



Original Article

The effect of individualised nursing interventions based on Roy Adaptation Model on recovery in individuals with Alcohol Use Disorder: An experimental and follow-up study

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Abstract

Objectives: Nursing interventions play an important role in preventing relapse in individuals with Alcohol Use Disorder and improving their quality of life to facilitate recovery. This study aimed to determine the effect of individualized nursing interventions based on the Roy Adaptation Model, a nursing model, on recovery in individuals with Alcohol Use Disorder.

Methods: This was an experimental study with a pretest–posttest, follow-up, and a control group. Seventy individuals who met the inclusion criteria were recruited, and 64 individuals (31 experimental, 33 control) were included in the analysis process. The data were collected using an introductory information form, the Recovery Assessment Scale (RAS), the Turkish version of the World Health Organization Quality of Life Short Form (WHOQOL-BREF-TR), and the Penn Alcohol Craving Scale (PACS). The experimental group received individualized care, and interventions were implemented in accordance with the Roy Adaptation Model. For the comparison of data, the independent samples t-test was used for normally distributed measurements, and the Mann–Whitney U test was applied for non-normally distributed measurements.

Results: The average age of the experimental group was 44.48±8.4 years, while that of the control group was 44.9±8.2 years. The vast majority of the participants were male and employed. Following the interventions based on the Roy Adaptation Model, the experimental group's RAS and WHOQOL-BREF (TR) mean scores were statistically significantly higher than those of the control group, while the PACS scores were statistically significantly lower in the experimental group ($p<0.05$).

Conclusion: It was concluded that nursing interventions based on the Roy Adaptation Model reduced individuals' levels of craving and increased their quality of life and recovery scores.

Keywords: Alcohol use disorder; craving; nursing interventions; quality of life; recovery; roy adaptation model

Alcohol Use Disorder is a public health problem that progresses through phases in which individuals continue to consume alcohol despite its physical, mental, and social harms. It impairs individuals' mental and physical health as well as their social functionality.^[1–4] The prevalence of individuals diagnosed with Alcohol Use Disorder is increasing year by year, posing a problem both nationally and globally.^[5,6] For this

reason, the treatment of individuals with Alcohol Use Disorder is of critical importance.

Addiction treatment requires a multidisciplinary approach, and nurses are among the most important members of this team.^[7] It is important for nurses who care for and support patients to closely monitor the recovery and relapse processes when approaching individuals with Alcohol Use Disorder. For

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recovery in alcohol addiction, it is essential to prevent individuals in remission from restarting alcohol consumption.^[8,9]

Individuals with Alcohol Use Disorder are often ineffective in coping with many problems such as lack of social support systems, denial of addiction identity, withdrawal symptoms, sleep disturbances, and inability to fulfill their roles. As a result, they relapse and experience a reduction in quality of life.^[2,10–12] Studies indicate that individuals with substance use disorders experience negative effects on their physical, mental, social, and environmental health, leading to a decline in quality of life. This decline is also a significant cause of relapse for individuals with Alcohol Use Disorder.^[13]

Recovery means that individuals with Alcohol Use Disorder gain the ability to manage their disease effectively, live a meaningful life, demonstrate flexibility when experiencing craving symptoms, cope with challenges, and maintain positive attitudes toward the future.^[9,14,15]

The Substance Abuse and Mental Health Services Administration (SAMHSA) has emphasized the concept of “hope” in facilitating recovery. It highlights that individuals with substance use disorders face many challenges, and the belief that these challenges can be overcome forms the foundation of recovery. It has been reported that an individual's recovery involves accepting their addictive identity, undergoing changes in their strengths, abilities, coping skills, social support resources, and self-esteem, and that the recovery process is individualized.^[16]

Psychiatric nurses should make individualized interventions, support individuals' participation in premise social activities that enable them to socialize, ensure that they take responsibility to effectively fulfill their roles in life, help them acquire new life skills, and adapt the care to be provided according to their specific needs in order to recreate their self-efficacy so that individuals with Alcohol Use Disorder can effectively cope with their alcohol consumption.^[17,18]

In this context, the Roy Adaptation Model is a nursing model that is considered to be effective for individuals with Alcohol Use Disorder. Roy stated that people are always interacting with their environment and encountering many stimuli. These stimuli are classified as focal stimuli, influencing stimuli, and contextual stimuli, and are coped with using four modes of adaptation (self-area, role function area, mutual dependence area, physiological area).^[19–21]

Individuals who have low self-esteem and experience negative moods, anxiety, and internalized stigmatization cannot cope in the self-area and, as a result, tend to drink alcohol.^[4,22,23] In the mutual dependence area, they experience problems such as intrafamilial conflicts, conflicts in the workplace, inner conflicts, lack of social support, and lack of family support.^[10] In the role performance area, these individuals struggle with their identity as addicts, fail to ful-

What is presently known on this subject?

- Nursing interventions play an important role in preventing relapse and improving the quality of life for individuals with Alcohol Use Disorder. The Roy Adaptation Model is used to promote recovery in individuals with chronic physical illnesses. Nursing interventions based on the Roy Adaptation Model have not been studied in individuals with Alcohol Use Disorder, and this conceptual framework will contribute to the literature.

What does this article add to the existing knowledge?

- This study shows that nursing interventions based on the Roy Adaptation Model increase the quality of life and recovery of patients with Alcohol Use Disorder and reduce their craving levels.

What are the implications for practice?

- This conceptual framework, created using the Roy Adaptation Model to facilitate recovery in individuals with Alcohol Use Disorder, has made it easier to identify the focal stimuli that cause individuals to relapse and crave, and to take systematic action in line with these stimuli.

fill their roles, delay responsibilities, and are unable to take accountability. In the physiological area, they lose control upon encountering alcohol, which leads to symptoms of craving; they attempt to cope with symptoms such as sleep problems, pain, and fatigue.

According to Roy, nursing involves helping individuals cope effectively within their areas of adaptation (self-area, role function area, mutual dependence area, physiological area). Nurses should first manage the focal stimuli, and if that is not possible, they should intervene in the influencing stimuli.^[20,21] Therefore, psychiatric nurses should identify the focal stimuli that lead individuals to consume alcohol and guide them on their recovery journey by helping them cope effectively within the four adaptation areas.

In this context, a new conceptual and experimental framework has been adapted based on Roy's Adaptation Model to facilitate the implementation of nursing interventions aimed at supporting recovery in individuals with Alcohol Use Disorder. A review of the literature revealed no prior studies conducted with individuals with Alcohol Use Disorder using the Roy Adaptation Model. Therefore, this study was conducted to determine the effect of a nursing approach based on the Roy Adaptation Model on the recovery of individuals with Alcohol Use Disorder.

Research Hypotheses

H1: The mean recovery scores of the experimental group are higher than those of the control group after nursing interventions based on the Roy Adaptation Model.

H2: The mean quality of life scores of the experimental group are higher than those of the control group after nursing interventions based on the Roy Adaptation Model.

H3: The mean craving scores (post-test, 1-month, and 3-month follow-ups) of the experimental group are lower than those of the control group after nursing interventions based on the Roy Adaptation Model.

Materials and Method

Study Type and Design

This was an experimental follow-up study with pretest-posttest, follow-up, and a control group. The study has been registered in the Clinical Trials Registry (NCT06114316).

Place and Date

The study was conducted at an Alcohol and Substance Abuse Treatment Centre at a university hospital between June 2018 and July 2019 with individuals diagnosed with Alcohol Use Disorder who were undergoing inpatient treatment.

Dependent and Independent Variables of the Study

Dependent Variables

- Mean total scores on the Recovery Assessment Scale.
- Mean total scores on the Turkish Version of the World Health Organization Quality of Life Short Form.
- Mean total scores on the Penn Alcohol Craving Scale.

Independent Variables

- Demographic characteristics of the study participants.
- Psychiatric nursing interventions based on the Roy Adaptation Model.

Population and Sample

The study population consisted of patients diagnosed with Alcohol Use Disorder who were receiving inpatient treatment at an Alcohol and Substance Abuse Treatment Centre at a university hospital (N=80). A power analysis was conducted, and the study sample was determined to include at least 48 participants (n=24 control group; n=24 experimental group) to detect a difference of 2.5 ± 3 between the groups in terms of the scale scores used in this study ($\alpha=0.05$; $1-\beta=0.80$).

The inclusion criteria were as follows: individuals between the ages of 30 and 60, diagnosed with Alcohol Use Disorder according to DSM-5 diagnostic criteria, without comorbid mental illness or alcohol psychosis, and able to understand the scales and forms and participate in individual interviews.

Eighty individuals with Alcohol Use Disorder were evaluated for eligibility. Individuals who used any substance in combination with alcohol (n=6), had alcohol psychosis, or had an additional mental illness (n=4) were excluded from the study. A total of 70 patients who met the inclusion criteria formed the study sample. To ensure homogeneity in terms of age and gender between the experimental and control groups, the participants were randomly divided into an experimental group (n=35) and a control group (n=35).

To prevent interaction between groups in the clinical setting, the control group received routine care first, followed by the

experimental group who received the intervention. Four male participants in the experimental group (not included in the intervention) and two male participants in the control group (discharged) were excluded due to non-compliance. Ultimately, the study included 31 participants in the experimental group and 33 in the control group (Fig. 1).

Data Collection Tools

The data were collected using an introductory information form, the Recovery Assessment Scale (RAS), the Turkish Version of the World Health Organization Quality of Life Short Form Scale (WHOQOL-BREF-TR), and the Penn Alcohol Craving Scale (PACS).

Introductory Information Form

This form was prepared by the researcher and included nine questions on the patients' sociodemographic characteristics and ten questions on their disease.

Recovery Assessment Scale (RAS)

The RAS was developed by Corrigan et al.^[24] and tested for validity and reliability in Turkish by Güler and Gürkan.^[24–26] The scale consists of 24 items and is a 5-point Likert scale. It includes five subscales: "self-confidence and hope", "seeking help behaviour", "orientation to objectives and success", "trust in the environment", and "coping with the symptoms". The total score ranges from a minimum of 24 to a maximum of 120. Higher total scores indicate a higher level of recovery. The Cronbach's alpha coefficient of the Turkish version of the scale was 0.90; in the present study, it was found to be 0.93 in both the experimental and control groups.

Turkish Version of the World Health Organization Quality of Life Short Form (WHOQOL-BREF-TR)

This health-related quality of life scale was developed by the World Health Organization and tested for validity and reliability in Turkish by Eser et al.^[27] The scale consists of 27 items and is a 5-point Likert scale. It has four subscales: social, physical, environmental, and spiritual. No total score is calculated; each domain is assessed separately, with scores ranging from 4 to 20. Higher scores indicate a better quality of life. The Cronbach's alpha coefficient of the original version's subscales ranges from 0.73 to 0.84. In this study, the Cronbach's alpha coefficients of the subscales ranged from 0.79 to 0.86.

Penn Alcohol Craving Scale (PACS)

The scale was developed by Flannery et al.^[28] and adapted into Turkish by Evren et al.^[29] It consists of 5 items and is a 6-point Likert scale. Each item is scored from 0 to 6, with the total craving score ranging from 0 to 30. The Cronbach's alpha coefficient of the original version was 0.94. In this study, the Cronbach's alpha coefficient was found to be 0.92.

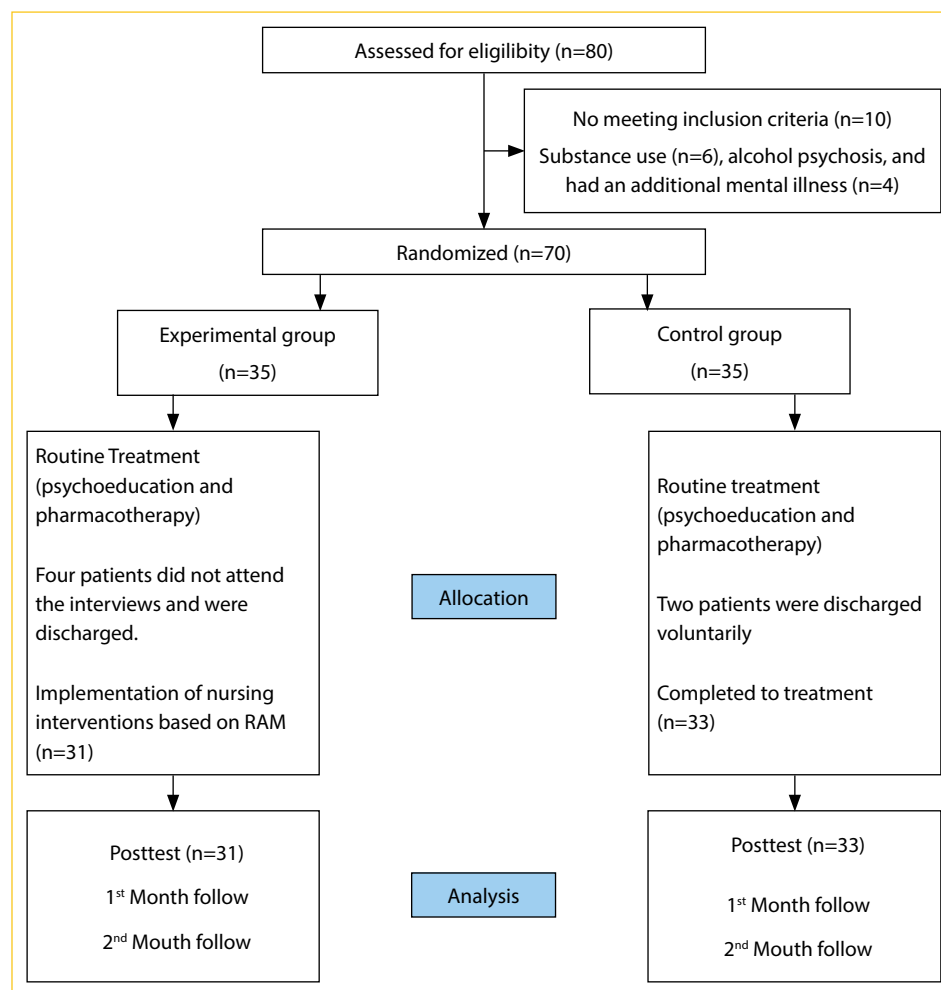


Figure 1. The flow diagrams of the study.

Process

In the first step, the stimuli that led the participants in the experimental group to drink alcohol were assessed, and the conceptual-theoretical-experimental (CTE) framework of the study was created (Fig. 2). In addition to routine treatment, the experimental group evaluated behaviours (self-area, role function area, mutual dependence area, physiological area) that may be related to relapse and triggers that cause relapse, set shared objectives, and implemented nursing interventions aimed at achieving the identified objectives.

The interventions planned for diagnosing ineffective coping were selected according to the patients' needs from among the "support coping" interventions under the behavioural domain in the Nursing Intervention Classification (NIC). A total of 10 individual interviews were conducted twice a week, each lasting approximately 45 to 60 minutes. The interviews were held in the interview room of the Alcohol and Substance Abuse Treatment Centre.

The assessments were evaluated by determining the area-specific Nursing Outcomes Classification (NOC), includ-

ing self-esteem, social support, emotional state management, and role performance. The World Health Organization Quality of Life Scale and the Recovery Assessment Scale were used for domain-specific evaluations of the four domains of the Roy Adaptation Model.

Table 1 contains an interview plan detailing the sessions conducted with patients diagnosed with Alcohol Use Disorder, prepared by considering the core processes, maintenance phases, and foundational approaches of the Roy Adaptation Model. All interviews were conducted by the same researcher, who is certified as a therapist by the European Association for Behavioural and Cognitive Therapies (EABCT). After the interviews were completed and the participants were discharged, post-test measurements (RAS, WHOQOL-BREF-TR, PACS) were administered to the experimental group by the researcher.

The control group continued to receive routine treatment (pharmacotherapy and psychoeducation) and follow-up at the Alcohol and Substance Abuse Treatment Centre. No additional intervention was applied. The final test measurements (RAS, WHOQOL-BREF-TR, PACS) were administered to

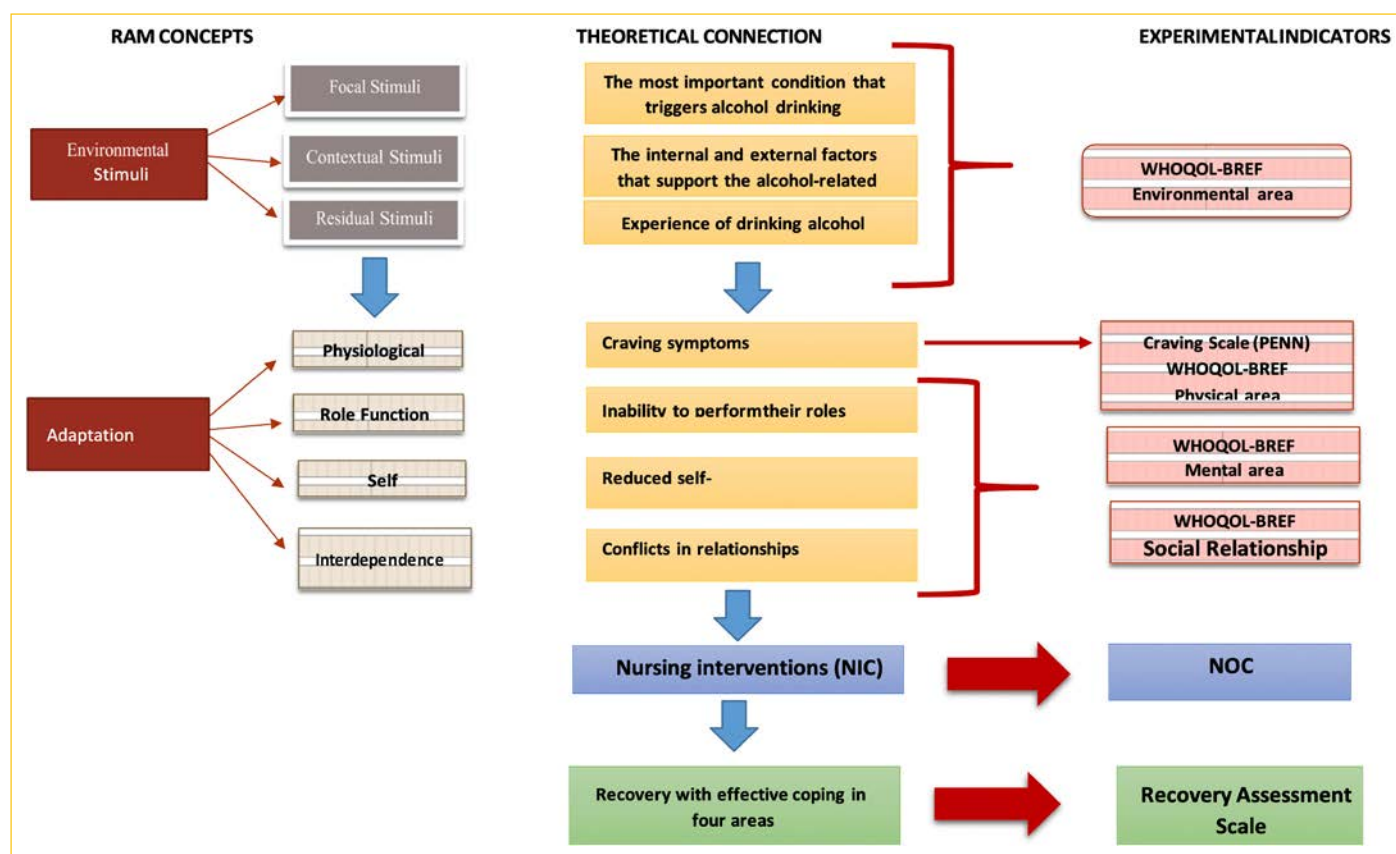


Figure 2. Theoretical and experimental structure of the study.

NOC: Nursing outcomes classification.

the control group by the researcher after discharge. Additionally, at the end of the study (after the data collection process was completed), the interventions administered to the experimental group were also offered to the control group in an accelerated format. These interventions were carried out during their follow-up visits.

After discharge, one and three months following the post-test administered to both groups, two follow-up interviews (at 1 and 3 months) were conducted to examine whether the changes observed in the craving levels of individuals in both groups were sustained. Follow-up appointments were scheduled by providing patients with appointment cards at discharge. These interviews were conducted at the outpatient clinic on the scheduled date and time, each lasting an average of 10 minutes.

The Penn Alcohol Craving Scale was used during the follow-up interviews to assess whether recovery was continuing. There is a strong relationship between recovery and craving in Alcohol Use Disorder. Craving is the intense desire to drink alcohol despite abstinence, and it is one of the greatest challenges in the recovery process. Studies have reported that the level of craving is an important predictor of relapse.^[30–32] Since determining the level of craving—considered the most critical

predictor of recovery—is essential, the Penn Alcohol Craving Scale was utilized during the follow-up interviews.

Ethical Responsibilities

In order to implement the study, ethical approval was obtained from a non-entrepreneurial ethics committee of a university on 19/01/2018 with the number 001. Institutional permission was obtained from the institution where the study was conducted, and verbal and written consent was obtained from individuals with Alcohol Use Disorder participating in the study in accordance with the Helsinki Declaration. In addition, permission to use the scales utilized in the study was obtained from their respective owners.

Statistical Analysis

The data obtained in the study were analyzed using the Statistical Package for Social Sciences for Windows 25.0 program. Descriptive statistical methods (numbers, percentages, means, and standard deviation) were used in data analysis. A homogeneity test was performed to determine the equivalence of the two groups. Quantitative data were compared using the independent-samples t-test for normally distributed measurements and the Mann–Whitney U test for non-normally distributed measurements.

Table 1. RAM-based interview plan

1 st interview	Providing information about the RAM program Starting the therapeutic relationship
Introduction and administration of the pretests	Obtaining the participants' consent Administering the pretests
2 nd Interview	Identifying the stimuli that caused participants to drink alcohol
Data collection according to the Roy Adaptation Model	Evaluating the coping behaviors against the stimuli according to the four ways of adaptation
3 rd and 4 th interviews	Setting goals with the participants according to the areas
Making interventions according to the physiological area	Patients' ability to recognize the craving symptoms Ensuring that the patients effectively coped with the craving symptoms
5 th , 6 th , and 7 th interviews	Interventions made to allow the patients to perform their daily life activities.
Making interventions according to the area of self	Interventions made evolution based on NOC s criteria called mood management.
8 th and 9 th interviews	Increasing the patients' hope of recovery Increasing the patients' self-esteem
Making interventions according to the role function area	Eliminating the patients' anxiety
10 th and 11 th interviews	Interventions made to balance the patients' moods Interventions made evolution based on NOC s criteria called self respect
Making interventions according to the Interdependence area	Interventions made to ensure that the patients accept their identity as an addict take responsibility perform their roles, and become stronger by making them effectively cope with the stimuli regarding this area
12 th interview	Interventions made evolution based on NOC s criteria called role performance
Assessment	Interventions made to ensure that the patients establish sufficient relationships to strengthen their social support networks, and to enable them to report improvement in their intrafamilial relationship
13 th and 14 th interviews follow-up	Interventions made evolution based on NOC s criteria called social support.
	Posttest measurements made
	The PENN Alcohol Craving Scale administered to see whether the status of coping changed or not

RAM: Roy adaptation model; NOC: Nursing outcomes classification.

Results

Sociodemographic Characteristics of Individuals with Alcohol Use Disorder

The mean age was 44.48 ± 8.4 years in the experimental group and 44.9 ± 8.2 years in the control group. Furthermore, 90.3% of the individuals in the experimental group and 90.9% in the control group were men. In both groups, the proportion of divorced individuals was high (41.9% in the experimental group and 36.3% in the control group). Most of the individuals were primary school graduates and employed. Both groups had previously received treatment (experimental group: 58.1%, control group: 72.7%). The groups were homogeneously distributed (Table 2).

Recovery Assessment Scale and Subscale Mean Scores: Pre-test and Post-test Measurements

Before the interventions, the mean score for the self-confidence and hope subdimension of the RAS was 17.90 ± 4.22 ; after the interventions, it was 39.12 ± 4.14 . The mean score for the orientation to objectives and success subscale was 12.64 ± 2.18 before the intervention and 22.51 ± 2.15 after the intervention. The mean score for the coping with symptoms subscale

was 4.16 ± 1.89 before the intervention and 12.64 ± 1.64 after the intervention. The mean score for the trust in the environment subscale was 10.54 ± 2.81 before the intervention and 16.70 ± 1.98 after the intervention. The mean score for the seeking help behaviour subscale was 4.06 ± 1.89 before the intervention and 13.06 ± 1.80 after the intervention. The total mean score of the RAS was 49.32 ± 10.08 before the interventions and 104.06 ± 9.33 after the interventions. The mean scores of the individuals in the experimental group were statistically significantly higher than those in the control group ($p < 0.05$) (Table 3).

WHOQOL-BREF-TR Subscale Mean Scores: Pre-test and Post-test Measurements

It was determined that the mean score of the experimental group in the physical domain subscale of WHOQOL-BREF-TR was 7.34 ± 1.45 before the interventions and 17.71 ± 1.84 after the interventions. The mean score of the psychological domain subscale was 7.40 ± 1.21 before and 17.61 ± 1.52 after the interventions. The mean score of the social relations subscale was 7.83 ± 2.62 before and 17.03 ± 2.38 after the interventions. The mean score of the environmental domain subscale was 10.54 ± 1.88 before and 16.90 ± 1.56 after the interventions. The subscale mean scores of the experimental group in WHOQOL-

Table 2. Comparison of the experimental and control groups' introductory characteristics

	Experimental		Control		X ² /p
	n	%	n	%	
Age					0.865/0.929
30–35	4	12.8	4	12.1	
Experimental group					44.48±8.4
36–41	9	29.0	7	21.2	
42–47	6	19.4	9	27.3	
Control group					44.9±8.2
48–53	6	19.4	7	21.2	
54–60	6	19.4	6	18.2	
Sex					0.006/0.936
Female	3	9.7	3	9.1	
Male	28	90.3	30	90.9	
Marital status					2.473/0.649
Married	11	35.5	9	27.3	
Single	5	16.1	7	21.2	
Widower	0	0	3	9.1	
Divorced	13	41.9	12	36.3	
Living separately	2	6.5	2	6.1	
Education level					0.055/0.997
Primary school	8	25.8	9	27.3	
Secondary school	8	25.8	8	24.2	
High school	8	25.8	9	27.3	
Faculty-graduate school	7	22.6	7	21.2	
Occupation					1.845/0.870
Civil servant	5	16.1	4	12.1	
Craftsman	3	9.7	2	6.1	
Worker	5	16.1	9	27.3	
Self-employed	4	12.9	5	15.1	
Retired	5	16.1	6	18.2	
Unemployed	9	29.1	7	21.2	
Socioeconomic status					0.724/0.696
Very low	4	12.9	6	18.2	
Low	6	19.4	8	24.2	
Moderate	21	67.7	19	57.6	
Place of residence					2.559/0.465
Metropolis	22	71.0	26	78.8	
Province	5	16.1	2	6.1	
District town	4	12.9	4	12.1	
Village	0	0.0	1	3.0	
Whom they lived with					0.930/0.818
Parents	9	29.0	8	24.3	
Spouse and children	12	38.7	11	33.3	
Alone	7	22.6	11	33.3	
Other (friends)	3	9.7	3	9.1	
Total	31	100	33	100.0	
Reason for using alcohol intensely					1.030/0.905
Circle of friends	12	38.7	10	30.3	
Avoiding problems	6	19.4	8	24.2	
Increasing self-confidence	5	16.1	7	21.2	
Avoiding negative feelings	5	16.1	6	18.2	
Other (legal incidents, death, mourning)	3	9.7	2	6.1	

Table 2. Cont.

Experimental	Control		X ² /p	
	n	%	n	%
Previous treatment attempts				1.523/0.217
Yes	18	58.1	24	72.7
No	13	41.9	9	27.3
Number of treatments				3.181/0.528
No treatment attempts	13	41.9	9	27.3
Once	6	19.4	11	33.3
Twice	4	12.9	6	18.2
Three times	5	16.1	3	9.1
Four times and more	3	9.7	4	12.1
Total	100	33	100	31

BREF-TR were statistically significantly higher than those of the control group ($p < 0.05$) (Table 3).

PENN Alcohol Craving Scale Mean Scores: Pre-test, Post-test, and Follow-up Measurements

The mean total PENN Alcohol Craving Scale score of the individuals in the experimental group was 26.32 ± 2.41 before the interventions, 4.54 ± 4.59 after the interventions, 9.16 ± 6.86 in the first follow-up interview, and 12.12 ± 8.84 in the second follow-up interview.

The mean PENN Alcohol Craving Scale scores of the individuals in the experimental group were statistically significantly lower than those of the control group ($p < 0.05$) (Table 4).

Discussion

In the present study, which was conducted to analyze the effect of individualized nursing interventions based on the Roy Adaptation Model on the recovery of individuals with Alcohol Use Disorder, most of the participants were male and beyond middle age; a majority of them were primary school graduates and lived in urban areas. The mean age and gender characteristics of the participants were similar to those reported in previous studies.^[1,33,34]

No significant differences were found in the scale and subscale score averages between the experimental and control groups before the interventions. Following the nursing interventions based on the Roy Adaptation Model, the mean scores of the Recovery Assessment Scale and its subscales, as well as the WHOQOL-BREF-TR subscales, increased in the experimental group. Additionally, the mean scores on the Penn Alcohol Craving Scale decreased.

Effect of RAM on Recovery

After the interventions carried out in the experimental group regarding the self-area of the Roy Adaptation Model (RAM),

the mean scores of the group on the *self-confidence and hope* and *orientation to objectives and success* subscales of the RAS were found to be significantly high. An important key to recovery for individuals with Alcohol Use Disorder is hope. Setting individual goals related to RAM's self-concept, enabling individuals to take responsibility for these goals, and helping them become aware of their success resulted in more than a twofold increase in individuals' *self-confidence and hope scores*. Many studies have shown that hope-based interventions are strongly related to improvements in individuals' goals.^[35–37] The concept of hope is associated with setting a goal for recovery and finding the personal strength to achieve that goal.^[38] SAMHSA has emphasized that hope is the most important concept in achieving recovery in individuals with substance use disorders.^[16] A study conducted on individuals diagnosed with substance use disorders who were on probation emphasized that hope-based psychoeducation led to a positive increase in patients' feelings about the future.^[39] Annand reported that increasing hope in individuals with substance use disorders affected their ability to view the future more optimistically, set goals, and seek help.^[40]

As seen in previous studies, the concepts of *hope* and *self-confidence* are also related to the *orientation to objectives and success* subscale. The present study also found the mean score of this subscale to be significantly higher in the experimental group compared to the control group.

In the present study, the *seeking help behaviour* of the experimental group was below average before the intervention, but it increased more than threefold (pretest: 4.06 ± 1.89 ; posttest: 13.06 ± 1.80) after the intervention. This difference may be attributed to the intervention strategies based on RAM's *mutual solidarity* (mutual dependence) area, in which the researcher addressed barriers that prevented individuals from forming new relationships, along with perceptions of social support and help-seeking behaviour.

Table 3. Distribution of the pretest and posttest mean scores of the experimental and control groups on the Recovery Assessment Scale and the WHOQOL_BREF and their subscales

	Experimental group $\bar{X} \pm SD$ min-max	Control $\bar{X} \pm SD$ min-max	Intergroup difference (t/Mann-Whitney U/p)
Mean scores on the Recovery Assessment Scale			
PRETEST			
Recovery Assessment Scale total	49.32 $\pm$ 10.08 (36.00–94.00)	47.63 $\pm$ 8.27 (31.00–65.00)	U=495.000 p=0.824
Self-confidence and hope	17.90 $\pm$ 4.22 (12.00–35.00)	17.15 $\pm$ 3.65 (10.00–25.00)	U=425.000 p=0.241
Seeking help	4.06 $\pm$ 1.89 (3.00–12.00)	4.27 $\pm$ 1.73 (3.00–9.00)	U=460.000 p=0.434
Orientation to objectives and success subscale	12.64 $\pm$ 2.18 (9.00–20.00)	13.03 $\pm$ 1.81 (8.00–19.00)	U=416.000 p=0.192
Trust in the environment	10.54 $\pm$ 2.81 (7.00–15.00)	10.57 $\pm$ 2.75 (4.00–16.00)	U=498.500 p=0.861
Coping with the symptoms	4.16 $\pm$ 1.89 (3.00–12.00)	3.60 $\pm$ 1.17 (3.00–6.00)	U=426.000 p=0.167
POSTTEST			
Recovery Assessment Scale total	104.06 $\pm$ 9.33 (78.00–120.00)	78.21 $\pm$ 12.14 (58.00–103.00)	t=9.504 p=0.000*
Self-confidence and hope	39.12 $\pm$ 4.14 (26.00–45.00)	28.6 $\pm$ 5.66 (20.00–41.00)	t=8.41 p=0.000*
Seeking help	13.06 $\pm$ 1.80 (8.00–15.00)	8.87 $\pm$ 2.28 (5.00–15.00)	t=8.089 p=0.000*
Orientation to objectives and success subscale	22.51 $\pm$ 2.15 (17.00–25.00)	18.42 $\pm$ 2.48 (13.00–25.00)	t=7.009 p=0.000*
Trust in the environment	16.70 $\pm$ 1.98 (13.00–20.00)	14.30 $\pm$ 2.66 (8.00–19.00)	t=4.077 p=0.000*
Coping with the symptoms	12.64 $\pm$ 1.64 (8.00–15.00)	7.96 $\pm$ 2.06 (3.00–13.00)	t=9.967 p=0.000*
WHOQOL_BREF			
PRETEST			
Physical area	7.34 $\pm$ 1.45 (4.57–13.71)	7.88 $\pm$ 1.35 (6.29–12.57)	t=-1.554 p=0.125
Mental area	7.40 $\pm$ 1.21 (5.33–12.00)	7.78 $\pm$ 1.44 (5.33–12.00)	t=-1.139 p=0.259
Social relationship area	7.83 $\pm$ 2.62 (4.00–12.00)	7.92 $\pm$ 2.31 (4.00–12.00)	t=-0.148 p=0.883
Environmental area	10.54 $\pm$ 1.88 (6.67–14.22)	10.15 $\pm$ 1.91 (5.78–15.56)	t=0.806 p=0.423
POSTTEST			
Physical area	17.71 $\pm$ 1.84 (12.00–20.00)	13.35 $\pm$ 2.16 (8.00–18.29)	t=8.677 p=0.000*
Mental area	17.61 $\pm$ 1.52 (16.00–20.00)	13.21 $\pm$ 1.88 (10.00–18.00)	t=10.257 p=0.000*
Social relationship area	17.03 $\pm$ 2.38 (12.00–20.00)	13.01 $\pm$ 3.46 (6.67–20.00)	t=5.381 p=0.000*
Environmental area	16.90 $\pm$ 1.56 (14.22–19.56)	13.55 $\pm$ 2.37 (9.33–18.67)	t=6.638 p=0.000*

*: p<0.05. SD: Standard deviation.

Table 4. Comparison of the experimental and control groups' mean scores on the Penn Alcohol Craving Scale and its subscales

Group	n	Pretest (1)	Posttest (2)	First follow-up (3)	Second follow-up (4)
Experimental	31	26.32±2.41	4.54±4.59	9.16±6.86	12.12±8.84
Control	33	25.45±1.75	11.03±5.90	21.30±7.51	26.30±7.28
t		1.664	-4.877	-6.754	-7.016
p		0.103	0.000*	0.000*	0.000*
Paired comparison					
1 > 2, 1 > 3, 1 > 4, 3 > 2, 4 > 2, and 4 > 3					
Group				58.338	0.000*
Time				137.380	0.000*
Group × time				27.220	0.000*

*: p<0.05.

In a study conducted with individuals with Alcohol Use Disorder, it was reported that those who sought help had higher recovery scores than those who did not.^[41] Other studies have found that help-seeking behaviour is closely related to *trust in the environment*.^[42,43] Therefore, initiatives to strengthen social support under RAM's *mutual solidarity* area were also effective in increasing the *trust in the environment* subscale scores.

Social support can help individuals remain healthy, access support, rebuild self-confidence, and integrate into social groups. Family support, in particular, is crucial for people recovering from substance use disorders, as the internal strength needed to overcome addiction is not easily attained.^[44] For a successful recovery, family support should be sustained not only during the treatment phase but also afterward, to help individuals prepare for the next stage of life.^[44] Support from family can provide individuals with the confidence they need to overcome substance use.^[45] Indeed, one of the key concepts in recovery is *environmental support* and *trust in the environment*. Studies conducted with individuals with substance use disorders have emphasized the importance of social support and reported that its presence plays a critical role in increasing recovery success in individuals with Alcohol Use Disorder.^[1,46–48]

In the present study, the mean score of the *coping with symptoms* subscale was significantly higher in the experimental group than in the control group. This difference could be explained by the focal stimuli-oriented interventions based on RAM's *physiological* area, which targeted stress and mood management and aimed to enhance individuals' ability to effectively cope with the stimuli that triggered alcohol consumption.

It is known that individuals with Alcohol Use Disorder often use alcohol as a coping mechanism for negative emotions.^[49–51] In this context, it can be considered that instead of using alcohol as a coping tool, they learned to manage their emotions—a more effective and healthier coping strategy.

The Effect of RAM on Quality of Life

After the interventions, the mean WHOQOL-BREF-TR Scale subscale scores of the experimental group were higher than those of the control group. The subscales of the WHOQOL-BREF-TR were consistent with RAM's four modes of adaptation. The assessment of RAM's *physiological* area corresponded to the mean scores of the WHOQOL-BREF-TR physical subscale in the experimental group. This result can be explained by the interventions related to coping with craving and withdrawal symptoms, improving sleep quality, and enhancing self-care—all components associated with RAM's physiological domain.

The assessment of RAM's self area corresponded to the mean scores of the WHOQOL-BREF-TR *psychological* subscale in the experimental group. The psychological subscale scores were found to be higher in the experimental group compared to the control group. In a study conducted with individuals with Alcohol Use Disorder, an improvement in psychological subscale scores of quality of life was observed three weeks after treatment.^[52] This improvement in the present study was achieved by helping individuals make sense of their lives, fostering hope by setting goals, strengthening their inner resources, and implementing interventions to enhance self-esteem—all within the self-area of RAM.

The increase in the mean scores of the WHOQOL-BREF-TR *social relationships* subscale was also greater in the experimental group than in the control group. Previous studies have shown that providing psychosocial support to individuals undergoing treatment improves their quality of life.^[53,54] Effective coping in this domain was facilitated through interventions aimed at increasing social support, emphasizing the importance of assertiveness (e.g., saying no), and enabling participants to build healthy relationships. The larger increase in this subscale among the experimental group may be attributed to the structured face-to-face interviews and the continuity of care through feedback in subsequent sessions.

Moreover, psychosocial support appears to have a positive effect on individuals' social relationships and overall quality of life. One study reported that strengthening social skills (e.g., setting healthy boundaries and developing effective communication) and coping strategies during treatment significantly enhanced individuals' quality of life.^[55] Social support plays a crucial role in the recovery process for individuals with substance use disorders and can also reduce their tendency to relapse.^[56,57] In this context, enhancing social support and communication skills emerges as an important strategy in addiction treatment.

In the experimental group, the mean score of the WHOQOL-BREF-TR *environmental* subscale was higher than that of the control group. This finding may be explained by the efforts to raise awareness regarding RAM's environmental stimuli—educating individuals on the importance of environmental safety and how to cope with environmental triggers (e.g., cafés/bars, liquor stores, or peer groups) that may remind them of alcohol. Identifying the focal stimuli that prompt drinking behaviour and developing coping mechanisms for these stimuli were effective strategies contributing to this outcome.

Effect of RAM on Cravings

After the interventions, the mean PENN Alcohol Craving Scale score was significantly lower in the experimental group than in the control group. Similarly, in a previous study, it was reported that interventions for individuals with Alcohol Use Disorder were effective in reducing mean craving scores.^[58] In the present study, it was observed that the intervention targeting the focal stimulus causing the individual to drink was effective. In the follow-up interviews, the PACS scores of the experimental group were slightly higher at the end of the first and third months compared to the posttest. Despite this slight increase in craving scores, it was considered that the participants managed to cope with their cravings due to the interventions. When the research findings were evaluated holistically, this conceptual, theoretical, and experimental framework based on the Roy Adaptation Model (RAM) facilitated the identification of the stimuli that cause individuals with Alcohol Use Disorder to relapse, and allowed for the implementation of nursing interventions specific to these stimuli. Moreover, it has provided hope for improvement in individuals with Alcohol Use Disorder.

Study Limitations

The findings can be generalized to individuals diagnosed with Alcohol Use Disorder who were hospitalized at the alcohol and substance abuse treatment clinic of a university hospital, as well as to groups with similar sociocultural characteristics. The fact that most participants in the study were male constitutes a limitation.

Conclusion

Following the interventions, there was an increase in the mean scores of recovery and quality of life among participants, while there was a decrease in their mean craving scores. This result suggests that the continuation of individualized interviews and the follow-up process plays an important role in the successful application of the RAM framework to individuals with Alcohol Use Disorder.

Additionally, the theoretical and conceptual framework created based on the Roy Adaptation Model in this study provides a systematic foundation for clinical nurses to implement interventions for individuals with Alcohol Use Disorder. It is recommended that this model also be applied to other types of addiction.

Ethics Committee Approval: The study was approved by the Izmir Katip Çelebi University Non-interventional Clinical Research Ethics Committee (no: 001, date: 19/01/2018).

Informed Consent: Written consent was obtained from individuals with Alcohol Use Disorder participating in the study.

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