

## The Readiness to Change and Insight in Alcohol dependent Patients

This study was performed to investigate the effect of insight on the readiness to change in alcoholism. The subjects were 131 Korean male patients with alcohol dependence who were being hospitalized in a community-based alcohol treatment center. The patients' readiness to change was classified into precontemplation, contemplation, and action stage through the readiness to change questionnaire. The state of the patients' insight was measured through the Hanil alcohol insight scale. Fourteen patients (10.7%) were in the stage of precontemplation, 65 (49.6%) in contemplation and 52 (39.7%) in action stage. The insight score of the patients in precontemplation stage was significantly lower ( $p < 0.001$ ) than that of others. On the basis of the precontemplation stage, multinomial logistic regression analysis for the control of the differences in the patients' characteristics among each stage of the readiness to change showed that the possibility of contemplation and action stage went up 1.231 ( $p < 0.01$ ) and 1.249 ( $p < 0.01$ ) times higher as the insight score increased.

**Key Words :** Alcoholism; Motivation; Awareness; Readiness to Change

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## INTRODUCTION

Prochaska and DiClemente (1, 2) suggested the stages of the change model for addictive behavior correction in their research on the subjects who succeeded in smoking cessation for themselves. They maintained that a behavioral change took place through several stages of the readiness to change. That is, the changing process consists of the precontemplation stage (people have no intention of changing their behavior), the contemplation stage (people are aware of their problems and take their behavioral change into serious consideration), the preparation stage (people formulate plans for change), the action stage (people take actions to change the problematic behavior, experience, and environment), and the maintenance stage (people keep practicing for sustained behavioral change over a long time period, trying not to have recurrence) (3). Clinically, the process can be divided into the precontemplation stage, the contemplation stage and the action stage according to the formation of motivation for being changed among the patients with alcohol dependence (4, 5). The effectiveness of the stages of the change model was shown by the research on the patients with alcohol dependence (6) and smoking cessation (7).

Meanwhile, it was suggested that the patients' insight can play a very important role in treating alcoholism. The patients' insight is viewed as conscious recognition of one's own condition. In regard to the evaluation of insight, Sadock (8) categorized the patients' insight state into impaired, intellectu-

al, and true insight according to their nature. The patients' insight is not static but dynamically changes and develops (9). Kim et al. (10) suggested the classification of the insight of alcohol dependent patients into poor, fair, and good according to the degree of insight formation. Findings that the insight status of patients with alcohol dependence could be improved by the application of inpatient therapy programs (11-13) indicated that the insight of the alcohol-dependent patients is one of the factors that can be modified by the therapeutic efforts. In addition, the predictive power of the patients' insight for behavioral changes in patients with alcohol dependence was suggested by the reports that alcohol dependents with good insight showed longer abstinence after treatment (14, 15).

Patients' insight can be defined as the awareness and understanding of one's own psychodynamics and symptoms of maladaptive behavior (8). The insight of alcohol dependent patients reflects the sense of reality for the disease. According to the principles of motivational psychology (16-18), motivation for change occurs when people perceive a discrepancy between where they are and where they want to be. Motivational enhancement approach (19) in alcoholism seeks to enhance and focus the patient's attention on such discrepancies with regard to drinking behavior. It is necessary first to develop such discrepancy by raising patients' insight or awareness of the personal consequences of their drinking. As one of the motivational elements, providing feedback regarding problems associated with drinking and related symptoms also has

been recommended to the motivational enhancement therapists (20). In addition, Albano (21) stated that gaining insight could be associated with motivations to change the problematic behavior. The above concepts suggest that, at a theoretical level, the patients' insight could induce motivation to change their behavior toward recovery. However, there has not been any research dealing with the effect of insight on the readiness to change. In addition, many Korean studies reported that alcohol dependent patients who are deficient in insight (poor or fair insight state) account for 77.3-94.7% of patients in touch with therapeutic systems (11-13, 22-24). The aim of this study was to investigate the effect of patients' insight on the readiness to change in patients with alcohol dependence.

## MATERIALS AND METHODS

### Subjects

The subjects of this study were 131 Korean male patients who were being hospitalized at a community-based alcohol treatment center in Daejeon, Korea from the 1st of May to the 31st of July 2005 and diagnosed under Diagnostic and Statistical Manual of Mental Disorders-IV criteria (25) as alcohol dependence. The patients with the withdrawal symptoms or dementia at the time of the interview were excluded. The survey was carried out with the patients who had approved the use of information after they learned about the objectives of the study and the confidentiality of information. The Ethics Committee of the Chungnam National University Hospital approved this study.

### Data collection

Socio-demographic characteristics were surveyed by using questions on age, place of residence, academic qualification, occupation, whether or not one lives with the spouse, religion, number of past admissions due to drinking problems, etc. The degree of drinking problem was surveyed by using ten questions in the alcohol use disorders identification test (AUDIT) proposed by WHO (26). In the survey by Bischof *et al.* (27), the Cronbach's alpha of AUDIT was 0.81. In this research, Cronbach's alpha was 0.77.

Based on the readiness to change questionnaire (RTCQ) (4), the patients' stages of change were classified into three stages: the precontemplation, the contemplation, and the action stage. The questionnaire is composed of twelve questions. Question 1, 5, 10 and 12 are about the precontemplation stage, question 3, 4, 8 and 9 about the contemplation stage, and question 2, 6, 7 and 11 about the action stage. In scoring the RTCQ, the sums of the questions on the precontemplation stage, those on the contemplation stage and those on the action stage are calculated respectively. Each sum ranges

between -8 and 8. Among the three sums, the highest one represents the current stage of the patient's change. If there are two sums that are equal to each other, one closer to the action stage is selected. In the research by Rollnick *et al.* (5), Cronbach's alpha was 0.73 for the precontemplation stage, 0.80 for the contemplation stage, and 0.76 for the action stage. It was 0.60, 0.70 and 0.64, respectively, in this study.

The Hanil alcohol insight scale (HAIS), which was developed by Kim *et al.* (10) for the objective evaluation of insight, is composed of five components in relation to insight in patients with alcohol dependence. Each component consists of four questions, so the total amounts to 20 questions. The questions reflecting the positive direction of insight involve question 1, 3, 5, 7, 9, 12, 14, 16, 18, 20 and negative direction, question 2, 4, 6, 8, 10, 11, 13, 15, 17, 19. To the positive questions 0-2 points are given, and to the negative ones -2~0 points are given. Thus the total insight score ranges between -20 and 20 (10). Those who get a score between -20 and 3 are classified into the group with 'poor insight', those between 4 and 15 into the group of 'fair insight', and those between 16 and 20 into the group with 'good insight'. When above criteria were applied, the sensitivity of HAIS for the classification of the insight state was from 76.9 to 100.0%, and its specificity was from 83.3 to 94.9% (10). The Cronbach's alpha of HAIS was 0.82-0.89 (10, 11, 28), and its significant item-total correlation was observed among all the questions (11). In this research, Cronbach's alpha was 0.84 to the positive questions and 0.79 to the negative ones.

### Statistical analysis

Subjects were divided into the precontemplation stage, the contemplation stage, and the action stage. In order to compare patients' characteristics among the stages of change, one-way ANOVA test with least significant difference post hoc analysis according to the equality of variances was performed for continuous variables, chi-square test for nominal variables, and Fisher's exact test for nominal variables with the number of respondents less than 5. The effect of insight on the readiness to change was investigated by multinomial logistic regression test on the basis of the precontemplation stage for the control of the variables, which were known to be related to the change of behavior in alcohol dependent patients, such as old age (14, 29), less severity of drinking problems (29, 30), higher educational state (31), the presence of occupation (32, 33), and family support (34). SPSS Windows 13.0 version was used for the analysis.

## RESULTS

### Subjects' general characteristics

The mean age of the 131 patients was 47.6 yr, and 19 (14.5

% of them lived in rural areas, 43 (32.8%) in small and medium cities, and 69 (52.7%) in large cities. As for academic qualification, 29 (22.1%) were elementary school graduates and below, 34 (26.0%) middle school graduates, 54 (41.2%) high school graduates, and 14 (10.7%) college graduates and above. As for occupation, 31 (23.7%) were unemployed, 5

(3.8%) office workers, 31 (23.7 %) manufacturing workers, 24 (18.3%) construction workers, 33 (25.2%) service workers, and 7 (5.3%) miscellaneous types of workers. Among the subjects, 50 (38.2%) were living with the spouse and 81 (61.8 %) were not for the reason of divorce, separation, bereavement, no marriage, etc (Table 1).

**Table 1.** General characteristics of subjects

Characteristics	Subjects (N=131)
Age (yr)	
Mean $\pm$ SD	47.6 $\pm$ 7.1
Residence (%)	
Farming	19 (14.5)
Small town	43 (32.8)
City	69 (52.7)
Education (%)	
Elementary or less	29 (22.1)
Middle school	34 (26.0)
High school	54 (41.2)
University and above	14 (10.7)
Occupation (%)	
Unemployed	31 (23.7)
Officer	5 (3.8)
Manufacture	31 (23.7)
Construction	24 (18.3)
Services	33 (25.2)
The others	7 (5.3)
Living with spouse (%)	
No	81 (61.8)
Yes	50 (38.2)
Religion	
No	46 (35.1)
Yes	85 (64.9)
Number of past hospitalization due to drinking	
Mean $\pm$ SD	4.7 $\pm$ 4.6

### Stage of readiness to change of subjects

When the 131 subjects were grouped according to the readiness to change, 14 (10.7%) were in the precontemplation stage, 65 (49.6%) in the contemplation stage, and 52 (39.7%) in the action stage. The patients in the action stage were significantly older than the patients in the precontemplation and contemplation stage ( $p < 0.01$ ). The distribution pattern of patients among the stages according to the academic qualification and the presence of occupation did not show any difference. Many of the patients in the precontemplation and contemplation stage did not have a spouse, but many of those in the action stage had a spouse ( $p < 0.01$ ). The score of drinking problems was significantly higher in the contemplation stage group than in the other two groups ( $p < 0.001$ ). The insight score was significantly lower in the precontemplation stage group than in the other two groups ( $p < 0.001$ ) (Table 2).

### Effect of insight on the readiness to change

In order to find out the effect of insight on the readiness to change, multinomial logistic regression was performed on the basis of the precontemplation stage, with the use of the insight score and the patients' characteristics, which were known to be related to the change of behavior in alcohol de-

**Table 2.** Stage of readiness to change of subjects

	Precotemplation (N=14)	Contemplation (N=65)	Action (N=52)		p value
Age (yr)					
Mean $\pm$ SD	45.6 $\pm$ 8.5	45.9 $\pm$ 6.9	50.3 $\pm$ 6.4 <sup>§</sup>	F=6.427*	0.002
Education (%)					
Elementary or less	5 (35.7)	17 (26.1)	7 (13.5)	$\chi^2=8.541^†$	0.201
Middle school	5 (35.7)	12 (18.5)	17 (32.7)		
High school	4 (28.6)	28 (43.1)	22 (42.3)		
University	0 (0.0)	8 (12.3)	6 (11.5)		
Occupation (%)					
Unemployed	2 (14.3)	18 (31.0)	11 (21.2)	$\chi^2=2.160^†$	0.351
Employed or self-employed	12 (85.7)	40 (69.0)	41 (78.8)		
Living with spouse (%)					
No	9 (64.3)	48 (73.8)	24 (46.2)	$\chi^2=9.427^†$	0.009
Yes	5 (35.7)	17 (26.2)	28 (53.8)		
Score of drinking problems					
Mean $\pm$ SD	22.7 $\pm$ 7.7	29.4 $\pm$ 6.1 <sup>§</sup>	25.3 $\pm$ 6.4	F=9.512*	<0.001
Insight score					
Mean $\pm$ SD	-2.6 $\pm$ 5.3 <sup>§</sup>	9.8 $\pm$ 7.7	7.4 $\pm$ 7.6	F=15.827*	<0.001

\*one-way ANOVA; <sup>†</sup>Fisher's exact test; <sup>‡</sup>Chi-square test; <sup>§</sup>This group was significantly different from others by LSD post hoc test.

**Table 3.** Multinomial logistic regression\* of the factors different among stages of readiness to change

	B	Standard error	Wald	<i>p</i> value	Exp (B)	Exp (B) 95% confidence interval	
						Lower	Upper
Contemplation							
Age	0.054	0.061	0.788	0.375	1.056	0.937	1.190
Education (yr)	0.140	0.111	1.602	0.206	1.151	0.926	1.430
Occupation	-1.039	1.153	0.813	0.367	0.354	0.037	3.387
Living with spouse	0.032	0.775	0.002	0.967	1.033	0.226	4.720
Score of drinking problems	0.049	0.063	0.607	0.436	1.051	0.928	1.189
Insight score	0.208	0.070	8.779	0.003	1.231	1.073	1.413
Action							
Age	0.134	0.063	4.555	0.033	1.143	1.011	1.293
Education (yr)	0.212	0.114	3.453	0.063	1.236	0.988	1.545
Occupation	-0.274	1.197	0.052	0.819	0.760	0.073	7.941
Living with spouse	0.889	0.770	1.332	0.248	2.432	0.538	10.996
Score of drinking problems	-0.009	0.063	0.018	0.892	0.991	0.877	1.122
Insight score	0.222	0.071	9.731	0.002	1.249	1.086	1.436

\*The reference category is the precontemplation stage.

pendent patients, as independent variables. According to the results, the possibility of the contemplation and action stage went up 1.231 ( $p < 0.01$ ) and 1.249 ( $p < 0.01$ ) times higher as the insight score increased. Also, the possibility of the action stage went up 1.143 ( $p < 0.05$ ) times higher as age increased. The other factors did not show any relationship to the readiness to change (Table 3).

## DISCUSSION

In this study, 10.7% of the subjects belonged to the precontemplation stage, 49.6% to the contemplation, and 39.7% to the action stage. In one study (35), around 28% were known to be in the precontemplation stage, and another 42% in the contemplation stage, and about 31% in the action stage. In a study in Germany (36), around 67% were in the precontemplation stage, 24% in the contemplation stage, and about 8% in the action stage. In this study the percentage of the subjects in the precontemplation stage was lower than that in the other studies. The result is most likely to come from the fact that this study was designed for the patients who were being hospitalized due to alcohol dependence, unlike the study in Germany whose subjects suffered from hazardous alcohol consumption, alcohol misuse and dependence in a general population survey. This hypothesis seems to be consistent with the finding of Williams *et al.* (37) that greater readiness was significantly associated with a higher severity of alcohol problems. Our study also showed that the patients in the precontemplation stage showed lower scores in drinking problems and insight. This could mean that the more serious the drinking problem was, the more the patients were exposed to the problem, which could be reflected in the insight formation and the degree of consideration in the form of real-

ization. In the other aspect, the denial of alcohol dependent patients needs to be considered in the interpretation of the result. Denial, which is one of the most common defense mechanisms of the patients with alcohol dependence (24), may cause more negative response to their drinking problems as well as a lower insight score. This hypothesis was supported by the report by Kim *et al.* (38) that alcohol dependent patients with poor insight showed more false negative reactions on the alcoholism screening test.

In this study, the patients in the action stage were old. The finding seems to be consistent with the previous results of the studies (14, 29) showing the older the patients were, the better prognosis they had. Several factors could be considered in interpretation of this finding. Most studies show a decrease with age in consumption and alcohol-related problems among heavy drinkers (39). Less use of alcohol in older populations than in younger populations may contribute to the lower severity of drinking problems. The patients in the action stage in our study also showed a trait of lower score of drinking problems. In addition, they also tended more to have a spouse than other groups. This may suggest the possibility of support from the family toward the patient's recovery. Authors think that this hypothesis is supported by the result of the study (29) that the presence of a spouse is related to the better prognosis in alcoholism.

The present study is significant in that it measured the stage of readiness to change and insight quantitatively and examined the effect of insight on the readiness to change. The patients' insight seems to have a role in transferring from the precontemplation to the contemplation and the action stage in alcoholism. This may suggest that patients in the precontemplation stage can proceed to the contemplation stage and action stage if their insight is improved. Further studies are needed to ascertain if insight is the causative factor that can

help patients to proceed to the contemplation or action stage.

This study has a limitation of not having made it clear what relations the insight had in the preparation and the maintenance stage since the insight of all five stages of readiness to change could not be researched. Besides, because there were a small number of women patients (eight patients during the study period), the comparison was not made between male and female patients. Further studies are needed to find out the relationship between the readiness and insight of the subjects who have other cultural factors such as different languages, sex, and specific ages.

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