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The Ideal Age of Consuming Alcohol

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ABSTRACT: ***Morbidity and death from alcohol-related disorders impose a large price on society worldwide. Researchers in the area of addiction are based on studying the processes by which alcohol-related conditions evolve and advance in order to reduce the financial strain on society and increase the quality of life for people suffering from the ill effects of alcohol dependence. As the amount of substance addiction testing that can be conducted in humans is constrained by legal considerations and intrinsic challenges, most is performed in laboratory animals.This paper reviews the different substance addiction laboratory models that are currently available that are used to research the processes by which alcohol abuse causes organ injury and immune defects. Any of the models' strengths and shortcomings was discussed.The presentations made at the symposium "Methods of Ethanol Application in Alcohol Model-How Long Is Long Enough" at the joint 2008 Research Society on Alcoholism (RSA) and the International Society for Biomedical Research on Alcoholism (ISBRA) conference, Washington, DC, are incorporated into the study, emphasizing the importance not just of selecting the most suitable laboratory alcohol, but also of selecting the most acceptable laboratory alcohol.***

KEYWORDS: ***drinking rates, alcoholism, amount, frequency drank, Initiation Age, Initiation predictors.***

INTRODUCTION

Recent media exposure to alcohol-related deaths on college campuses has brought the ongoing issue of college drinking to public attention. Over the last 2 weeks, nearly half of students record a heavy drinking incident, and one-quarter are engaged in heavy or troublesome drinking.Surveys found that a strong episodic drinking habit is correlated with lower grade point averages, higher drinking and driving rates, higher incidences of attack and violence, and a major cost burden for schools, hospitals, and the legal system[1].Residents living near college campuses record reduced quality of life in proportion to drinking rates on campus, and students living on campuses with elevated drinking rates are more likely to be attacked and disrupted by their studies[2].

A number of alcohol intervention and prevention programs have been instituted by colleges and universities in response. Sadly, comparatively few have been seen to be effective in reducing intake. Even for such empirically funded initiatives, impact results have also been restricted to observational tests, prospective change predictions, and/or improvements in anything other than alcohol (e.g., knowledge). While a subset of skills-based, attitudinal, and motivational strategies are empirically validated, these methods are less well disseminated because of their comparatively high expense [3].

The prevalence of input based therapies has been an exception to this pattern. Based on research on motivational and cognitive psychology, feedback approaches focus on the presentation of

discrepant information, such as a personal drinking profile (e.g., amount-frequency drank, peak level of alcohol in the blood, amount of alcohol expended, caloric intake), risk factors (e.g., genetic risk of alcoholism, resistance, dependency)[4]. Nearly any individual intervention that demonstrated a decrease in drinking employed tailored drinking input in two recent studies of the college recovery literature. Feedback is used as an alternative to a client or social therapy session in certain cases. For example, prior to meeting with a psychologist, a student may be asked to complete drinking tests.As part of the counseling session, a drinking history is then given to the student. Feedback is used in some ways as a stand-alone action. In reality, colleges may use feedback as an adjunct to programs aimed at high-risk student groups (e.g., freshmen, athletes, Greek-affiliated) or provide other large groups with mailed or electronic feedback. Any commercially accessible software used input in a recent study of computerized preventive initiatives as one component of the intervention [5]. These studies alone indicate that every year, probably tens of thousands of students are getting drinking reviews.

Age of Initiation predictors

A variety of factors known as later abuse predictors have already been identified as substance usage predictors of the age of initiation. A consistent result is that at an earlier age, males start consuming alcohol than females [6]. White kids often commonly start consuming alcohol at a younger age than black kids.

Among family domain variables, both weak family management practices and low family cohesion have consistently been shown to be connected to an earlier initiation period. Parents' alcohol has also been related to an older initiation age[7].

The prevalence of alcohol-friendly attitudes has been shown to precede the initiation of alcohol consumption [8]. While such attitudes are likely to derive from the family and social atmosphere of the infant, this association has not been tested in attempting to predict the initiation of alcohol.

The Role of Initiation Age

The literature on predictors of substance dependence and age of initiation indicates that a variety of variables associated with age of initiation are often associated with later alcohol abuse. What, then, is the role of age initiation with respect to predictors of potential misuse? As Robins points out, one explanation is that the age of initiation is merely a correlation of other variables that are the real causes of subsequent misuse[9].The second hypothesis is that initiation age is significant in the etiology of later misuse, and that only by its impact on initiation age are variables such as family management correlated with later misuse. The important concern with preventive consequences is whether the bivariate association between factors such as family management and later substance dependence is affected by the age of alcohol initiation.

The research on alcohol abuse predictors also raises questions about the impact of gender on the initiation age and the extent of alcohol usage issues. Studies frequently claim that men both begin alcohol consumption sooner and eventually suffer a greater degree of alcohol abuse issues. However, it is not known to what degree, for both men and women, psychosocial risk factors are mediated by the age of initiation of alcohol consumption.One explanation is that gender has direct effects on either the age of initiation or the extent of difficulties with alcohol misuse; that

is, men actually have more problems linked to alcohol. The second hypothesis is that in predicting initiation age or degree of alcohol abuse, gender correlates with other factors. Any factors (e.g., peer alcohol initiation, or school bonding) can be better predictors for males or females [10].

Resolution of these problems is essential to the advancement of preventive initiatives. It is important to concentrate intervention efforts on the causes that relate to alcohol consumption that are part of the causal chain. If the paradigm of mediation holds, preventive initiatives should rely specifically on delaying the initiation of alcohol by age. If the mediation model works, however, delaying initiation of substance consumption does not seem to be a realistic goal for preventive programs.

Choosing the best Alcohol Addiction Laboratory Model

In order to explain the pathogenesis of alcohol-related disorders in humans, scholars would like to use species closest to humans, such as non-human primates. However, the cost, the period for which these animals must be kept exposed to alcohol and the fact that not all of them exhibit the ill effects of alcohol to the same degree, also discourage non-human primates from being either viable or suitable as models [11].Further experimental models of alcohol administration in vivo and in vitro have therefore been created. Methods most widely used to study the effects of alcohol on different organs and processes (e.g. immune, endocrine and CNS) include the use of alcohol in intact animals (in vivo) or exposure of isolated organs, tissues, and primary and transformed cell lines to alcohol in culture (in vitro).The study issue is of utmost significance when choosing or designing a laboratory model of substance addiction. The study issue would decide the choice of the species, the strain, the age and nutritional status of the animals, the mode of use of alcohol and the period of exposure to alcohol. The most widely used in vivo alcohol models have been developed for laboratory mice, rodents, ferrets, guinea pigs, hamsters, rabbits, mini pigs and monkeys.The significance of choosing the most suitable species, strain, route of alcohol use, and laboratory animal for the production and advancement of alcohol-related diseases and immune deficiencies will be addressed [12]. In addition, the advantages and drawbacks of the available laboratory models, along with some cautionary remarks, will be considered for the sake of the inexperienced investigators wanting to use either of these models.

CONCLUSION

The selection of a suitable animal model for study on the effects of alcohol on different organs and systems is not only important, but may also affect the outcome of the proposed experiment. Alcohol is distinct from other drugs that act by modulating a given receptor pathway. Since it is a drug that travels rapidly across the body, it can affect many organs. This is particularly true of the immune system, where alcohol can have dissimilar effects in various immune compartments. Researchers may control several factors that affect the outcome of their research by selecting a suitable animal model and experimental design. However, it is nearly difficult to regulate the secondary effects of alcohol consumption, such as supply of nutrients or metabolism. Irrespective of the paradigm used for the alcohol analysis, it is important for authors to draw conclusions regarding their observations in the sense of the experimental design and not generalize their results.

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