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Nursing Interventions Applied to Alcohol Dependent Individuals: A Systematic Review

Alkol Bağımlısı Bireylere Uygulanan Hemşirelik Müdahaleleri: Sistematik Derleme

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Öz

Bu çalışma, alkol bağımlısı olan bireylere yönelik hemşireler tarafından yapılmış araştırmaları gözden geçirmek ve bu araştırmaların bireyler üzerindeki etkisini belirlemek amacıyla yapılmış bir sistematik derlemedir. Literatür taraması; 01 Temmuz 2013-30 Temmuz 2018 tarihleri arasında Türk Psikiyatri Dizini, ULAKBİM Tıp Veri Tabanı, Türk Medline Veri Tabanı, PubMed, EBSCO Host, Science Directveri tabanları kontrol edilerek yürütülmüştür ve ölçütlere uygun toplam 7 çalışma değerlendirmeye alınmıştır. Değerlendirmeye alınan çalışmalarda; alkol bağımlısı olan bireylere uygulanan müdahaleler; Kısa Bilişsel Davranışçı Terapi Müdahale Programı, Bilişsel Davranış Terapisi - Kendi Kendine Yardım Kitapçığı, Psikoeğitim Programı, Yang Stili T'ai Chi Uygulaması, Bilişsel Davranışsal Modele Dayalı Psikoeğitim ve Egzersiz Müdahale Programı, Tidal Modele Dayalı Psikiyatri Hemşireliği Yaklaşımı ve Elektroensefalografi Tabanlı Neurofeedback Eğitimi'dir. Yapılan bu uygulamaların alkol bağımlısı olan bireylerin ruh sağlığı üzerinde olumlu etkilerinin olduğu görülmektedir. Ülkemizde alkol bağımlısı olan bireylere yönelik hemşireler tarafından yapılan çalışmaların yetersiz olduğu ve bu alan ile ilgili randomize kontrollü çalışmaların yapılmasının ve uygulamaya aktarılmasının bireylerin yaşam kalitesinin arttırılması açısından önemli olduğu düşünülmektedir.
Anahtar sözcükler: Alkol bağımlılığı, hemşirelik, müdahale

Abstract

This study is a systematic review that is made in order to go over the research conducted by nurses involving individuals who are addicted to alcohol and to determine the effect on those individuals. The review of literature was conducted for studies published between July the 1st in 2013 and the July the 30th in 2018 in both English and Turkish databases. The study was conducted by checking the Turkish Psychiatry Index, Ulakbim Medicine Database, Turkish Medline Database, PubMed, EBSCO Host, Science Direct and a total of 7 studies were reviewed which are suitable for the criteria. In the studies evaluated, interventions applied to individuals who were alcohol addict, respectively are Brief Cognitive Behavioral Therapy Intervention Program, Cognitive Behavior Therapy - Self Help Booklet, psychoeducational programme, Yang Style T'ai Chi Practice, Psychoeducation and Cognitive-behavioral Model-based Psychoeducation and Exercise Intervention, Psychiatric Nursing Approach Based on the Tidal Model, Electroencephalography-based Neurofeedback Training. The research done by nurses for individuals who are addicted to alcohol are considered to be insufficient in our country. Thus, making randomized controlled studies related to this field and their implementations are very important in order to improve the life quality of those individuals.
Keywords: Alcohol dependence, nursing, intervention

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ALCOHOL dependence, a substance use disorder, is an uncontrolled, automatic and coercive psychiatric health problem characterized by high levels of unceasing alcohol use (Stephen 2005, Strobbe et al. 2013). Genetic, psychological, psychosocial and environmental factors could play a role in the development of alcohol dependence. Alcohol dependence is one of the leading causes of disability worldwide. Research suggests that 4% of all deaths and 4.6% of disability status are associated with alcohol abuse (Stephen 2005, Yeh et al. 2017). According to a report published by the World Health Organization, more than 3 million people lost their lives in 2016 due to alcohol dependence, more than three-quarters of these deaths were seen in men, and alcohol dependence causes more than 5% of global disease burden (WHO 2018).

Alcohol abuse can cause physical problems in individuals as well as mental problems. Some studies found that anxiety, depression, interpersonal adjustment problems, delirium, personality disorders, euphoria, phobia and anger were more common in alcohol-dependent individuals (Thapinta et al. 2014, Oh and Kim 2016, Thapinta et al. 2017).

Research on depression, one of the most common psychiatric problems in alcohol-dependent individuals, determined a relationship between alcohol use and depression and reported alcohol abuse as a risk factor for increased depressive symptoms (Read and Brown 2003, Kendzor et al. 2008, Thapinta et al. 2014, Thapinta et al., 2017). Junsirimongkol et al. (2013) reported that 68.8% of the patients had psychiatric comorbidity and 9.3% of them had major depressive episodes in their study on alcohol use disorder patients in Thailand (Junsirimongkol et al. 2013). In individuals with alcohol addiction, psychological problems such as depression and anxiety causes problems of compliance to treatment, increased frequency of recurrence and increased risk of suicide, negatively affecting individuals' quality of life (Thapinta et al. 2014).

Alcohol use in alcohol-dependent individuals could be prevented by providing them with psychopharmacological and psychosocial treatment throughout their lives. Psychosocial interventions administered to alcohol-dependent individuals include short interventions, social skills training, community reinforcement approach, behavioral marriage therapy and case management, motivational interview, exercise practices, and cognitive behavioral therapy. Psychosocial interventions administered to individuals both reduce the frequency of relapse and affect the physical and mental health of individuals positively. Psychosocial interventions help build a balanced lifestyle, reduce alcohol use and affect alcohol consumption avoidance behavior positively in alcohol-dependent individuals (Read and Brown 2003, Wölwer et al. 2011, Coates et al. 2018) because a balanced lifestyle could reduce negative effects of life and stress and minimize their desire to drink alcohol (Kendzor et al. 2008).

Like in other nursing areas, mental health and psychiatric nurses both meet the basic care needs of individuals and administer the necessary psychosocial and psychotherapeutic interventions for individuals in line with the training they have received (Varacolis 2002). Mental health and psychiatric nurses provide support to individuals and families and take an active role in mental health and support programs to protect the mental health of individuals and families (Canadian Nurses Association 2018). Mental health and psychiatric nurses play a vital role in evaluating the mental health needs of individuals and their families, establishing nursing diagnoses, planning the care, evaluating and maintaining the care, and conducting the interventions to protect and develop individuals' mental and emotional health (Townsend 2016, Savaşan and Çam 2017). Nurses can

improve the quality of care by performing evidence-based care practices and therefore, they can achieve positive changes in clinical practice by improving the outcomes of care (Shafiei et al. 2014). In this regard, evidence-based practices that involve mental health and psychiatric nursing practices could be important for protecting and improving the mental health of substance-dependent individuals and improving the quality of the care provided.

In light of these considerations, the aim of this systematic review study was to explore the research conducted by nurses with alcohol-dependent individuals and to determine the effects of the procedures performed in the reviewed studies on those individuals. In this regard, this study sought an answer to the following research question: "What research has been conducted by nurses with alcohol-dependent individuals and what are the effects of the reviewed studies on those individuals?"

Method

This review was based on the guidance produced by "the Centre for Reviews and Dissemination" (Centre for Reviews and Dissemination 2009) at the University of York National Institute for Health Research. In accordance with that guidance, relevant studies were identified retrospectively. The literature search was conducted for studies published between July 01, 2013 and July 30, 2018 in Turkish Psychiatry Directory, ULAKBIM Medical Database, Turkish Medline Database, PubMed, EBSCO Host and Science Direct databases, and a total of seven studies that met the inclusion criteria were reviewed. Various combinations with keywords were used in the searching process of this systematic review. The keywords used in searching are given in Table 1.

Table 1. Keywords used in searching

Alcohol dependence (alcohol abuse, alcohol addiction, alcohol dependence, alcoholism, alcohol use disorder)
Alcohol-dependent individual (alcohol-dependent individual, alcohol addict, alcohol abuser)
Nursing
Nursing practice
Nursing care
Alcohol dependence, nursing

The inclusion criteria for this systematic review were studies that were conducted by nurses on interventions for alcohol-dependent individuals, that were designed as experimental and quasi-experimental studies, that provided online access to full-text versions, that were original and quantitative, that were conducted in Turkey or in other countries, and that were published in a peer-reviewed national/international journal between July 1, 2013 and July 30 2018. The exclusion criteria, on the other hand, were studies that were not conducted by nurses on interventions for alcohol-dependent individuals and that were descriptive and qualitative studies, case reports, panel presentations, reviews, oral and poster papers presented in congresses, and unpublished theses. The initial screening resulted in a total of 2704 studies (PubMed: 635, Ovid: 85, Science Direct: 1786, ULAKBIM Medical Database: 112, Turkish Psychiatry Directory: 44, and Turkish Medline Database: 42). These 2704 studies were firstly examined based on their titles, and 2527 studies, which were not relevant to the research topic, were excluded from the review. The abstracts and full-texts of the remaining 177 studies were screened based on the inclusion and exclusion criteria, and seven studies were included in this review finally.

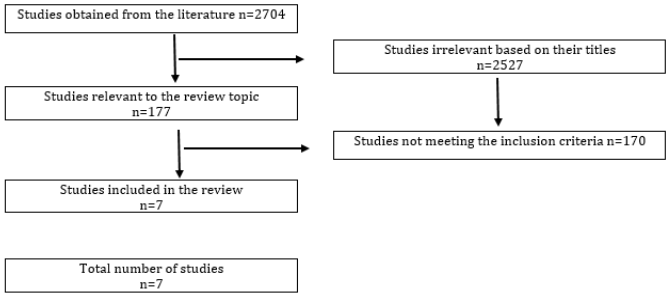

Figure 1: Study selection process for the systematic review

Results

This systematic review is based on seven studies published between 2013 and 2018. Two of these studies were conducted in Turkey, two of them were conducted in Thailand, one of them was conducted in Taiwan, and two of them were conducted in Korea. The results obtained from the review of the studies are presented in groups below.

Sample

The sample of the study conducted by Thapinta et al. (2014) with individuals with alcohol dependence and depression that were admitted to the outpatient departments of five district and provincial hospitals in northern Thailand consisted of 60 patients. The mean age of the participants in the study was 43.67±8.72 in the experimental group and 46.48±7.46 in the control group. The experimental group consisted of 5 women and 28 men, and the control group consisted of 6 women and 21 men. The inclusion criteria were patients who were 18-60 years old, who were able to communicate in Thai language, who had been diagnosed with alcohol dependence, who had a score of 7 to 18 (mild to moderate depression) on the 9-item self-administered depression scale, who were using fluoxetine as an antidepressant, who had no condition of moderate or severe suicide risk, and who were willing to participate in the research project.

The sample of the study conducted by Thapinta et al. (2017) with individuals admitted to the hospitals located in the central, northern, northeast, eastern and southern parts of Thailand with alcohol-dependence diagnosis consisted of 332 patients. The mean age of the participants in the study was 39.55±0.64 in the experimental group and 38.54±11.21 in the control group. The experimental group consisted of 21 women and 147 men, and the control group consisted of 18 women and 146 men. The inclusion criteria were patients who were 18-60 years old, who were able to read and write in Thai language, who had been diagnosed with alcohol dependence according to DSM-IV criteria, who received a score of 5 to 8 (mild depression) on the Patient Health Questionnaire-Thai version, who were not receiving any treatment at the time, and who were not receiving any cognitive behavior therapy.

The sample of the study conducted by Yeh et al. (2017) with alcohol-dependent individuals admitted to the psychiatric unit of a teaching hospital in northern Taiwan

consisted of 75 patients. The mean age of the participants in the study was 39.46±8.63 in the experimental group and 41.60±8.80 in the control group. The experimental group consisted of 3 women and 21 men, and the control group consisted of 1 woman and 50 men. The inclusion criteria were alcohol-dependent individuals who were in stable physical condition, who quit drinking for at least 5 consecutive days, who were able to read and speak Mandarin or Taiwanese, who were 21-65 years old, who had been diagnosed with alcohol dependence based on DSM-IV, and who were willing to participate in the study.

The sample of the study conducted by Oh and Kim (2016) with alcohol-dependent individuals admitted to the psychiatric unit of a hospital in Korea consisted of 38 patients. The mean age of the participants in the study was 45.4±7.8 in the experimental group and 48.1±11.5 in the control group. The gender of the participants was not specified in the study. The inclusion criteria were individuals who had been diagnosed with alcohol dependence according to DSM-IV, who received inpatient treatment for alcohol dependence after alcohol detoxification in the hospital, who were smokers, who were in the contemplation or preparation stage of the transtheoretical model, and who were willing to participate in the study.

The sample of the study conducted by Gür et al. (2017) with alcohol-dependent individuals attending the Association of Alcoholics Anonymous in Turkey consisted of 37 patients. The mean age of the participants in the study was 45.88±11.10 in the experimental group and 44.42±10.64 in the control group. The experimental group consisted of 3 women and 15 men, and the control group consisted of 4 women and 15 men. The inclusion criteria were individuals who attended the Association of Alcoholics Anonymous for at least 3 days, who had been diagnosed with alcohol dependence according to DSM-IV, who were abstinent from alcohol for the past month, who were 18-65 years old, and who had not participated in any aerobic physical exercises regularly over the last 6 months.

The sample of the study conducted by Savaşan and Çam (2017) with alcohol-dependent individuals admitted to the alcohol and drug addiction treatment clinic of a training and research hospital in Turkey consisted of 36 patients. The mean age of the participants in the study was 43.33±6.55 in the experimental group and 42.44±7.03 in the control group. The experimental group consisted of 2 women and 16 men, and the control group consisted of 2 women and 16 men. The inclusion criteria were alcohol-dependent individuals who received a score of 2 or above on the Addiction Profile Index (medium and high dependence), who were abstinent from alcohol for the past month, and were 30-50 years old.

The sample of the study conducted by Ko and Park (2018) with individuals hospitalized in four psychiatric hospitals for treatment of alcohol use disorder in Korea consisted of 36 patients. The mean age of the participants in the study was 52.12±9.48 in the experimental group and 49.63±7.60 in the control group. The experimental group consisted of 2 women and 15 men, and the control group consisted of 1 woman and 18 men. The inclusion criteria were individuals who were diagnosed with alcohol use disorder based on the criteria of the Korean Psychiatric Association.

Procedures

Thapinta et al. (2014) used the Brief Cognitive Therapy Intervention Program devel-

oped by the authors based on the Beck's Cognitive Theory of Depression for reducing depression in individuals with alcohol addiction (Table 2). The designed intervention program was reviewed by a group of experts in the field of cognitive behavioral therapy (a psychiatrist, three nurses and a psychologist). Thirty-three subjects in the experimental group received cognitive behavioral therapy twice a week. Depression levels of the participants were evaluated in the first one of the sessions, which were performed twice a week and lasted 40 to 60 minutes. During the second to sixth sessions, the participants were given assignments after they received training to identify and manage their automatic thoughts. For each participant, two 45-minute sessions were held once a week. The sessions were designed using interactive learning methods. The pretest and posttest were administered to the experimental and control groups.

Thapinta et al. (2017) study used the Cognitive Behavior Therapy Self-Help Booklet, which was developed by the authors based on review of previous cognitive behavior therapy interventions to decrease depression and alcohol use among alcohol-dependent individuals, throughout six months (Table 2). The 168 participants in the experimental group were explained how they would use the booklet and they were encouraged to read the instructions and the psychoeducational materials. On the first day the booklet was used, the participants were asked to read the instructions and to identify at least three negative automatic thoughts. After that, some illustrative examples were used to show them how to express these thoughts, how to restructure their negative automatic thoughts, and how to use problem-solving skills. The participants were then requested to recognize negative automatic thoughts in every three days, and to repeat the process of proving/disproving, restructuring and/or problem solving processes. When they had any questions, the participants were able to contact the nurses by phone. The pretest and posttest were administered to the experimental and control groups.

Yeh et al. (2017) used a psychoeducational program in increasing motivation to change alcohol-addictive behaviors developed based on specific teaching objectives, intervention strategies and teaching models. A team of clinical experts, faculty members (i.e. a nursing professor, three clinical psychiatrists, and a clinical-nursing supervisor) and a patient addicted to alcohol reviewed the first draft. Before presenting the program, the clinical-nursing supervisor was given a one-month training by the authors about how to practice psychoeducation. The overall purpose of the program was to decrease the patients' problem drinking. The program included one-to-one and group discussions, roleplaying activities, video presentation, a handbook, and reflection process. Each session of the program, which consisted of three sessions, lasted 40 to 60 minutes, and it was administered to each patient in every 1 or 2 days based on his or her physical condition. The booklet content covered problem-drinking awareness and evaluation, alcohol addiction development, the effect of alcohol abuse, what one should do when faced with alcohol dependence, and three self-help actions against altering drinking behavior. The participants were given the booklet on the first or second day of their hospitalization. They were also given a DVD that contained an introductory part with true stories of alcohol-dependent people quitting drinking efficaciously and their families' expectations and a roleplaying part about social skills education and techniques for anger management and problem solving. The participants were shown the DVD on the second to fourth days of their hospitalization. The participants completed the last questionnaire in the outpatient department on the discharge day. The pretest and posttest were administered to the experimental and control groups.

Oh and Kim (2016) administered Yang style T'ai Chi practice to alcohol-dependent patients. The Yang style T'ai Chi practice was performed by the patients in 24 postures for at least 50 minutes three times a week throughout 8 weeks. T'ai Chi is an aerobic exercise with low, moderate or hard intensity (11-moderately light, 13-slightly hard) according to the Rated Perceived Exertion Scale developed by Borg. A psychiatrist, a professor with experience on research about t'ai chi, and two exercise prescribers classifying the intensity of yang style t'ai chi postures verified the content validity of the exercise program. According to the Life Options Rehabilitation Advisory Council, the exercise program should last from 8 to 12 weeks, 3 to 5 times a week and each session should last 20 to 60 minutes. The program was prepared on the basis of the exercise program of the Life Options Rehabilitation Advisory Council, and sessions for alcohol addicts were conducted three times a week for 50 minutes throughout 8 weeks. Each session was arranged as: (1) warm-up – 5-minute warm-up; stretching the neck, hands, arms, chest, flanks, legs, and calf; lifting and turning the shoulders, and pulling the legs; (2) main exercise, Yang style T'ai Chi; and (3) wrap-up, 5-minute meditation and deep inhalation. The individuals were taught the positions of the main exercise during weeks 1 to 8 in accordance with the authors' instructions. Throughout the training period, the main exercises of the preceding week were repeated every week. The pretest and posttest were administered to the experimental and control groups before and after the procedure.

Gür et al. (2017) used a psychoeducation and exercise intervention program based on cognitive behavioral model with alcohol-dependent patients. The intervention consisted of three fundamental components: the incentive (encouraging) component, a moderate aerobic exercise component, and group-based behavioral education (psychoeducation) component. For the incentive (encouraging) component of the intervention, the participants in the experimental group were given materials such as a tracksuit, a shirt, socks, a Pilates band and a Pilates mat. For the moderate aerobic exercise component of the intervention, the intensity of the administered aerobic exercise was calculated based on the Karvonen formula, which was set at a moderate level (30-60%) taking into account the individual characteristics of the participants (e.g. age, gender, etc.). Initially, aerobic exercise included active-passive warm-up exercises and flexibility exercises (10 min) for the joints and muscles (15-20 minutes). In the main part of the exercise were jogging, a Pilates band, basic exercises, power and step aerobics applications (20-25 min). In the last part of the exercise, there were stretching exercises, proper cooling and creation of necessary motivation for the succeeding training session (10 min). The goal of the group-based behavioral education (psychoeducation) component was to inform the participants about alcohol and its effects, to increase motivation of change, to maintain exercise habits and consistency, to cope with high-risk situations, to provide skills to prevent relapse, to manage impulses and anger, to teach the skills required to deal with stress. An informative seminar was held in 60 minutes and in one session by the authors. In this seminar, the aim and procedures of the study were explained and contact information of the people who volunteered to participate in the research was taken at the end of the seminar. After the informative seminar, the individuals who met the eligibility criteria were included in the study and the pre-test was administered to the control and experimental groups. In order to administer the components of the exercise intervention, information about the day of the procedure, time and location of the procedure were sent to the mobile phones of the individuals in the experimental group. Under the supervision of the authors and accompanied by a fitness trainer, the participants took part in 18

sessions of flexibility, strength, and cardio exercise activities for 45 to 60 minutes 3 days a week. The sessions were held by using narration, question and answer activities, group discussions, feedback, exercises, homework and visual materials (i.e., projection). Homework, comments and feedback were discussed in the first session of the following week. The authors administered the post-test to both groups following the exercise and psychoeducation interventions (at the 6th week).

Savaşan and Çam (2017) used a psychiatric nursing approach based on the Tidal Model in alcohol-dependent individuals. In order to provide individualized care to the participants in the experimental group, individual interviews were initiated and interventions were administered according to the goals of the individuals and the research aims. In addition to routine therapy and follow-up, the experimental group was administered the psychiatric nursing approach based on the Tidal Model through individual face-to-face interviews. In one-to-one sessions, the participants' expressions related to change were recorded by the nurses in the care plan. The interventions were selected among the interventions for Ineffective coping and disturbed self-concept" diagnoses in the Nursing Interventions Classification (NIC) system, a standardized and detailed classification of nursing practices. Taking into consideration the basic processes of the Tidal Model (i.e., care continuum, commitments and the Tidal competencies), an interview plan to record details of the interviews with the alcohol addicts was established. These interviews were conducted twice a week. The interventions that were planned according to the realization of the targets were administered to the experimental group with approximately 10 individual interviews. After the detoxification process, questionnaire forms were administered to the experimental group before and 3 months after the start of the individual interviews.

In Ko and Park's (2018) study, 10 sessions of electroencephalography-based neurofeedback training were administered to alcohol-dependent individuals and the effect of the procedure on autonomous regulations was investigated. Neurofeedback training (NFT) is a noninvasive, non-pharmacological and safe method. The study procedure consisted of researcher preparation, orientation, pre-test, program composition, NFT and post-test. During the preparation phase, the researchers completed a neurofeedback course to perform this procedure safely and effectively. In the orientation phase, an orientation program was arranged for patients hospitalized with diagnosis of alcohol use disorder about the aim and timing of the study, the principles of NFT, the process and planning. In the pre-test phase, all the participants filled in the information form. After they rested, the individuals were reminded of the orientation notes, and all the metal materials were removed. After the scalp was cleaned and dried, the electrodes were placed on the patient and the electroencephalography (EEG) result was recorded for about 5 minutes with the eyes open. EEG results were analyzed using the Neuroguide software. Two nursing professors who did a course on neurofeedback planned the implementation and composition of the NFT program. The frequency range of 8-12 Hz was determined as the average standard range. Separate NFT frequency ranges were fixed with analysis of 21-30 Hz high beta wave. The NFT consisted of equipment preparation, patient preparation, training, device removal and evaluation. A total of 10 sessions of individual NFT were given throughout four weeks. The first step was to prepare the equipment. The second step involved patient preparation, and the individuals were asked to get ready by taking a deep breath about six times a minute to relieve their minds and bodies. Based on the results of the EEG analysis measured in the initial study, brain

waves were measured approximately 1 minute before the initiation of NFT. The third step included training. A total of 10 sessions of NFT, which lasted around 40 minutes per session, were performed. The aim of NFT is to correct alpha waves and inhibit high beta waves to reduce hyperarousal. An animation was played when the alpha wave was higher than the threshold value and the beta wave was lower than the threshold value. When the participants saw the animation stop, they realized that their brain waves were not appropriate. Each NFT session consisted of four different programs lasting 5 minutes to prevent fatigue and loss of concentration. When a program was finished, 2 minutes were taken for rest. The programs chosen for the NFT involved coins, a maze, darts and a walking mouse. In the fourth step, the device and all the electrodes were removed. The fifth step was evaluation.

Table 2. An overview of the studies reviewed

Study	Aim	Sample and methods	Procedure	Measures	Eeffect of procedure on individuals
Thapinta et al. 2014 Thailand	To evaluate the efficacy of the brief cognitive therapy intervention program in reducing depression in alcohol-dependent individuals	n=60 Experimental group: 24 Control group: 24 Quasi-experimental	A six-session brief cognitive therapy intervention program	- Personal information form - Self-administered Depression Scale - Suicidal Risk Scale	Depression scores of the experimental group decreased.
Thapinta et al. 2017 Thailand	To evaluate the effectiveness of Cognitive Behavior Therapy Self-Help Booklet in decreasing depression among alcohol-dependent individuals	n=332 Experimental group: 168 Control group: 164 Single-blind randomized controlled trial	Cognitive Behavior Therapy - Cognitive Behavior Therapy Self-Help Booklet intervention	- Personal information form - The 9-item Patient Health Questionnaire– Thai version (PHQ-9-Thai) - Timeline follow back (TLFB)	It was determined that the alcohol consumption levels and the depression scores of the experimental group decreased.
Yeh et al. 2017 Taiwan	To evaluate the effectiveness of a psychoeducational program in enhancing motivation to change alcohol-addictive behavior.	n=75 Experimental group: 24 Control group: 51 Quasi-experimental	A three-session psychoeducation	- Personal information form - Severity of Alcohol Dependence Data Questionnaire (SADD) - Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES)	The experimental group's levels of recognition of alcohol-related problems and ambivalence and motivation to change addictive behavior increased.
Oh and Kim 2016 Korea	To investigate the effects of T'ai Chi on serotonin levels, nicotine dependence, depression, and anger	n=38 Experimental group: 19 Control group: 19 Experimental	Yang Style T'ai Chi administered three times a week for 8 weeks	- Personal information form - Korean version of the Fagerstrom Tolerance Questionnaire - Korean version of the Beck Depression Inventory (BDI)-II - State–Trait Anger Expression Inventory-Korean version (STAXI-K)	The experimental group patients' blood serotonin levels increased, nicotine dependence decreased, and depression and anger scores decreased.

				-Blood serotonin levels	
Gür et al. 2017 Turkey	To assess the effect of the cognitive behavior model-based psychoeducation and exercise program on quality of life	n=37 Experimental group: 18 Control group: 19 Quasi-experimental	An 8-session cognitive behavior model-based psychoeducation and 18-session exercise intervention program	- Personal information form - The Short Form Health Survey (SF-36)	The quality of life of the patients in the experimental group was positively affected.
Savaşan and Çam 2017 Turkey	To determine the effect of the psychiatric nursing approach based on the Tidal Model on coping and self-esteem	n=36 Experimental group: 18 Control group: 18 Quasi-experimental	A 10-session psychiatric nursing approach based on the Tidal Model	- Personal information form - Addiction Profile Index (API) - Coping Inventory (COPE) - Coopersmith Self-Esteem Inventory (CSEI) - Beck Depression Inventory (BDI) - Beck Anxiety Inventory (BAI)	The self-esteem of the patients in the experimental group increased. Also, the patients' positive reinterpretation and growth, use of instrumental social support, active coping, restraint, and planning scores increased, but their behavioral disengagement scores decreased.
Ko and Park 2018 Korea	To investigate the effects of electroencephalography-based neurofeedback training on hyperarousal and autonomy	n=36 Experimental group: 18 Control group: 18 Quasi-experimental	A 10-session electroencephalography-based neurofeedback training	- Personal information form - Korean version of the Alcohol Use Disorder Identification Test (AUDIT-K) - Basic Psychological Need Satisfaction Scale (BPNS) - Alcohol Abstinence Self-Efficacy Scale (AASS) - Treatment Self-Regulation Questionnaire (TSRQ)	Basic psychological need satisfaction, alcohol abstinence self-efficacy and self-regulation scores of the individuals in the experimental group were positively affected.

Measures

Having been conducted with alcohol-dependent individuals, the reviewed studies collected data using various measurement tools. Thapinta et al. (2014) employed a personal information form developed by the authors, a 9-item self-administered depression scale (9Q) used for screening depression symptoms in community-based health care centers in Thailand, and the 8-question Suicidal Risk Scale to determine the risk of suicide. Thapinta et al. (2017) employed a personal information form developed by the authors; the Patient Health Questionnaire-Thai version (PHQ-9-Thai), which is used commonly to scan for symptoms of depression; and the Timeline follow back (TLFB), which is a calendar-assisted self-report method for retrospective estimations of daily alcohol consumption over a certain period. Yeh et al. (2016) employed a demographic information form developed by the authors, the Severity of Alcohol Dependence Data Questionnaire (SADD), and the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES). Oh and Kim (2016) used the Korean version of the Fagerstrom Tolerance Questionnaire to measure nicotine dependence of individuals, the transtheoretical mod-

el, a Korean version of the Beck Depression Inventory (BDI-II) and the State–Trait Anger Expression Inventory-Korean version (STAXI-K), and they also measured the participants' blood serotonin levels. Gür et al. (2017) used a demographic information form developed by the authors and the Short Form Health Survey (SF-36). Savaşan and Çam (2017) used a participant information form, the Addiction Profile Index (API), the Coping Inventory (COPE), the Coopersmith Self-Esteem Inventory (CSEI), the Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAE). Ko and Park (2018) used the Korean version of the Alcohol Use Disorder Identification Test (AUDIT-K), the Basic Psychological Need Satisfaction Scale (BPNS), the Alcohol Abstinence Self-Efficacy Scale (AASS), and the Treatment Self-Regulation Questionnaire (TSRQ).

Study findings

Reducing depression in alcohol-dependent ındividuals

In Thapinta et al.'s (2014) study, the brief cognitive therapy intervention program was administered to alcohol-dependent individuals with mild depression. A statistically significant difference was found between the depression scores of the individuals in the experimental group, who participated in the brief cognitive therapy intervention program, and the depression scores of the individuals in the control group at end of the program and one month after the program ($p=0.02$, $p=0.01$). The six-session brief cognitive behavioral therapy intervention positively affected the depression scores of the alcohol-dependent patients with depression, and at the end of the third week (6 sessions) and at the 7th week (1 month follow-up after the completion of the intervention), the mean depression scale scores for the experimental group were found to be lower than for the control group.

The effect of the cognitive behavior therapy self-help booklet on depression among alcohol-dependent ındividuals

Thapinta et al. (2017) used the Cognitive Behavior Therapy Self-Help Booklet to decrease depression among alcohol-dependent individuals. Statistically significant differences were found between the post-intervention depression score and alcohol consumption of the individuals with alcohol dependence and their pre-intervention depression scores and alcohol consumption ($p<0.05$). Individuals in the experimental group were found to have lower depression scores than in the control group 7 days, 1 month, 3 months and 6 months after their use of the Cognitive Behavior Therapy Self-Help Booklet ($F=0.20$, $p=0.00$; $F=3.51$, $p=0.00$; $F=19.93$, $p=0.00$; $F=17.97$, $p=0.00$). Also, the alcohol consumption levels of the experimental and control groups were compared 7 days, 1 month, 3 months and 6 months after the intervention, and it was found that there was a significant decrease in alcohol consumption in the experimental group 7 days and 1 month after the intervention ($p=0.02$; $p=0.00$).

The effect of psychoeducation administered to alcohol-dependent individuals on motivation

In Yeh et al.'s (2017) study, a psychoeducation program was administered to alcohol-dependent individuals. It was determined that there was a significant difference between the SADD scores of the subjects in the psychoeducation group and the mean scores of

the individuals in the control group. SADD scores of the individuals in the experimental group (16.50+5.30) were lower than in the control group (21.82+11.97; p=0.043). However, although there was a significant difference between the experimental group's scores in the Ambivalence and Recognition subscales of the SOCRATES scale the mean scores of the control group, there were not any differences between the two groups' scores in the Taking steps subscale.

The effect of t'ai chi on serotonin levels, nicotine dependence, depression and anger

In Oh and Kim's (2016) study, alcohol-dependent individuals participated in a Yang Style T'ai Chi program. A significant difference (p=0.001) was determined between the mean depression score of the control group and the mean depression score of the individuals in the experimental group who received Yang Style T'ai Chi intervention, and the mean depression score of the individuals in the experimental group (22.1±10.7) was found to be lower than the mean depression score of the individuals in the control group (32.6±10.9). The mean anger score (19.3±6.0) and nicotine dependence score (4.8±1.6) in the experimental group was lower than the mean anger score (21.9±6.6) and nicotine addiction score (6.6±1.6) in the control group, the mean serotonin levels in the experimental group (99.5±55.3) were higher than those of the control group (49.5±30.6), but this difference was statistically significant (p=0.001).

The effect of the cognitive-behavioral model-based psychoeducation and exercise intervention on quality of life alcohol-dependent individuals

In Gür et al.'s (2017) study, the cognitive-behavioral model-based psychoeducation and exercise intervention program was administered to alcohol-dependent individuals. There was a significant difference between the mean scores of the experimental group in the physical functioning (p=0.003), emotional role functioning (p=0.006), vitality (p=0.000), social functioning (p=0.016) and general health perception (p=0.006) and the mean scores of the control group. It was determined that the posttest scores of physical functioning, emotional role functioning, vitality, social functioning, and general health perception of the individuals in the experimental group was higher than the pretest scores.

The effect of the tidal model on coping and self-esteem of alcohol-dependent individuals

In Savaşan and Çam's (2017) study, the psychiatric nursing approach based on the Tidal Model was administered to individuals with alcohol dependence in addition to routine treatment and follow-up. It was found that there were statistically significant differences between the between pre-test and post-test scores of the experimental group in the COPE and its subscales (i.e., positive reinterpretation and growth, instrumental social support, active coping, behavioral disengagement, restraint, and planning) and between the mean scores of the experimental group and the control group in the COPE and its subscales (p=0.003). The experimental group's mean scores in the positive reinterpretation and growth (2.38), active coping (1.50), restraint (2.72), instrumental social support (2.22) and planning (1.94) subscales of the COPE were higher than the control group's mean scores in the positive reinterpretation and growth (Z=–1.72; p<0.001), active coping (Z=–1.94; p=0.00), restraint (Z=-1.16; p<0.001), instrumental social support (Z= -

2.16; p<0.001) and planning (Z= -1.16; p=0.02) subscales. On the other hand, the mean score for the experimental group in the behavioral disengagement subscale (Z= -1.77; p=0.01) was found to be lower than for the control group (1.66). A statistically significant difference was found between the pre-test and post-test CSEI scores in the experimental group. This difference was not statistically significant in the control group. The difference between the pre-test and post-test scores in the experimental group (13.77) was higher than in the control group (3.11), but the difference was not significant (p=0.08). A statistically significant difference was found between the pre-test CSEI mean scores of the individuals in the experimental group, who were administered the psychiatric nursing approach based on the Tidal Model. However, the CSEI pre-test and post-test mean scores of the individuals in the experimental group were higher than in the control group, but this difference was not statistically significant (p=0.08).

The effect of electroencephalography-based neurofeedback training on autonomous regulations in patients with alcohol use disorder

In a study by Ko and Park (2018), electroencephalography-based neurofeedback training was administered to alcohol-dependent individuals. The alpha waves increased in 15 of 19 sites and the high beta waves decreased in 15 of 19 sites in the experimental group, but this difference was not found to be significant. There were statistically significant differences between the mean scores achieved by the experimental group, who received the NFT intervention, in the BPNS (Z= −3.35, p= .001) and in the autonomy (Z= −2.59, p= .010), competence (Z= −2.29, p= .022) and relatedness (Z= −3.49, p= <.001) subscales and the mean scores of the control group. Also, a statistically significant difference was found between the AASS mean scores (Z=−4.05, p<.001) and the TSRQ mean scores (Z= −2.10, p= .036) of the experimental and control groups.

Discussion

This study is a systematic review of research conducted by nurses with alcohol-dependent individuals (i.e., brief cognitive behavioral therapy intervention program, cognitive behavioral therapy-self help booklet intervention, psychoeducation, Yang Style T'ai Chi intervention, psychoeducation and exercise intervention program based on cognitive behavioral model, psychiatric nursing approach based on the Tidal Model and electroencephalography-based neurofeedback training).

Cognitive behavioral practices have significant effects in reducing depression by changing the negative perceptions of individuals towards the world, themselves and the future and by restructuring these thoughts (Aekwarangkoon et al. 2006, Yoon and Petrakis 2018). Thapinta et al. (2014) reported a decrease in depression scores of individuals after the six-week cognitive behavioral intervention program designed to reduce depression in individuals with alcohol addiction. Thapinta et al. (2017) found that alcohol consumption levels and depression scores of individuals with alcohol dependence decreased after the six-month Cognitive Behavior Therapy Self-Help Booklet program that was developed based on a review of cognitive behavioral therapy self-help interventions to reduce depression in alcohol-dependent individuals. Cognitive behavioral procedures can be administered in different ways such as self-help booklet, brief or long-term intervention depending the needs of alcohol-dependent individuals. These different procedures were found to play a key role in decreasing depression and increasing the

quality of life of individuals (Brown et al. 1997, Laaksonen et al. 2013, Thapinta et al. 2014).

Yeh et al. (2017) administered a psychoeducational program to alcohol-dependent individuals to increase their motivation in changing addiction behavior, and they found that the program was effective in increasing the individuals' recognition of alcohol-related problems and their ambivalence towards drinking behavior in time, and it boosted their motivation to change their addictive behavior. Research found that psychoeducational interventions for alcohol-dependent individuals helped them recognize and understand the nature of their problematic drinking and the problems associated with it, create ambivalence thoughts about their drinking behavior, and increase their motivation to change addictive behavior (Bujarski 2015, Lee and Lee 2015, Myers et al. 2016, Paracelsus Recovery 2018). Similarly, a study reported that psychoeducation given to alcohol-dependent individuals increased the motivation of individuals to change their drinking behavior and improved their health status (Bujarski 2015). In another study, it was found that psychoeducation increases the motivation of alcohol-dependent individuals to change, and it creates ambivalence towards drinking behavior (Lee and Lee 2015).

Alcohol-dependent individuals were administered an eight-week Yang Style T'ai Chi intervention that did not require special equipment or clothing and was not affected by the weather conditions, and T'ai Chi program was shown to increase blood serotonin levels, decrease nicotine dependence and to decrease the alcohol-dependent individuals' depression and anger scores (Oh and Kim 2016). T'ai Chi is considered to reduce negative feelings such as anger, tension, fear, sadness, to prevent the occurrence of anxiety, depression, psychiatric problems, and to have an important contribution to the psychological, physical and psychosocial well-being of the individual. T'ai Chi intervention was found to provide a more beneficial release of brain chemicals in the early stages of recovery in addicted individuals, reversing the effects of substance withdrawal, creating a general feeling of well-being and reducing the negative effects of detoxification (Wang et al. 2004, Morningside Recovery 2018)

A psychoeducation and exercise intervention program based on cognitive behavioral model was administered to alcohol-dependent individuals, and it was determined that psychoeducation and exercise intervention program based on cognitive behavioral model positively affected the quality of life of individuals and can be administered by nurses (Gür et al. 2017). Research found that exercise intervention programs reduced drinking motive and behavior and anxiety and depressive symptoms, and they increased quality of life by positively affecting emotion management and general health perception of individuals (Read and Brown 2003, Kendzor et al. 2008, Giesen, Deimel and Bloch 2015, Ercan, Yargıç and Karagözoğlu 2016). In addition, it was determined that psychoeducation programs administered to alcohol-dependent individuals reduced depression, increased the motivation levels of individuals to change the quality of life and alcohol use behavior, and improved their health status (Bujarski 2015, Lee and Lee 2015). Administering cognitive-behavioral model-based psychoeducation and exercise intervention programs to alcohol-dependent individuals could positively affect their quality of life by reducing the symptoms caused by alcohol dependence, improving their physical and mental health, and strengthening their social functions. Application of cognitive-behavioral model-based psychoeducation and exercise intervention programs by nurses as a part of psychosocial treatment of individuals could affect the quality of life of individuals positively and also facilitate their social integration.

A ten-session psychiatric nursing approach based on the Tidal Model was administered to alcohol-dependent individuals, and it was found that the individuals' self-esteem increased after the procedure and that the approach contributed to the individuals' positive reinterpretation and growth, use of instrumental social support, active coping, behavioral disengagement, restraint and planning (Savaşan and Çam 2017). The Tidal Model could be a comprehensive model for dependent groups, which positively affects the improvement and development as well as developing a positive perspective on individuals' problems and journey to recovery. Young (2010) stated that integration of the Tidal Model to the recovery programs of women using substance could be useful in empowering women in recovery for substance abuse and providing individual-centered primary care to them, and that the model was also appropriate for men and adolescents. Using this model could prove beneficial in these groups because it increases the ability of individuals to cope with problems and difficulties.

Excessive physical and psychological stress and reaction states are defined as hyperarousal status that can be measured by recording brain waves (Dalkner et al. 2017). Alpha brain waves (8-12 Hz) are slower and larger and are generally associated with a relief state. Beta brain waves, on the other hand, are associated with small and relatively fast (13-30 Hz) mental and intellectual activity and outward-focused concentration (Hammond 2011). Electroencephalography-based neurofeedback training was administered to alcohol-dependent individuals, and the intervention was found to have a positive effect on basic psychological need satisfaction, alcohol abstinence self-efficacy and autonomous regulations (Ko and Park 2018). Following the procedure, the alpha waves increased in 15 of 19 sites and the high beta waves decreased in 15 of 19 sites among the individuals, but this difference was not found to be significant (Ko and Park 2018). Some studies showed that in the case of anxiety and excitement, high beta waves were increased, and alpha waves indicating a calm state during hyperarousal status were reduced (Hammond 2011, Dalkner et al. 2017). A study determined that individuals with opioid addiction who received neurofeedback intervention had decreased somatic and depression symptoms and reduced desire to use opiates, and that the overall mental health and positive outcome expectations were positively affected (Dehghani et al. 2013). Research showed that the increase in the number of high beta waves was associated with the severity of alcohol use disorder and recurrence, and use of this procedure in individuals with alcohol dependence would decrease the recurrence and recurrent hospitalizations of patients (Dehghani et al. 2013, Cox et al. 2016). Therefore, electroencephalography-based neurofeedback training could be recommended as a nursing intervention to improve the autonomy of alcohol-dependent individuals.

Conclusion

The studies included in this systematic review study, which were all conducted by nurses in order to improve and strengthen alcohol-dependent individuals' mental health, employed brief cognitive behavioral therapy intervention program, cognitive behavioral therapy-self help booklet intervention, psychoeducation, Yang Style T'ai Chi intervention, psychoeducation and exercise intervention program based on cognitive behavioral model, psychiatric nursing approach based on the Tidal Model and electroencephalography-based neurofeedback training program. The procedures in the reviewed studies were shown to have positive effects on mental health of alcohol-dependent individuals.

Given the scarcity of research conducted in Turkey by nurses with alcohol-dependent individuals, it is essential to conduct randomized controlled studies in this area and transfer their implications to practice in order to improve individuals' quality of life.

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