage	S. D.	Mean Score	Mean Percentage	S. D.		
Alcohol Consumption Patterns	6 (18)	8.64	48.00	4.17	6.37	35.37	3.38	12.63	2.27
Psychological Dependence	6 (18)	8.66	48.11	4.20	6.72	37.33	3.20	10.78	1.94
Withdrawal Symptoms	4 (12)	8.57	71.44	4.23	6.80	56.67	3.26	14.77	1.77
Tolerance	3 (9)	8.56	95.11	4.04	6.65	73.93	3.43	21.18	1.91
Social & Occupational Impact	6 (18)	8.69	48.26	4.00	6.65	36.93	3.39	11.33	2.04
Total Score	25 (75)	43.12			33.19				9.93

The data presented in Table-3 outlines presents the domain-wise comparison of pre-test and post-test Alcohol Dependence Scale (ADS) scores among 150 alcohol-dependent individuals. In Alcohol Consumption Patterns, the mean score decreased from 8.64 (48.00%) to 6.37 (35.37%), with a mean difference of 2.27 and 12.63% reduction. Psychological Dependence decreased from 8.66 (48.11%) to 6.72 (37.33%), with a difference of 1.94 and 10.78% reduction. Withdrawal Symptoms decreased from 8.57 (71.44%) to 6.80 (56.67%), showing a difference of 1.77 and 14.77% reduction. Tolerance decreased from 8.56 (95.11%) to 6.65 (73.93%), with a difference of 1.91 and the highest reduction of 21.18%. Social & Occupational Impact decreased from 8.69 (48.26%) to 6.65 (36.93%), with a difference of 2.04 and 11.33% reduction. Overall, the total ADS mean score decreased from 43.12 to 33.19, with a mean difference of 9.93, indicating reduced alcohol dependence across all domains following the community-based nursing intervention. Thus, H_1 was accepted, demonstrating the effectiveness of the intervention.

SECTION – III: DISTRIBUTION OF ALCOHOL-DEPENDENT INDIVIDUALS BASED ON QUALITY OF LIFE (WHOQOL-BREF):

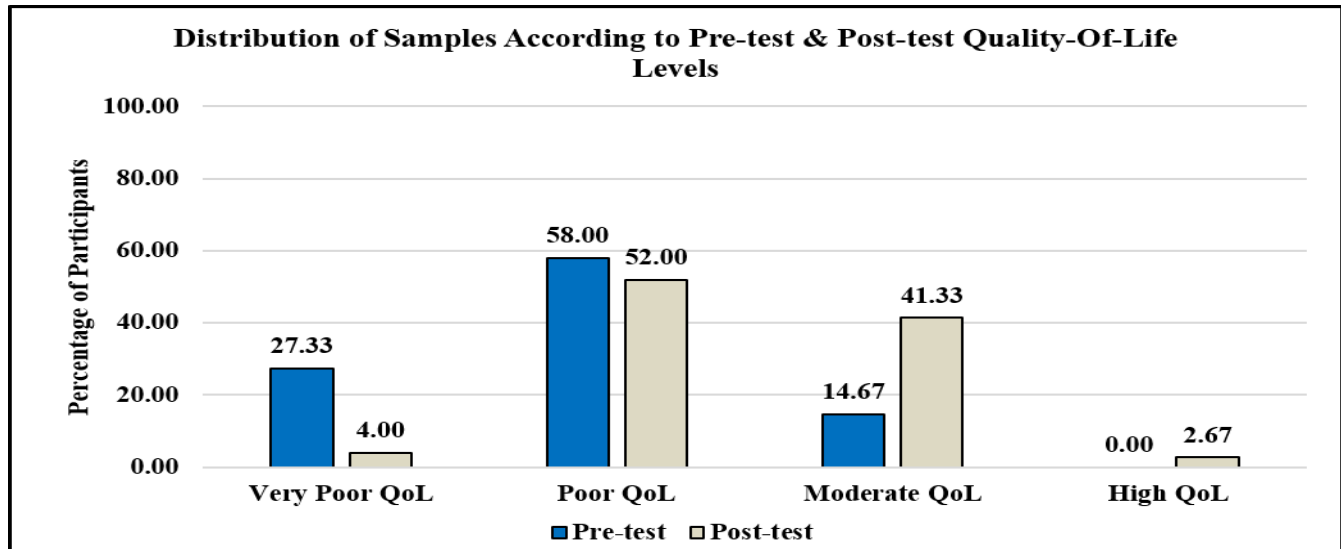
This section presents the distribution of 150 alcohol-dependent individuals according to their quality of life assessed using the WHOQOL-BREF, covering four domains: physical health, psychological health, social relationships, and environment, along with two general items on overall quality of life and health.

Part A: Frequency Distribution of Alcohol-Dependent Individuals According to Quality-Of-Life Levels (Overall Score):

This part presents the distribution of alcohol-dependent individuals according to their overall quality of life (QoL) assessed using the WHOQOL-BREF. QoL was categorized as Very Poor (<25), Poor (25–49), Moderate (50–74), and High (75–100) to compare participants' QoL before and after the community-based nursing intervention.

Table-4: Frequency and percentage distribution of alcohol-dependent individuals by Alcohol Dependence Levels**N = 150**

Quality-Of-Life Levels	Sore	Pre-test		Post-test	
		Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Very Poor QoL	<25	41	27.33	6	4.00
Poor QoL	25–49	87	58.00	78	52.00
Moderate QoL	50–74	22	14.67	62	41.33
High QoL	75–100	0	0.00	4	2.67
Total		150	100.00	150	100

**Figure-2: Distribution of samples according to pre-test & post-test Quality-Of-Life Levels**

The data presented in Table-4 outlines the frequency and percentage distribution of 150 alcohol-dependent individuals according to overall quality of life. In the pre-test, 41 (27.33%) had very poor QoL, 87 (58.00%) had poor QoL, 22 (14.67%) had moderate QoL, and none (0%) had high QoL. In the post-test, very poor QoL decreased to 6 (4.00%), poor QoL was 78 (52.00%), moderate QoL increased to 62 (41.33%), and 4 (2.67%) achieved high QoL. Overall, the findings show a positive shift from very poor and poor QoL towards moderate and high QoL following the community-based nursing intervention, indicating improvement in participants' quality of life.

Part B: Domain-Wise Pre-Test and Post-Test Mean Scores Of WHOQOL-BREF (Physical, Psychological, Social, Environment):

This part presents the comparison of pre-test and post-test quality-of-life scores across four WHOQOL-BREF domains: Physical Health (7 items), Psychological Health (6 items), Social Relationships (3 items), and Environment (8 items). The 24 domain items were compared to assess the effectiveness of the community-based nursing intervention in improving quality of life among alcohol-dependent individuals.

Table-5: Domain wise Mean, Mean Percentage, Percentage reduction, Mean Difference, Standard Deviation (SD) of Pre-Test and Post-Test Quality-Of-Life Scores of Samples

Quality-Of-Life Domains	Number of Items	Pre-Test Quality-Of-Life Score of Sample			Post-Test Quality-Of-Life Score of Sample			Mean Percentage Gain (%)	Mean Difference
		Mean Score	Mean Percentage	S. D.	Mean Score	Mean Percentage	S. D.		
Physical Health	7	24.1	24.10	11.2	37.8	37.80	18.1	57.10	13.7
Psychological Health	6	26.8	26.80	11	41.9	41.90	17.7	55.90	15.0
Social Relationships	3	24.8	24.80	12.2	38.7	38.70	19.4	56.00	13.9
Environment	8	25.8	25.80	11.6	40.4	40.40	18.3	56.30	14.6
Total Score	24	103.7			161.9				58.1

The data presented in Table-5 outlines presents the pre-test and post-test WHOQOL-BREF mean scores among 150 alcohol-dependent individuals. Physical Health increased from 24.1 (24.10%) to 37.8 (37.80%), with a mean gain of 57.10% and difference of 13.7. Psychological Health increased from 26.8 (26.80%) to 41.9 (41.90%), with a gain of 55.90% and difference of 15.0. Social Relationships improved from 24.8 (24.80%) to 38.7 (38.70%), with a gain of 56.00% and difference of 13.9. Environment increased from 25.8 (25.80%) to 40.4 (40.40%), with a gain of 56.30% and difference of 14.6. Overall, the total QoL score increased from 103.7 to 161.9, with a mean gain of 58.1, demonstrating improvement across all four domains following the community-based nursing intervention. Thus, H_1 was accepted, indicating that the intervention was effective in improving quality of life.

Table-6: Mean, Mean Percentage, Percentage reduction, Mean Difference, Standard Deviation (SD) of Pre-Test and Post-Test General Questions Scores of Samples

Quality-Of-Life Domains	Number of Items (Max. Score)	Pre-Test Quality-Of-Life Score of Sample			Post-Test Quality-Of-Life Score of Sample			Mean Percentage Gain (%)	Mean Difference
		Mean Score	Mean Percentage	S. D.	Mean Score	Mean Percentage	S. D.		
Perception of QOL	1 (5)	2.20	44.0	0.8	3.10	61.3	1.0	39.4	0.9
Perception of Health	1 (5)	2.15	43.0	0.9	3.05	61.0	1.1	41.9	0.9
Total Score	2 (10)	4.35			6.15				1.8

This table-6 presents the general WHOQOL-BREF questions on perception of quality of life and health. Perception of QOL increased from 2.20 (44.0%) to 3.10 (61.3%), with a 39.4% gain and 0.9 mean difference. Perception of health increased from 2.15 (43.0%) to 3.05 (61.0%), with a 41.9% gain and 0.9 mean difference. Overall, the combined score increased from 4.35 to 6.15, with a mean difference of 1.8, indicating improved overall perception of quality of life and health following the community-based nursing intervention.

SECTION – IV: EVALUATION OF THE EFFECTIVENESS OF COMMUNITY-BASED NURSING INTERVENTION ON ALCOHOL DEPENDENCE AND QUALITY OF LIFE AMONG ALCOHOL-DEPENDENT INDIVIDUALS (COMPARISON OF PRE-TEST AND POST-TEST USING PAIRED T-TEST):

This section presents the evaluation of the effectiveness of the community-based nursing intervention on alcohol dependence and quality of life among 150 alcohol-dependent individuals using the paired 't' test.

Table-7: Effectiveness of community-based nursing intervention on alcohol dependence among alcohol-dependent individuals

N = 150

Test	Mean	Mean (%)	SD	Mean Difference	Mean Difference (%)	df	Paired 't' Test	Inference (P-Value = 0.05)
Pre-test	43.12	57.49	19.63	9.93	13.24	149	15.707	S (1.984)
Post test	33.19	44.25	15.35					

S = Significant

Table-7 presents the effectiveness of the intervention on alcohol dependence. The mean ADS score decreased from 43.12 (57.49%) in the pre-test to 33.19 (44.25%) in the post-test, with a mean difference of 9.93 (13.24%). The paired 't' value was 15.707 at df = 149, which was greater than the table value of 1.984 at 0.05 level, indicating a statistically significant reduction in alcohol dependence. Hence, H_1 was accepted, demonstrating the effectiveness of the intervention.

Table-8: Effectiveness of community-based nursing intervention on quality of life among alcohol-dependent individuals

Quality-Of-Life Domains	Pre-Test Quality-Of-Life Score of Sample		Post-Test Quality-Of-Life Score of Sample		Mean Difference	Paired t-test value	p-value
	Mean Score	S. D.	Mean Score	S. D.			
Physical Health	24.1	11.2	37.8	18.1	13.7	18.1	<0.001**
Psychological Health	26.8	11.0	41.9	17.7	15.0	15.9	<0.001**
Social Relationships	24.8	12.2	38.7	19.4	13.9	17.7	<0.001**
Environment	25.8	11.6	40.4	18.3	14.6	19.2	<0.001**
Total Score	103.7		161.9		58.1		

**Significant

Table-8 presents the effectiveness of the intervention on quality of life. The Physical Health mean score increased from 24.1 (SD 11.2) to 37.8 (SD 18.1), with a difference of 13.7 and $t = 18.1$; Psychological Health increased from 26.8 (SD 11.0) to 41.9 (SD 17.7), difference 15.0, $t = 15.9$; Social Relationships increased from 24.8 (SD 12.2) to 38.7 (SD 19.4), difference 13.9, $t = 17.7$; and Environment increased from 25.8 (SD 11.6) to 40.4 (SD 18.3), difference 14.6, $t = 19.2$. All domains showed $p < 0.001$, indicating statistically significant improvement. The total QoL score increased from 103.7 to 161.9, with a mean difference of 58.1. Thus, the intervention significantly improved quality of life across all four domains, and H_1 was accepted.

SECTION – V: CORRELATION BETWEEN ALCOHOL DEPENDENCE (ADS) SCORES AND QUALITY OF LIFE (WHOQOL-BREF) SCORES IN PRE-TEST AND POST-TEST:

This section presents the relationship between alcohol dependence and quality of life (QoL) among alcohol-dependent individuals before and after the community-based nursing intervention. Pearson's correlation coefficient (r) was used to assess the relationship between ADS and WHOQOL-BREF scores. A negative correlation indicates that higher alcohol dependence is associated with lower quality of life, while reduced dependence is associated with improved quality of life.

Table-9: Correlation between alcohol dependence (ADS) scores and quality of life (WHOQOL-BREF) scores in pre-test and post-test

Correlation Type	N	Calculated Pearson r	Tabulated r value	p-value	Strength
Pre-test (ADS vs QOL)	150	-0.934***	0.8723	<0.001	Strong negative
Post-test (ADS vs QOL)	150	-0.8871**	0.7869	<0.001	Strong negative

*** Significant

Table-9 presents the correlation between alcohol dependence and quality of life among 150 alcohol-dependent individuals. In the pre-test, a strong negative correlation was observed ($r = -0.934$, $p < 0.001$), indicating that higher alcohol dependence was associated with poorer quality of life. In the post-test, the correlation remained strongly negative and significant ($r = -0.8871$, $p < 0.001$), although slightly weaker than in the pre-test. Overall, both phases demonstrated a consistent inverse relationship between alcohol dependence and quality of life, indicating that lower alcohol dependence was associated with better quality of life. Thus, H_2 was accepted.

SECTION – VI: ASSOCIATION BETWEEN THE PRE-TEST LEVELS OF ALCOHOL DEPENDENCE AND QUALITY OF LIFE WITH SELECTED DEMOGRAPHIC VARIABLES OF ALCOHOL-DEPENDENT INDIVIDUALS:

This section presents the association between pre-test alcohol dependence and quality of life and selected demographic variables among alcohol-dependent individuals. The Chi-square (χ^2) test at the 0.05 level of significance was used to determine whether age, gender, socioeconomic status, educational status, marital status, occupation, and duration of alcohol use were significantly associated with pre-test alcohol dependence and quality of life.

Part A: Association Between the Pre-Test Levels of Alcohol Dependence with Selected Demographic Variables of Alcohol-Dependent Individuals:

This part examines the association between pre-test alcohol dependence, measured using the Alcohol Dependence Scale (ADS), and selected demographic variables. It identifies demographic factors significantly associated with the level of alcohol dependence, providing a basis for understanding vulnerable groups and planning appropriate community-based interventions.

Table-10: Association between Pre-test Level of Alcohol Dependence with Selected Demographic Variables

S. N.	Demographic Variable	df	Tabulated value (0.05 level)	Calculated Chi-square (χ^2)	Inference
1	Age group	12	21.026	26.494	S
2	Gender	12	21.026	41.455	S
3	Socioeconomic Status	12	21.026	41.344	S
4	Educational Status	12	21.026	38.484	S
5	Marital Status	12	21.026	47.026	S
6	Occupational Status	12	21.026	42.851	S
7	Duration of Alcohol Use	12	21.026	20.456	NS

S = Significant; NS = Not Significant

Tbale-10 findings indicate that pre-test alcohol dependence was significantly associated with age ($\chi^2 = 26.494$), gender ($\chi^2 = 41.455$), socioeconomic status ($\chi^2 = 41.344$), educational status ($\chi^2 = 38.484$), marital status ($\chi^2 = 47.026$), and occupational status ($\chi^2 = 42.851$), as all calculated χ^2 values were greater than the tabulated value of 21.026 at $df = 12$ and 0.05 level. In contrast, duration of alcohol use ($\chi^2 = 20.456$) was not significantly associated with alcohol dependence because the calculated value was lower than 21.026. Thus, H_3 was accepted.

Part B: Association Between the Pre-Test Levels of Quality of Life with Selected Demographic Variables of Alcohol-Dependent Individuals:

This part examines the association between pre-test quality of life, measured using the WHOQOL-BREF, and selected demographic variables. The analysis determines whether age, gender, socioeconomic status, educational status, marital status, occupation, and duration of alcohol use are significantly associated with quality of life before the intervention, providing insights for individualized community-based nursing care.

Table-11: Association between Pre-test Level of Quality of Life with Selected Demographic Variables

S. N.	Demographic Variable	df	Tabulated value (0.05 level)	Calculated Chi-square (χ^2)	Inference
1	Age group	6	12.592	34.693	S
2	Gender	6	12.592	18.507	S
3	Socioeconomic Status	6	12.592	22.044	S
4	Educational Status	6	12.592	17.921	S
5	Marital Status	6	12.592	14.059	S
6	Occupational Status	6	12.592	15.842	S
7	Duration of Alcohol Use	6	12.592	11.732	NS

S = Significant; NS = Not Significant

Tbale-11 showed that pre-test quality of life was significantly associated with age ($\chi^2 = 34.693$), gender ($\chi^2 = 18.507$), socioeconomic status ($\chi^2 = 22.044$), educational status ($\chi^2 = 17.921$), marital status ($\chi^2 = 14.059$), and occupational status ($\chi^2 = 15.842$), as all calculated χ^2 values were greater than the tabulated value of 12.592 at $df = 6$ and 0.05 level. In contrast, duration of alcohol use ($\chi^2 = 11.732$) was not significantly associated with quality of life because the calculated value was lower than 12.592. Thus, H_3 was accepted.

IV. DISCUSSION

The present study was conducted to evaluate the effectiveness of a community-based nursing intervention regarding alcohol dependence and quality of life among 150 alcohol-dependent individuals in selected rural areas of Udaipur. The study assessed alcohol dependence using the Alcohol Dependence Scale (ADS) and quality of life using the WHOQOL-BREF questionnaire. The study objectives focused on assessing pre-test and post-test levels of alcohol dependence and quality of life, determining the effectiveness of the community-based nursing intervention, examining the correlation between alcohol dependence and quality of life, and identifying associations between these variables and selected demographic characteristics. The conceptual framework was based on General Systems Theory by Ludwig von Bertalanffy, which viewed the individual as an open system influenced by interactions with family, community, and environment. In the present study, the independent variable was the community-based nursing intervention, while the dependent variables were alcohol dependence and quality of life.

The demographic findings showed that the majority of participants were aged 26–35 years, 54 (36.00%), followed by 36–45 years 48 (32.00%) and 18–25 years 26 (17.30%), while 22 (14.70%) were aged 46 years and above. Most participants were male, 114 (76.00%), while 36 (24.00%) were female. Regarding socioeconomic status, 69 (46.00%) belonged to the low category, 59 (39.30%) to the middle category, 18 (12.00%) to the high category, and 4 (2.70%) to the very high category. Educationally, 49 (32.70%) had primary education, 41 (27.30%) secondary education, 37 (24.70%) had no formal education, and 23 (15.30%) were graduates or above. Most participants were married, 92 (61.30%), followed by single 34 (22.70%), divorced/separated 19 (12.70%), and widowed 5 (3.30%). Regarding occupation, 62 (41.30%)

were self-employed, 46 (30.70%) unemployed, 39 (26.00%) employed in private jobs, and 3 (2.00%) in government jobs. With respect to duration of alcohol use, 52 (34.70%) had used alcohol for 6–10 years, 45 (30.00%) for 1–5 years, 36 (24.00%) for more than 10 years, and 17 (11.30%) for less than one year.

The findings regarding alcohol dependence showed a positive shift following the community-based nursing intervention. In the pre-test, 15 (10.00%) participants had minimal dependence, 32 (21.33%) had mild dependence, 22 (14.67%) had moderate dependence, 45 (30.00%) had severe dependence, and 36 (24.00%) had very severe dependence. In the post-test, minimal dependence increased to 27 (18.00%), mild dependence was 31 (20.67%), moderate dependence increased to 58 (38.66%), while severe dependence decreased to 31 (20.67%) and very severe dependence decreased markedly to 3 (2.00%). This shift indicates an overall reduction in the severity of alcohol dependence after the intervention.

The domain-wise ADS findings further demonstrated improvement across all five domains. The mean score for Alcohol Consumption Patterns decreased from 8.64 (48.00%) to 6.37 (35.37%), with a mean difference of 2.27 and 12.63% reduction. Psychological Dependence decreased from 8.66 (48.11%) to 6.72 (37.33%), with a difference of 1.94 and 10.78% reduction. Withdrawal Symptoms decreased from 8.57 (71.44%) to 6.80 (56.67%), with a difference of 1.77 and 14.77% reduction. The greatest percentage reduction was observed in Tolerance, which decreased from 8.56 (95.11%) to 6.65 (73.93%), with a difference of 1.91 and 21.18% reduction. Social and Occupational Impact decreased from 8.69 (48.26%) to 6.65 (36.93%), with a difference of 2.04 and 11.33% reduction. Overall, the total ADS mean score decreased from 43.12 to 33.19, with a mean difference of 9.93, demonstrating improvement in alcohol dependence following the intervention.

The findings related to quality of life also demonstrated a favourable improvement. In the pre-test, 41 (27.33%) participants had very poor QoL, 87 (58.00%) had poor QoL, and 22 (14.67%) had moderate QoL, while none had high QoL. Following the intervention, very poor QoL decreased to 6 (4.00%), poor QoL was 78 (52.00%), moderate QoL increased to 62 (41.33%), and 4 (2.67%) participants achieved high QoL. Thus, the distribution showed a clear shift from very poor and poor QoL towards moderate and high QoL.

The domain-wise WHOQOL-BREF findings showed improvement in all four domains. Physical Health increased from 24.1 (24.10%) to 37.8 (37.80%), with a mean difference of 13.7 and 57.10% gain. Psychological Health increased from 26.8 (26.80%) to 41.9 (41.90%), with a difference of 15.0 and 55.90% gain. Social Relationships increased from 24.8 (24.80%) to 38.7 (38.70%), with a difference of 13.9 and 56.00% gain. Environment increased from 25.8 (25.80%) to 40.4 (40.40%), with a difference of 14.6 and 56.30% gain. The overall QoL score increased from 103.7 to 161.9, with a mean gain of 58.1, indicating substantial improvement in quality of life after the intervention.

The general WHOQOL-BREF findings also supported improvement in participants' perceptions. The mean score for perception of quality of life increased from 2.20 (44.0%) to 3.10 (61.3%), with a mean difference of 0.9 and 39.4% gain. Similarly, perception of health increased from 2.15 (43.0%) to 3.05 (61.0%), with a mean difference of 0.9 and 41.9% gain. The combined score increased from 4.35 to 6.15, with a mean difference of 1.8, indicating improvement in participants' overall perception of their quality of life and health.

The effectiveness of the community-based nursing intervention was further established through the paired 't' test. For alcohol dependence, the total ADS mean score decreased from 43.12 (57.49%) in the pre-test to 33.19 (44.25%) in the post-test, with a mean difference of 9.93 (13.24%). The calculated paired 't' value was 15.707 with $df = 149$, which was greater than the tabulated value of 1.984, indicating a statistically significant reduction in alcohol dependence. For quality of life, significant improvements were observed in all four domains: Physical Health ($t = 18.1$), Psychological Health ($t = 15.9$), Social Relationships ($t = 17.7$), and Environment ($t = 19.2$), with $p < 0.001$ for all domains. These findings demonstrate that the community-based nursing intervention was effective in reducing alcohol dependence and improving quality of life. Therefore, H_1 was accepted.

The study also examined the relationship between alcohol dependence and quality of life using Pearson's correlation coefficient. A strong negative correlation was found in the pre-test ($r = -0.934$, $p < 0.001$), indicating that higher alcohol dependence was associated with poorer quality of life. In the post-test, a strong negative correlation remained ($r = -0.8871$, $p < 0.001$). Although the strength of the correlation was

slightly lower after the intervention, the inverse relationship remained statistically significant. These findings demonstrate a consistent negative association between alcohol dependence and quality of life. Therefore, H_2 was accepted.

The association between pre-test alcohol dependence and selected demographic variables was assessed using the Chi-square test. Significant associations were found with age ($\chi^2 = 26.494$), gender ($\chi^2 = 41.455$), socioeconomic status ($\chi^2 = 41.344$), educational status ($\chi^2 = 38.484$), marital status ($\chi^2 = 47.026$), and occupational status ($\chi^2 = 42.851$), as these values exceeded the tabulated value of 21.026 at $df = 12$ and 0.05 level. However, duration of alcohol use ($\chi^2 = 20.456$) was not significantly associated with pre-test alcohol dependence.

Similarly, pre-test quality of life showed significant associations with age ($\chi^2 = 34.693$), gender ($\chi^2 = 18.507$), socioeconomic status ($\chi^2 = 22.044$), educational status ($\chi^2 = 17.921$), marital status ($\chi^2 = 14.059$), and occupational status ($\chi^2 = 15.842$), as these values exceeded the tabulated value of 12.592 at $df = 6$ and 0.05 level. In contrast, duration of alcohol use ($\chi^2 = 11.732$) was not significantly associated with pre-test quality of life. Thus, the findings supported H_3 .

Overall, the findings demonstrate that the community-based nursing intervention was effective in reducing alcohol dependence and improving quality of life among alcohol-dependent individuals. Improvements were observed across all ADS domains and all four WHOQOL-BREF domains, together with improved general perceptions of quality of life and health. The strong inverse relationship between alcohol dependence and quality of life further highlights the importance of addressing alcohol dependence as part of holistic community-based nursing care. The study findings support the use of structured community-based nursing interventions incorporating education, counselling, motivation, coping strategies, lifestyle modification, relapse prevention, and family/community support to promote better outcomes among alcohol-dependent individuals.

V. CONCLUSION

In conclusion, the community-based nursing intervention was effective in reducing alcohol dependence and improving quality of life among alcohol-dependent individuals. The findings demonstrated improvement across all domains of alcohol dependence and quality of life, supporting the importance of community-based nursing interventions in promoting holistic well-being among alcohol-dependent individuals.

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