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Effectiveness of alcohol craving control program on alcohol consumption in persons with alcohol dependence

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Introduction : *Alcohol consumption is an individual phenomenon. However, it imposes significant burden on society and its harms the health of the drinker as well as others. Persons with alcohol dependence lack the ability to control their consumption and continue and/or increase consumption, despite adverse consequences presented. Alcohol dependence is a serious health problem; it is a chronic disease that affects the cost of health care. With the alteration of health that may limit what a person can do for himself and may limit his ability to have healthy living and well-being. A factor related to continue and/ or increase alcohol consumption in persons with alcohol dependence is craving for alcohol. It has received increasing attention from many clinicians and researchers. In this aspect, Alcohol Craving Control Program (ACC Program) was conducted to improve craving control agency on decrease alcohol consumption.*

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Objective : *To evaluate the effectiveness of ACC Program on alcohol consumption in persons with alcohol dependence.*

Setting : *Alcohol Detoxification Ward of Thanyarak Institute on Drug Abuse.*

Research design : *Experimental pretest-posttest control group designed with randomized subjects.*

Patients : *The subjects were 61 male alcohol dependent patients (mean age 34.72, ± 7.78 years) who admitted between November 2009 - March 2010.*

Method : *The subjects were randomized by a computer program; 32 of them were in the intervention group that received ACC Program, while 29 of them were in the control group that received only routine care. ACC Program included 2 phases which were: 1) Investigation and reflection for decision to improve craving control agency; 2) Performance of productive craving control agency. Alcohol consumption was measured by Alcohol Consumption Assessment (ACA: quantity and frequency of alcohol intake) measured before intervention and after discharge. Independent t-test were used to compare the difference between alcohol consumption of the intervention and control group.*

Results : *The results reveal that the mean different score of the alcohol consumption in the intervention group was significantly higher than that of the control group, ($p < 0.05$).*

Conclusion : *Alcohol consumption was significantly lower in the ACC Program group.*

Keywords : *Alcohol craving, alcohol consumption, persons with alcohol dependence.*

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บทนำ : *การบริโภคแอลกอฮอล์ส่งผลกระทบต่อสุขภาพของตัวผู้บริโภคและส่งผลกระทบเชิงสังคมอย่างกว้างขวาง กลุ่มผู้ติดแอลกอฮอล์เป็นผู้ที่ประสบปัญหาการขาดความสามารถที่จะควบคุมการบริโภคของตนเอง ทำให้ยังคงบริโภคหรือเพิ่มปริมาณการบริโภคแอลกอฮอล์อย่างต่อเนื่อง ทั้ง ๆ ที่การบริโภคนั้นส่งผลกระทบทางลบต่อตนเองและผู้อื่น ภาวะติดแอลกอฮอล์เป็นปัญหาสุขภาพที่รุนแรงและเรื้อรังที่ก่อให้เกิดค่าใช้จ่ายในการบำบัดรักษาที่สูงมาก ภาวะติดแอลกอฮอล์ส่งผลให้ผู้ติดแอลกอฮอล์เกิดความพร่องความสามารถในการดูแลตนเองเพื่อภาวะสุขภาพที่ดี ปัจจัยสำคัญที่ส่งผลให้ผู้ติดแอลกอฮอล์ยังคงบริโภคหรือเพิ่มปริมาณการดื่มอย่างต่อเนื่องพบว่าความอยากเป็นปัจจัยที่ได้รับความสนใจศึกษาในกลุ่มนักวิจัยและผู้บำบัดรักษา โปรแกรมการควบคุมความอยากดื่มเครื่องดื่มแอลกอฮอล์จึงพัฒนาขึ้นเพื่อเพิ่มความสามารถในการควบคุมความอยากดื่มเครื่องดื่มแอลกอฮอล์ โดยมุ่งหวังถึงการมีความสามารถในการลดปริมาณการดื่มลงได้*

วัตถุประสงค์ : *เพื่อประเมินประสิทธิผลของโปรแกรมการควบคุมความอยากดื่มเครื่องดื่มแอลกอฮอล์ในกลุ่มผู้ติดแอลกอฮอล์ที่เข้ารับการบำบัดรักษาในระยะถอนพิษ โดยเปรียบเทียบปริมาณการบริโภคแอลกอฮอล์ระหว่างกลุ่มทดลองกับกลุ่มผู้ที่เข้ารับการบำบัดรักษาตามปกติภายหลังจำหน่ายออกจากสถานบำบัด*

สถานที่ศึกษา : *หอผู้ป่วยระยะถอนพิษแอลกอฮอล์ สถาบันยาเสพติดธัญญารักษ์*

รูปแบบการศึกษา : *การศึกษาเชิงทดลอง วัดผลก่อนและหลังการทดลอง โดยมีการสุ่มกลุ่มตัวอย่างและมีกลุ่มควบคุมในการศึกษา*

ผู้ป่วยที่ศึกษา : *ผู้ติดแอลกอฮอล์เพศชาย (อายุเฉลี่ยระหว่าง 34.72, ± 7.79 ปี) จำนวนทั้งหมด 61 รายที่เข้ารับการบำบัดรักษาระหว่างเดือนพฤศจิกายน 2552 ถึงเดือนมีนาคม 2553*

วิธีการศึกษา : *แบ่งผู้ติดแอลกอฮอล์เข้ากลุ่มทดลองและกลุ่มควบคุมโดยใช้วิธีการสุ่มด้วยโปรแกรมคอมพิวเตอร์ โดยเป็นผู้ติดแอลกอฮอล์ในกลุ่มทดลองที่ได้รับโปรแกรมการควบคุมความอยากดื่มเครื่องดื่มแอลกอฮอล์จำนวน 32 คน และกลุ่มควบคุม 29 คน ที่ได้รับพยาบาลตามปกติ กลุ่มทดลองที่เข้าร่วม*

โปรแกรมการควบคุมความอยากดื่มเครื่องดื่มแอลกอฮอล์ต้องผ่านกระบวนการ 2 ขั้นตอน ประกอบด้วย 1.การวิเคราะห์และตัดสินใจวางแผนการเพิ่มความสามารถในการควบคุมความอยาก 2. การลงมือปฏิบัติการควบคุมความอยาก เครื่องมือที่ใช้ในการเก็บข้อมูล ได้แก่ แบบประเมินการบริโภคแอลกอฮอล์ ซึ่งเป็นการเก็บข้อมูลเกี่ยวกับปริมาณและความถี่ของการบริโภคเครื่องดื่มแอลกอฮอล์ โดยเก็บข้อมูลก่อนเข้าร่วมโปรแกรมและภายหลังจำหน่ายกลับบ้าน การเปรียบเทียบความแตกต่างของค่าเฉลี่ยการบริโภคแอลกอฮอล์ของ 2 กลุ่ม คำนวณด้วยสถิติ Independent T-Test

ผลการศึกษา : *ผลการศึกษาพบว่าผู้ติดแอลกอฮอล์ที่เข้าร่วมโปรแกรมการควบคุมความอยากดื่มเครื่องดื่มแอลกอฮอล์มีความแตกต่างของค่าเฉลี่ยการบริโภคแอลกอฮอล์สูงกว่ากลุ่มควบคุมอย่างมีนัยสำคัญทางสถิติ ที่ระดับ .05*

วิจารณ์และสรุป : *ผลการศึกษาครั้งนี้ แสดงถึงประสิทธิผลของโปรแกรมการควบคุมความอยากดื่มเครื่องดื่มแอลกอฮอล์ต่อการบริโภคแอลกอฮอล์ ซึ่งบ่งชี้ว่าสามารถนำโปรแกรมนี้ไปใช้ในปฏิบัติการพยาบาลกับผู้ติดแอลกอฮอล์ระยะถอนพิษได้*

คำสำคัญ : *ความอยากเครื่องดื่มแอลกอฮอล์, การบริโภคแอลกอฮอล์, ผู้ติดแอลกอฮอล์.*

Alcohol consumption is an individual phenomenon that can be quantified by alcohol intake. [1] It imposes a significant burden on society as well as harm to health of the drinker as well as others.[2] In Thailand, alcohol consumption is a leading cause of injury and diseases. Alcohol consumption related diseases are the third most important risk factor behind unsafe sex and tobacco use. [3] In 2004, the World Health Organization (WHO) identified top 20 countries with the highest consumption for each beverage category, using the recorded adult per capita [APC] use in liters of pure alcohol for specific beverage types, and Thailand was ranked the sixth. [4] The data from the Thailand National Survey in 2007 about tobacco used and alcohol consumption in population age over 15 (51.2 million persons) were 29.3% that consumed alcohol. Evidently, the male population consumed 6 times more alcohol than the female. [5]

On account of the increasing rate of persons' who had problems with alcohol consumption and related diseases, severe problems with the lack of ability to decrease their consumption presented with over and/or continued consumption despite adverse consequences were diagnosed as alcohol dependence. [6] Adverse consequences in persons with alcohol dependence included physical and psychosocial consequences. The physical consequences included increased tolerance, withdrawal symptoms such as tremors, sweating, anxiety, vomiting, vitamin deficiencies, sexual impotence, and reproductive problems [7] and some physical illnesses such as high blood pressures, [8] stroke and heart failure, [9] cirrhosis, [10] and some kinds of cancer. [11] Recent analysis of alcohol-related illness from studies over the past 15 years indicated that individuals who over consumed alcohol till dependence are also more likely to meet the criteria for bipolar disorder. While the prevalence of bipolar disorder is estimated at 1% in the general population, approximately 3% of persons with alcohol dependence meet the diagnostic criteria. [12] Anxiety disorders are also more common among individuals with alcohol dependence. The lifetime prevalence rate of anxiety disorders in persons with alcohol dependence is approximately 9.4% which is significantly higher than the reported 3.7% of persons without alcohol dependence.[12] Chronic consumption can also damage the brain and lead to cognitive impairments such as dementia, difficulties with co-ordination and motor control, and sensory changes in the extremities. [13, 14] Furthermore, the economic cost of hospitalized alcohol-related illness per person per admission was estimated in 2004 to be over 25,000 baht which included medical treatment costs and indirect costs from lost earnings, decreased productivity of the patient and family, transportation costs, and other non-medical equipment and food. [15] Psychosocial consequences are problems at work, law, family life, and social relationship. [16] Among social problems presented by the WHO in 2004 in a global status report on alcohol, a Thailand survey found that 62% of traffic accident victims had a positive blood alcohol concentration. An estimated 45% of deaths from traffic accidents in Thailand were due to alcohol consumption. [17]

Alcohol dependence is a serious health problem and a chronic disease declared by the American Medical Association. [18] Related data were presented by the Thanyarak Institute on Drug

Abuse [15] show that 30 - 40% of the alcohol dependence patients relapsed and were readmitted more than one to fifteen times within a year of intervention completion. Relapse situation was effected the exceed costs of healthcare. [19] Noticeable, failed to follow up in the health center in many case can referred the relapse more than 70%. According to Orem, [20] persons living with a chronic disease may have a limitation what a person can do for him and may limit his ability to reason, to make decisions, and to engage in activities to accomplish health and well-being. The specific requirements of care for him with this alteration of health should arise. Under nurses' responsibility to care for the patients with alteration of health, [20] new self-care required in persons with alcohol dependence was to decrease alcohol consumption. However, they still lack the ability to decrease their consumption. Therefore, a new nursing intervention for persons with alcohol dependence to improve new self-care ability, self-care agency, is needed.

A large review of literature indicated that craving is the major factor to continue and/ or increase consumption in persons with alcohol dependence. [21- 25] Researches support that craving is the major factor on continue and/or increase consumption in persons with alcohol dependence in Thailand as presented by Nadsasarn in 2005 who studied the cause of alcohol consumption among 90 alcohol dependents who were readmitted at the Central Institute on Drug Abuse in Chiang-Mai. It was found that craving condition is ranged top of the causes of continued and increased consumption. [22] Other interesting fact is the difficulty to decrease alcohol consumption is related to craving in persons with alcohol dependence presented by Thanyarak Institute on Drug Abuse. [26] The data show that alcohol dependent patients were readmitted with uncontrolled alcohol craving problem. Therefore, new self-care ability is required for persons with alcohol dependence as craving control agency to accomplish new self-care action as decrease alcohol consumption. In 2000, Monti and his colleges [27] summarized that the related factors appear to increase alcohol consumption when the patients were craving include: a) factors that increase the motivation to consume alcohol, such as positive expectancies of alcohol, negative emotions and certain physiological states (e.g., low levels of certain chemicals in the brain); b) factors that decrease the awareness of danger, such as the lack of knowledge in the cause and effect of alcohol, overconfidence or maladaptive beliefs about the riskiness of the situation as well as physiological states that decrease general awareness (e.g., overtiredness); c) factors that decrease the effectiveness of coping, such as in adequate coping skills, or highly complex situations. The authors suggest that clinicians should help patients recognize that craving is a danger sign which they should have the ability to control by improving some specific skills.

Theoretical framework

The Orem's Self-Care Deficit Nursing Theory in the part of self-care describes and explains that individuals have the acquired ability to care for themselves. One type of self-care needed is determined by requirements, as a result of illness [20] that is interested in this context due to persons with alcohol dependence have a serious health problem

and chronic disease. [18] Within this alteration of health, persons with alcohol dependence have a limitation that he can do for himself and may limit the ability to engage in activity to accomplish health and well-being. According to DSM IV-TR, [6] the definition of persons with alcohol dependence have problems with the lack of ability to control their alcohol consumption; they continue and/or increased consumption despite adverse consequences presented. A new self-care ability is required in persons with alcohol dependence as craving control agency to accomplish a new self-care action to decrease alcohol consumption. A new nursing intervention was therefore created by the researcher, i.e., ACC Program.

Meanwhile, Orem [20] recommended nursing strategy to help the patients to be engaged in self-care in which the patient' s requirements for help are confined to decision making, behavior control, and acquiring knowledge and skills as supportive-educative system. Supportive-educative system was the nursing intervention that guides in the ACC Program. The ACC Program includes 2 phases, namely: Phase I investigation and reflection for decision to improve self-care agency phase. Nursing activities were included to support, guide, and provide developmental environment, and teach particular knowledge and skills. Also, presentation, discussion and skills training were the methods used for each session. Then, learning process would occur. Phase II is the result of self-care action which should be evaluated as performance of productive self-care agency phase. Nursing activity was continuous telephone calls to support and to work on craving control in real situation in order to decrease alcohol consumption after discharge. After finishing the program, the persons with alcohol dependence would have the ability to investigate the knowledge in alcohol craving situation and cause of craving. Hence, they can make their own decision and their skills should be improved. How they could improve the skills to control craving is in the learning process. The results of craving control agency to decrease alcohol consumption were evaluated.

Methods

In order to examine the effectiveness of a nursing intervention in alcohol dependence patients in their actions they were taken to decrease their alcohol consumption which improved alcohol craving control agency. This clinical study used an experimental pretest-posttest control group design in which the subjects were randomly assigned to either the ACC Program or control group using computerized program and made before the procedure by using sealed envelopes with numbers previously assigned by random number list of GraphPad Software program. [28] Participants in this study were males. Their age were over 20 years, and diagnosed with alcohol dependence by the DSM-IV-TR criteria. They were admitted to the Thanyarak Institute on Drug Abuse and had Thai Mini-Mental State Examination score 23 or over for excluded cognitive impairment that can affect self-care learning and action. Other exclusion criteria used in this study were the participants who had mental health problem and any medical condition between the interventions which could significantly affect their health were excluded. Seventy subjects were recruited into the study: 35 in the ACC Program group and 35 in the control group.

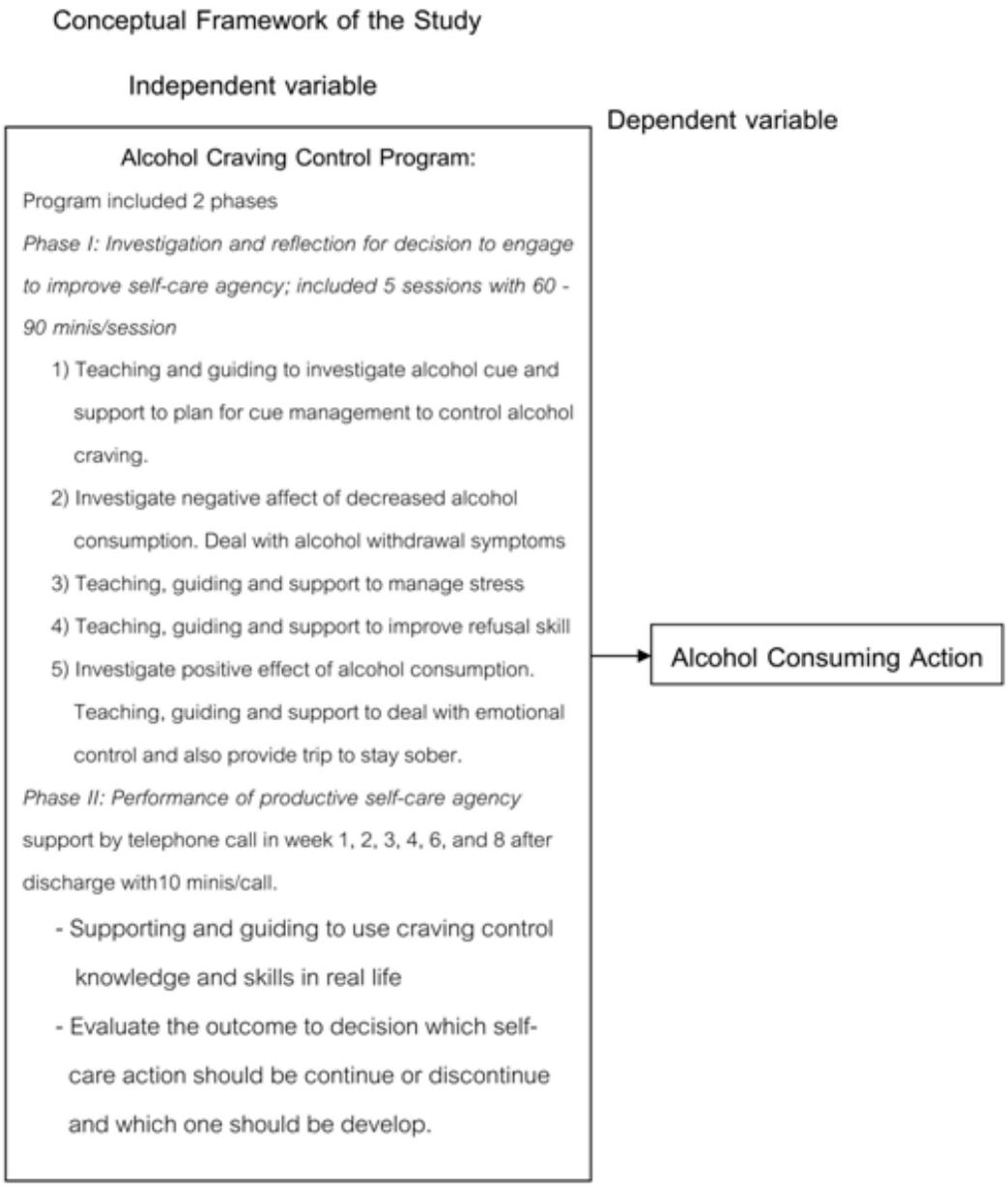

Figure 1. Conceptual framework of the study.

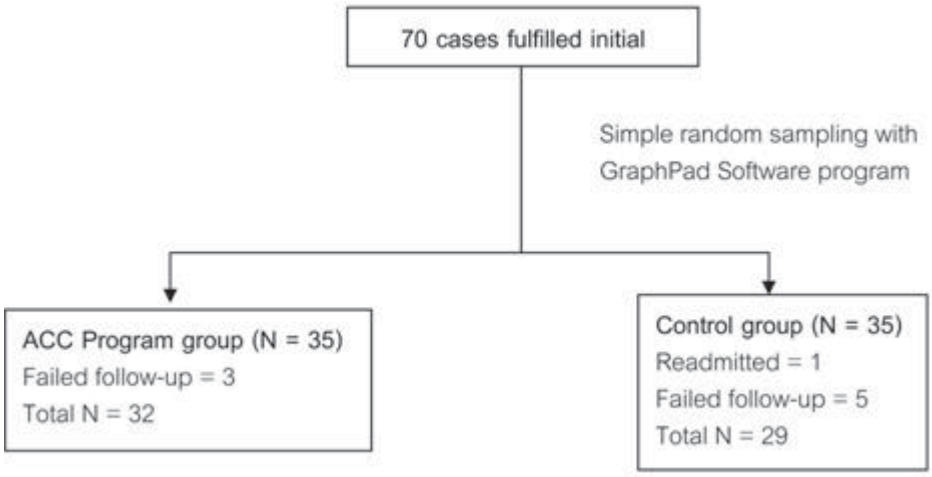

Figure 2. Details of subject sampling procedures.

ACC Program were includes 2 phases which composed of 5 sessions for improved craving control ability in phase I, and phase II: after discharged the participants would receive 6 telephone calls to support self-care action in the real situation at week 1, 2, 3, 4, 6, and 8. The control group received their routine care included two individual and one family counseling which was aimed to decrease alcohol consumption.

To measure outcome the Alcohol Consumption Assessment (ACA) was used. It was developed by the researcher which specific objective to observe changed of alcohol consumption over time of this study. The 2-items of quantification were included frequency and typical quantity of alcohol intake. Persons with alcohol dependence were asked to estimate their quantity and interpreted to standard drink. [29] Frequency of consumption was asked about how many days in a week that he was consumed alcohol. The ACA was consulted the three experts in alcohol consumption area for the specific measure in this study. The obtained data were analyzed with descriptive statistic.

Results

The demographic characteristic of the samples in the intervention and control group were showed in Table 2. Chi-square and student t-test revealed no statistically significant difference between the control and the intervention group regarding age, marital status, education, occupation, income and type of alcohol consumption were presented.

From Table 2, the demographic characteristic of the samples in the intervention and control group are presented. The 61 persons with alcohol dependence ranged in age from 20 to 59 years, 45.8% alcohol dependence were 30 to 39 years old (M = 34.72, S.D. = 7.785). 45.9% were married, 59.0% were completed secondary school education, 45.9% worked as day laborer, 54.1% had a monthly income between 5,000 to 10,000 Bath, and 75.4% had consumed white-spirit.

Independent t-test was used to compare ACA scores between the intervention and control group after discharge. The finding revealed that the mean score of alcohol consumption between 2 groups at pretest was not significant difference and at posttest was statistically difference at the level of .05.

In this study, the additional analysis was to observe the improvement of the alcohol consumption. Table 4 presented the alcohol consumption scores in both group at pretest, week 2, week, 4 and week 8 after discharge. Descriptive statistic of the alcohol consumption in the intervention group between the telephone support in phase 2 presented mean rates at pretest before intervention were 171.09 (S.D. = 69.83). It decreased after discharge at 2 weeks, slightly increased at 4 weeks, and slightly increased at 8 weeks after discharge. As for control group, there were also at before intervention the alcohol consumption were 173.53 (S.D. = 61.69). It decreased after discharge at 2 weeks and increased at 4 weeks, and also still increased at 8 weeks after discharge. The mean scores of alcohol consumption at pretest between 2 groups was not significant difference at the level .05. While at week 2, week 4 and week 8 after discharge the mean scores had significantly difference at the level of .05. (Figure 3)

After discharged till follow-up at 2 weeks ACA scores had decreased in both groups, at 4 weeks follow-up in the control group had increased but in the intervention group had slightly increased. At 8 weeks in the intervention group had slightly increased while in the control group ACA scores presented very high increased.

Table 1. Summary of Alcohol Craving Control Program.

Session/ Objective	Contents	Helping Method	Session & Time
Preparation session; Obj; Investigate alcohol consumption problems, motivation to improve self-care action	- Introduction to the program - Investigate internal & external factors influence alcohol craving and consumption - Discuss about past experience	- Individual sharing - Teaching, guiding, and supporting - Encourage to completing ACA, factors related to alcohol craving	- 60 minutes
Phase I. *Investigation and Plan to improve self-care agency* 1. Cue management Obj; ■ investigate alcohol craving cue & consumption ■ Inform environmental management ■ provide decision making for cue management	- Investigate alcohol cues or high-risk situation that influence them crave to consume alcohol - Environmental management knowledge that fit for control alcohol consumption in daily living	- Teaching, guiding and supporting - Encourage to complete cue assessment, and cue management plan	- 2 days after the preparation session - 60 minutes
2. Negative affect of decrease consumption; Alcohol withdrawal management Obj; ■ inform alcohol knowledge & effect of alcohol consumption ■ Inform alcohol withdrawal management ■ Provide decision making for withdrawal caring	- Inform negative affect related to decrease consumption that can influence alcohol craving (e.g., withdrawal symptoms) - Preventing and caring withdrawal symptoms	- Teaching, guiding and supporting - Encourage to complete alcohol withdrawal management plan	- 2 days after session 1 - 60 minutes

Table 1. Summary of Alcohol Craving Control Program. (Continued)

Session/ Objective	Contents	Helping Method	Session & Time
3. Negative effect of decrease consumption; Refusal skill and stress management Obj; ■ Inform refusal skills & stress management ■ Provide decision making for refusal skill & stress management	■ Refusal skill and Stress management	- Teaching, guiding and supporting refusal and relaxation and also encourage role-play and practice that skills - Encourage to complete stress questionnaire & all self-care plan	- 2 days after session 2 - 90 minutes
4. Positive affect of alcohol consumption; Emotional control and trip to stay sober Obj; ■ Inform emotional control technique ■ Inform trips to stay sober ■ Provide decision making for emotional control and technique to stay sober ■ Motivate continue craving control in real situation	■ Emotional control & trips to stay sober	- Teaching, guiding and supporting - Encourage to complete the emotional control plan	- 2 days after session 3 - 60 minutes
5. Repeat self-care plan Obj; ■ Discussion ready each self in reality and sheer up willpower to continue self-care ■ Make appointment for 6 phone calls.	■ All craving control action plan ■ Make appointment for phone call	- Teaching, guiding and supporting - Encourage to made a time table for 6 phone calls	- Discharge day - 60 minutes

Table 1. Summary of Alcohol Craving Control Program. (Continued)

Session/ Objective	Contents	Helping Method	Session & Time
Phase II. *Supportive self-care action* in real life by telephone Obj; ■ investigate the difficulty to control craving ■ Supportive and motivate to practice all craving control skills in real situation ■ Motivate to decision which self-care action should be continue and should be develop or discontinue	■ Craving control activities ■ Alcohol consumption behavior	- Support and motivation	- 6 telephone calls with 10 minutes per call - In week 1, 2, 3, 4, 6, and 8 after completed the program

Table 2. Demographic characteristics of the intervention and control groups.

Characteristics	Control group N = 29 Number (%)	Intervention group N = 32 Number (%)	TotalN = 61 Number (%)
Age Group			
20-29	8 (27.5)	10 (31.3)	18 (29.5)
30-39	13 (44.6)	15 (47)	28 (45.8)
40-49	6 (20.4)	5 (15.6)	11 (17.9)
50-59	2 (6.8)	2 (6.2)	4 (6.5)
Average age	Mean = 35.66	Mean = 33.8	Mean = 34.72
	S.D. = 7.475	S.D. = 8.079	S.D. = 7.785
Marital Status			
Single	13 (44.8)	11 (34.4)	24 (39.3)
Married	14 (48.3)	14 (43.8)	28 (45.9)
Divorced	2 (6.9)	-	2 (3.3)
Separated	-	7(21.9)	7(11.5)
Education			
Elementary school	7 (24.1)	8 (25.0)	15 (24.6)
Secondary school	19 (65.5)	17 (53.1)	36 (59.0)
Vocational education	3 (10.3)	7 (21.9)	10(16.4)
Occupation			
Unemployed	7 (24.1)	8 (25.0)	15 (24.6)
Day laborer	15 (51.7)	13 (40.6)	28 (45.9)
Merchant	5 (17.2)	8 (25.0)	13 (21.3)
Farmer	2 (6.9)	2 (6.3)	4 (6.6)
Government employer	-	1 (3.1)	1 (1.6)
Income (Bath)			
None	7 (24.1)	6 (18.8)	13 (21.3)
<5,000	5 (17.2)	2 (6.3)	7 (11.5)
>5,000 -10,000	15 (51.7)	18 (56.3)	33 (54.1)
>10,000	2 (6.9)	6 (18.8)	8 (13.1)
Alcohol			
White-spirit	21 (72.4)	25 (78.1)	46 (75.4)
Red-Spirit	3 (10.3)	1 (3.1)	4 (6.6)
Boil-spirit	3 (10.3)	3 (9.4)	6 (9.8)
Beer	2 (6.9)	3 (9.4)	5 (8.2)

Table 3. Comparison of alcohol consumption between intervention and control group at pretest and posttest.

ACA scores	Pretest		Posttest		t	df	*p*-value
	Mean	S.D.	Mean	S.D.			
Control group (n = 29)	173.53	61.69	114.69	87.46	.14	59	.44
Intervention group (n = 32)	171.09	69.83	19.52	60.42	4.98	59	.00

Table 4. Comparison of ACA scores between intervention and control group.

ACA scores	Control Group		Intervention Group		t	df	*p*-value
	Mean	S.D.	Mean	S.D.			
Pretest	173.53	61.69	171.09	69.83	.14	59	.44
2 weeks	32.68	45.87	15.50	33.29	1.68	59	.04
4 weeks	69.40	58.76	16.36	18.02	4.86	59	.00
8 weeks	114.69	87.46	19.52	60.42	4.98	59	.00

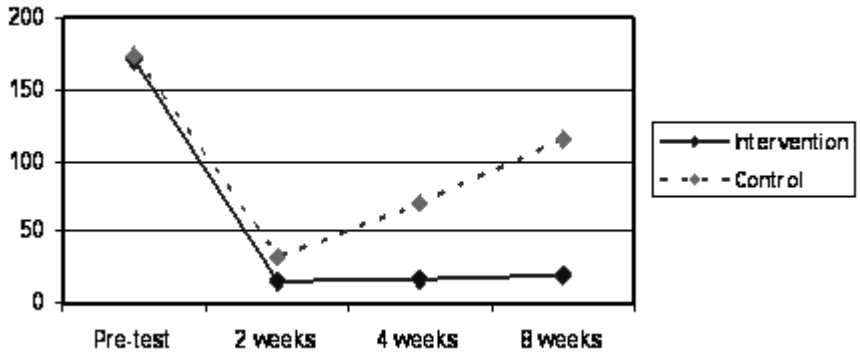

Figure 3. Plots of the comparison of alcohol consumption between pretest, 2 weeks, 4 weeks, and 8 weeks after discharge in 2 groups

Discussion

Based on the Self-Care Deficit Nursing Theory of Orem, [20] it is necessary to provide the subjects to understand their own problems and their self-care requisites. ACC Program followed the phase of deliberate action, self-care operation, the participants started with investigated internal and external factors that cause them to crave and

consume alcohol. Asking patients to describe past relapse provided important cues. They are motivated to be aware and improved their ability to manage all factors in similar situation in the future and practice new self-care responses that can be more effective. [21]

Management factors, related to alcohol craving necessary for the increase of craving control agency which affected the decrease of alcohol consumption, are confirmed in this study. Working on cue management, the result of the study presented investigated and planned to manage cue in real situation can reduce alcohol craving and consumption. These were congruent with Rohsenow *et al*. [30] who proposed that alcohol consumption was reduced by use of cue management strategies.

By increasing the knowledge about the negative effect of alcohol consumption by investigative knowledge, and also more information about the items that they lack. For example, presenting the participants the effects of alcohol consumption on themselves such as their central nervous system, withdrawal symptoms, craving process. This allows feedback process to let them understand the relation of their problem with others caused by alcohol consumption by telling them the study of Litt and others [31] that presents the persons with alcohol dependence have grater mood disturbance (i.e., anger, anxiety). Then it can bring about more conflict with others and lead them to crave more and get more alcohol consumption. In the report of Cooney and others, [32] the relation of cue and emotional were aroused the craving to consume alcohol.

Withdrawal symptoms were experienced by all participants in this study. Drummond and others [33] proposed alleviation of negative symptoms of withdrawal that increased alcohol craving and consumption. Teaching and guidance to prevent and care for withdrawal symptoms were the significant strategies as show in the results of the study.

Stress management was a choice provided for the participants because stress is one of the external factors that influence the initiation and continuation of craving and consumption. [34] Skills in stress management that the participants used included clam-down technique, deep-breathing, and number counting. As for positive self-talk, the researchers provided words for them to use for their mantra such as 'anything happened it must be good' to remind them and it worked when they felt bad and stressfull.

Emotion control was effective when the alcohol dependent was faced with destructive effects of their alcohol consumption in their life. All subjects accepted that consumption made them relax and felt good. Finding other activities that made them felt the same was the choice. Some participants selected tree planting, or house work. They needed motivation to increase their confidence that they can feel happy by themselves without any alcohol. Techniques of emotion controll with consciousness and use of number counting were also introduced.

The practice of the skills to say 'NO' when they were offered to consume alcohol was provided in this study as presented in Heater and Stockwell's[35] training to refusal without giving a double messages, and to suggest an alternative activity that does not involve substance use or to change the subject to a different topic of conversation, and when the other person persists, to ask him not to offer alcohol any

more. Patients should be able to respond quickly and convincingly when these situations arise. In this study, participants responded in their role-playing that helped them to feel easy to refuse when they were offered to consume alcohol.

Trip to stay sober i.e., having balanced blood sugar, early dinner and taking more carbohydrates, these techniques have been accepted. All participants presented when they got full they didnot crave. As presented in the online alcohol and addiction counseling [36] one factor that easily induces craving for alcohol is low blood sugar. It is suggested next time when the patient craves for alcohol, he should eat something. This can lead to better feeling and craving for alcohol quickly disappears.

Interestingly, to improve alcohol craving control agency and to get new self-care action that decreased alcohol consumption was proved supportive to self-care action in real situation by telephone calls. Phone calls were proactive, once a week in 1st month and 2 weeks for 1 call in 2nd month, focusing on assignment in the "Alcohol Craving Control Manual for Patients" booklet. The results of this study agree that patients need boosters and motivation to self-care action. The continued vulnerability to relapse still exhibited. Vulnerability to relapse remains relatively high for significant periods of time after standard treatment protocols that started with first slip at 2 weeks and relapse within 8 - 24 weeks. [18, 37] McLellan and others [18] suggested better management that requires longer periods of continued contracts with the patients. Most intervention and telephone counseling programs documents increased efficiency, decreased readmissions and emergency room visits of the patient. Key component of the telephone counseling are to educate and support the patient; the number one goal is to generate good, quality outcomes, i.e., educating and supporting the patients to participate in monitoring their health and make lifestyle modifications to have better health. [38] In this study, between the supportive self-care actions phase by telephone some participant had problems with got some sip. The researchers were also aware that the patients should be reassured that nurses or their relatives would not censure or blame them for any mistake. [21] Giving them compassion and understanding them, along with encouragement that every improvement is possible, and how to deal with situations in the future could motivate them to think about negative outcome, past experience while they remain committed of their goal, all these can decrease the consumption. Confirming the significance of ACC Program can also affect the decrease of alcohol consumption and can maintain long-term self-care action. Related data recommended by Caetano and Cunradi [39] on the risk of alcohol dependence begins at the low levels of consumption and increases linearly with alcohol intake. The suggestions are agreeable with the previous studies of long-term follow-ups and motives for self-care between follow-up phases with repeated skill training would improve positive self-care. [40]

Conclusion

This study shows the effectiveness of ACC Program on decreasing alcohol consumption in persons with alcohol dependence. It can be integrated into the existing clinics in order to prevent relapse and other related problems in persons with alcohol dependence after detoxification phase.

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