

ORIGINAL ARTICLE

Exploring risk factors for re-drinking among alcoholics who use day care services: considering support for continuing a life of sobriety

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Abstract

Maintaining sobriety is essential to the recovery of alcoholics. Day care is one way to support the maintenance of sobriety, but many patients still relapse into drinking while attending it. In this study, a questionnaire survey using the Alcohol Relapse Risk Scale (ARRS) was administered to attendees of specialized day care, focusing on age, the number of months in day care, the number of days in day care in the last three months, and the presence of a family member as factors influencing alcoholics' drinking behavior. Age and the presence or absence of a family member were factors that influenced alcohol consumption. Conversely, the number of months and the number of days in the last three months were not found to affect the risk of drinking again. Patients living with family members are suggested to need support that considers the patient's age and the background of the family members. Ultimately, although it is not sufficient to simply connect the patients to a day care facility, it may at least help them to maintain sobriety if they are actively involved in attending the day care.

Key words: *alcoholism, day care, risk of relapse*

INTRODUCTION

Alcoholism can cause a variety of problems, including those related to physical and mental health, to social life (e.g., work), and to relationships with family and friends. Continued abstinence from alcohol (not drinking at all) is recommended as opposed to attempting to live a life of reduced drinking (Imamichi, 1996; Oguchi, 2014). However, high rates of returning to drinking alcohol and relapse to dependence have been widely reported (Hotta, 2010), indicating that it is difficult to maintain sobriety and that the prognosis is not good (Wakabayashi, 2016).

Alcoholics' reasons for re-drinking might be categorized as either relapse of negative emotions, social pressure, or craving and desire (William, 2003). Studies have surveyed outpatients and members of self-help groups, such as Alcoholics Anonymous (AA), and they found environmental, psychological, and physical factors as causes of re-drinking (Kihara, 2014; Kitaoka, 2011; Sako, 1999; Sugiyama, 2007; Wakabayashi, 2018). Various factors are thus thought to be involved in re-drinking behavior, but there have not been many studies specific to investigation of day care users. This study examined the risk factors for re-drinking among alcoholics who attend a specialized day care center.

Time course after inpatient treatment

The goal of treatment for alcoholics is 'social adjustment through continuing sobriety' (Kosugi, 1997), and continuing sobriety can enable them to lead a social life that is apparently not different from the social life of healthy adults. However, in one study, the sobriety rate dropped sharply within three months of treatment and then gradually levelled off, with sobriety rates at three months being <50% in most representative studies (Hotta, 2010). As more time passes after inpatient treatment, there is further decline in the rate of sobriety. After one year of discharge it has been reported at around 30% (Higuchi, 2007), and at three years only 20% remained sober (Yonezawa, 2005). A survey revealed that patients who have been sober for ≥15 years still commonly have the desire to drink. The desire itself does not disappear no matter how long they stay sober, and even long-term sobriety requires great effort and does not easily lead to a sustained life of sobriety (Kihara, 2014). Furthermore, the rate of sobriety declines with repeated hospitalization and discharge (Matsushita, 2016), indicating that prevention of relapse after inpatient treatment is very important for the treatment of addiction.

Maintaining sobriety after inpatient treatment requires great effort for alcoholics. Prevention of

relapse and promotion of recovery through the use of medical and welfare services are therefore desirable, even after discharge from hospital. Day care is one option for rehabilitation (Matsui, 2019). Patients spend six hours during a day with their peers who have the same problems and participate in various programs at specialized medical institutions. The multidisciplinary staff, including physicians, nurses, mental health workers, and occupational therapists, are dedicated to providing support. Physicians, medical staff or family members recommend patients use day care during hospitalization or outpatient visits. The frequency of visits varies from once a week to five times a week, depending on the patient's condition and level of recovery, and is adjusted in consultation with the patient. Some patients are out of work or on leave, while others continue to work while attending day care. Some patients also go to day care while taking medication, attending outpatient clinics, and participating in self-help groups such as AA meetings. Day care functions to help alcoholics maintain sobriety, to facilitate smoothly transfer back into the community, and to help to maintain a stable lifestyle and mental state. Recovery in the community through the use of day care is preferred over inpatient treatment in a hospital (Toshida, 2002). However, despite the benefits of this function, there seem many patients who drink alcohol even while using day care services (Aso, 2018) and can be repeatedly admitted to and discharged from the hospital. It is therefore important to explore the factors that may lead to alcohol consumption even when using day care after hospitalization.

One such factor could be the duration of attendance (years) and the frequency of participation (number of days of participation in day care). For example, a survey of self-help group members showed that continued sobriety was significantly positively correlated with participation in self-help groups (Itabashi, 2019). Another study examined the factors that affected sobriety among AA members; the length of membership was shown to be a protective factor and the inability to attend meetings at all was shown to be a risk factor (Nitta, 2021). The length of attendance and the frequency of participation may therefore be factors that influence sobriety in patients in day care.

Family members and patient age

Family members play an important role in the treatment of alcoholism and they greatly influence

prognosis (Ino, 2008). Because of family pressure and family-related factors in an alcoholics' sobriety and recovery (Nishikawa 2005ab; Ochi, 2012, 2016; Ojesjö, 2000; Rumpf, 2002), many specialty hospitals hold classes for the family members with the goal of the family members being a part of the recovery process (Yasuda, 1997). On the other hand, repeated relapses often lead to disconnection from friends, family and society, resulting in many cases in patient isolation. In particular, there is an increase in the rate of divorce or separation after their last discharge among readmitted patients (Otsuka, 2014). Also, relapse is significantly higher among patients who live alone (Morokuma, 2008). In a study focusing on alcoholics living alone, the patients were observed to be older, and the number of hospitalizations tended to increase with increasing age (Ishii, 1987). Elsewhere, in a study focusing on the relationship of marital status and age of alcoholics, those that were married tended to be older than those that were not married, and both the duration of drinking and the duration of sobriety were longer (Katayama, 2009). Other studies have reported higher rates of sobriety among older adults compared with younger adults and alcoholics as a whole (Higuchi, 2001; Mitomi, 1999; Ohba, 2009; Satre, 2004; Wake, 2022; Wieben, 2019). Therefore, the effect of age has also differed depending on the study.

Present Study

As described above, the passage of time after inpatient treatment, the presence or absence of a family member and age are thought to be associated with alcoholics' relapse to alcoholism, but these factors have not yet been examined in combination. In reality, it is not one factor alone, but rather a combination of factors that may lead to relapse into drinking alcohol again. It is therefore important to examine which factors have a major influence and to predict the risk of drinking again from multiple factors. While most previous studies have focused on inpatients, outpatients, and members of self-help groups, such as AA, this study examine the risk factors for re-drinking among alcohol-dependent patients who use day care centers. We focus on age, the number of months in day care, the number of days in day care in the last three months, and the presence or absence of a family member. Then, we consider how support might be provided to help them maintain their sobriety as members of society.

METHODS

Subjects

Twenty-five male alcoholics who attend day care at a hospital specializing in alcoholism in Osaka prefecture participated in the study. All participants agreed to participate in the study. The day care center had 86 registered patients (as of December 2022), and 20 to 30 patients attended the center each day. The users were divided into two main groups: a group mainly composed of elderly people, whose goal is to continue sobriety, and a group mainly composed of working-age people, whose goal is to reintegrate into society through employment. The two groups hold joint day care meetings to discuss their experiences and participate in education programs together. There are also a variety of programs available such as farm work in the fields, gym training, and other voluntary programs that they can choose to do as needed. The programs are run by full-time occupational therapists and mental health workers.

Procedures

The Alcohol Relapse Risk Scale (ARRS; Ogai, 2009) was used to administer the questionnaire developed by the Tokyo Metropolitan Institute of Medical Science to multi-determine and predict the risk of alcohol relapse in alcohol-dependent patients. It is a self-administered, 32-item questionnaire based on patients answering by three-rating scale (\times : not applicable, Δ : undecided, \bigcirc : applicable). Each item consists of 'stimulus-induced vulnerability' (the likelihood of drinking alcohol depending on the situation, such as when it is in front of them, when they are invited, or when they are alone), 'emotionality problems' (feelings of loneliness, lack of motivation, anxiety, and inability to control emotions), 'compulsivity for alcohol' (impulsivity to drink at any cost), 'lack of negative expectancy for alcohol' (degree of not being fully aware of the negative consequences of drinking), and 'positive expectancy for alcohol' (the expectation that drinking will make them feel successful and energized). In addition, there are five questions to screen out respondents with a significant lack of disease awareness (i.e., whether they have sufficient awareness that they are alcoholics). Further, participants' age, the presence or absence of a family member (family presence), the number of months since the start of day care use, and the number of day care days within the last three months were also obtained as basic information.

Analysis

The ARRS items were scored on a scale of 1 (\times =

1), 2 (Δ = 2), and 3 (\bigcirc = 3), and a simple total score was calculated for each subscale. Multiple regression analysis was conducted using age, the number of months and the number of days of day care in the last three months as explanatory variables, and the ARRS total score and the total score of the five subscales as criterion variables. Age is a continuous variable and family presence is a categorical variable, so an interaction term between age and family presence was created, and multiple regression analysis was conducted with age, family presence, and the interaction term as explanatory variables and the ARRS total score and the five subscales as criterion variables.

Ethical Considerations

The study was conducted after obtaining approval from the Osaka Kawasaki Rehabilitation University Research Ethics Review Committee. Before completing the survey, a document describing its purpose and the details of cooperation was presented to participants. Participant's consent was obtained in writing after oral explanation.

RESULTS

Basic participants attributes

The mean age was 66.12 years (SD = 11.48, range = 40-90), the mean number of months of attendance was 54.51 months (SD = 55.98, Md = 32.36, range = 2.17-222.83), and the mean number of days of attendance in the last three months was 35.08 days (SD = 20.01, Md = 36.0, range = 2-70). Thirteen patients were living alone and 12 patients lived with a family member.

Risk factors for re-drinking behavior

Multiple regression analysis was conducted using age, the number of months and the number of days in the last three months as explanatory variables and the ARRS total score as the criterion variable. Age was significant (p = .001, B = -0.49), while the number of months (p = .08, B = -0.002) and the number of days in the last three months (p = .09, B = 0.13) remained marginally significant. Regarding the subscales, only age was a significant factor for all subscales (ps < .05).

Next, multiple regression analysis was conducted using age, family presence, and the interaction term as explanatory variables and the ARRS total score as the criterion variable. Age was significant (p = .03, B = -0.38), while presence of family members (p = .89, B = 0.40) and interaction (p = .28, B = -0.30) were not

significant factors. For the subscales, there was a significant interaction between age and the presence of family members ($p = .04$, $B = -0.37$) for stimulus-induced vulnerability. Age was not significant for living with a family member ($p = .27$, $B = -0.12$), but it was significant for living alone ($p = .002$, $B = -0.49$), indicating that the risk of vulnerability decreases with increasing age (Figure 1). The interactions in the other subscales were not significant (Figures 2, 3, 4, and 5).

DISCUSSION

Focusing on age, the number of months attending day care, the number of days of attendance in the last three months, and the presence of a family member as factors influencing alcohol relapse, we conducted a survey using the ARRS on attendees of specialized day care. Age and the presence or absence of a family member were the factors that influenced alcohol relapse in our cohort. On the other hand, the number

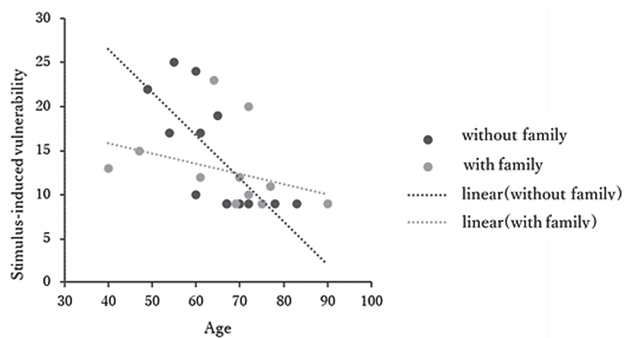


Figure 1. Effects of age and family on stimulus-induced vulnerability

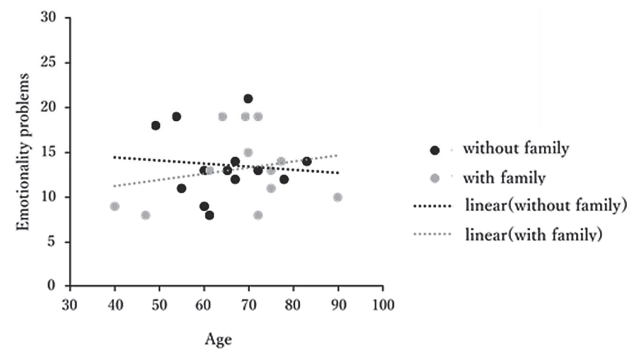


Figure 2. Effects of age and family on emotionality problems

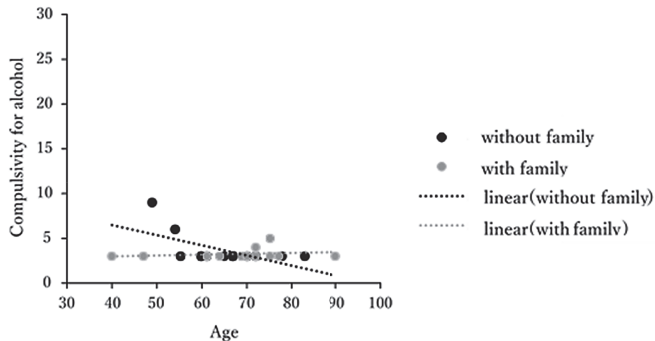


Figure 3. Effects of age and family on compulsivity for alcohol

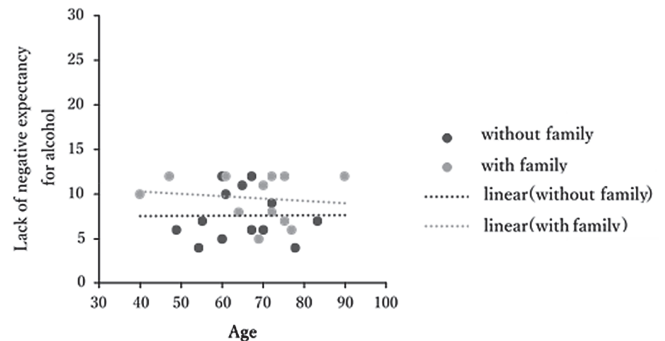


Figure 4. Effects of age and family on lack of negative expectancy for alcohol

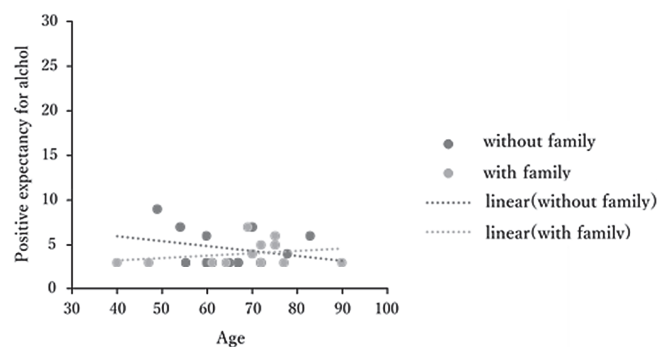


Figure 5. Effects of age and family on positive expectancy for alcohol

of months and the number of days in the last three months of day care attendance were not found to be significant factors affecting risk of re-drinking.

Age and risk of re-drinking

Regarding age, the results suggest that the risk of drinking again decreases as the age of the alcoholic increases. This supports previous studies, in which older alcoholics have had a better prognosis for sobriety than younger people (Higuchi, 2001; Mitomi, 1999; Ohba, 2009; Satre, 2004; Wake, 2022; Wieben, 2019). It is therefore assumed that the risk of re-drinking should be lower among older alcoholics who use day care. The functional role of day care for alcoholics is to serve as a place to stay rather than as a means of reintegrating into society (Maesato, 2009). As age increases, it may be more difficult to secure employment or a place to stay in the community, but day care may function as a place to stay for the older alcoholics.

Alcoholics under the age of 55 years are more likely to have negative feelings and anxiety and to have lower self-esteem (Aso, 2018). Negative emotions and anxiety have been shown to be central to alcoholics' desire to drink and a factor in relapse (Asahina, 2015; Sako, 1999; Yokoyama, 2015; Zywiak, 1996). Alcoholics overall reportedly have low self-esteem and high interpersonal anxiety (Kobayashi, 1997), and drinking alcohol as a way to cope with these problems is a cause of the onset of their disease (Wakabayashi, 2007). Negative emotions, anxiety, and low self-esteem in young people may therefore be associated with the risk of alcohol re-drinking due to age.

Family members, age and risk of re-drinking

This study demonstrated a relationship between age and family presence on the vulnerability to stimuli. When the alcoholics live alone, vulnerability to alcohol was shown to decrease with increasing age, but not when they live with a family member. In previous studies, the relapse rate of addiction increased when they lived alone (Morokuma, 2008; Walter, 2006), and the present study found that the effect depended on patients' age.

Regardless of marital status, AA meetings reportedly provide emotional support and friends, and that can be a deterrent to drinking (Kataoka, 2009). Alcoholics who are prone to relapse to drinking due to loneliness caused by living alone and increasing age (Kudo, 1983) may therefore find that day care provides an opportunity to interact with others who have

similar problems as they do, thereby decreasing their vulnerability to stimulation.

On the other hand, the risk of vulnerability to stimuli did not change with age for those who lived with a family member. These results differed from those of previous studies, which showed that the presence of a family member influences the sobriety of recovering alcoholics. Over-interference, caretaking, and patients being directed by family members have been reported to cause patients to rebel and this can contribute to their relapse (Nishikawa, 2020; Ochi, 2021, 2016; Oka, 2013; Sako, 1999). Family changes may therefore affect patients' prognosis (Oka, 2013). Family ties that have been recovered and maintained are reportedly a major source of support for continued sobriety (Kobayashi, 2013; Nishikawa, 2005a). In one reported case, for example, sense of responsibility as a parent motivated a patient to continue sobriety, and he could maintain sobriety without joining a self-help group (Kawamoto, 2011). Family functions (e.g., relationships with family members and perceptions of family members), rather than the presence or absence of family members living with the patient, are suggested by these studies to have a significant influence on vulnerability to stimuli. In the current study, we asked only the presence or absence of a family member, and did not examine family function in detail. Different results may be obtained by analyzing in terms of the inter-family relationship and their perception of their family members.

Length of day care attendance and risk of alcohol relapse

Length of day care attendance and the number of days spent at day care in the last three months were not found in this study to be direct factors in preventing a return to drinking alcohol again. This result corresponds with a previous study that reported that simply attending AA meetings did not solve the essential problem (Kobatake, 2000). Patients need to be personally active in dealing with their own problems in order to maintain sobriety. The low sobriety rate among alcoholics may be due in part to many hospitalized patients being passive and not adequately participating in treatment in a positive manner (Muraoka, 1992). In day care, the patients receive treatment comparable with inpatient treatment, and it has an intermediate role between conventional inpatient treatment and patients' reintegration into society (Yoshimasu, 2003). Day care users might attend day care passively without having their own meaning attached to the purpose of attending it, so the duration

and length of attendance were not necessarily direct factors in reducing the risk of returning to drinking alcohol.

Support at day care

Based on these results, support should take into account the patients' age and the background of their family if they live with others. It is not sufficient to merely connect (or keep connected) patients who have completed inpatient treatment to day care. To maintain stable sobriety, it is necessary to provide services that enable patients to actively attend day care, such as evaluating their participation status, encouraging interaction with peers, and providing activity programs.

Limitations and future directions

There are several limitations in this study. The study was conducted at just one facility with only 25 male participants, and it lacked a control group. Participants varied in their drinking history, educational background, occupation, and family relationships. Some attended self-help groups other than day care, and some attended day care while working; but these factors were not controlled in this study. Different facilities offer different activity programs, so future studies should seek to examine the effects of different programs and facilities. Comparing different programs or facilities may reveal risk factors of alcohol relapse more detail.

CONCLUSION

Age and the presence or absence of a family member were factors that influenced alcohol consumption. Conversely, the number of months and the number of days in the last three months spending at the day care were not found to affect the risk of drinking again. Patients living with family members are suggested to need support that considers the patient's age and the background of the family members. Ultimately, although it is not sufficient to simply connect the patients to a day care facility, it may at least help them to maintain sobriety if they are actively involved in attending day care.

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