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Predictive Role of Duration of Treatment, Social Anxiety in Self-Efficacy to Resist Alcohol among Persons with Alcohol Use Disorder in Ghana

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Abstract

Background: Self-efficacy to resist alcohol use is necessary to prevent relapse after treatment. However, the duration of patients stay in treatment and social anxiety are crucial in treatment outcomes of patients but its predictive role in self-efficacy to resist alcohol in the Ghanaian context is yet to be known.

Methods: Sixty participants obtained through purposive sampling participated in the study. These participants were patients with an established diagnosis for alcohol use disorder within the three main public psychiatric institutions and a specialized alcohol rehabilitation clinic in Ghana. Participants' demographic information was analysed using frequencies while multiple linear regression was used to test the hypothetical idea of the study.

Results: 55% of the sample had severe social anxiety, 53% had been in treatment for more than three months and 60% of participants in the study had low self-efficacy to resist alcohol. Also, social anxiety and duration of treatment significantly predicted self-efficacy to resist alcohol. 15% of the variation in self-efficacy to resist alcohol was explained by participants' social anxiety and duration in treatment.

Conclusions: Social anxiety and duration of treatment are the key influence of self-efficacy to resist alcohol among inpatients receiving treatment for alcohol use disorder in Ghana.

Keywords

Alcohol use disorder, Social anxiety, Self-efficacy to resist alcohol

Introduction

Alcohol is a legal psychoactive substance that has provided both benefits and costs to its consumers. Researchers and clinicians have both found alcohol to be associated with physical and psychological health problems including alcohol use disorder [1,2]. Alcohol use disorder is defined by Kranzler and Soyka [3] as a problematic pattern of compulsive and uncontrolled alcohol use associated with clinically significant impairment or distress to the individual. The WHO [1] report intimated that alcohol use disorders contributed to 1 out of every 20 deaths in 2016 and more than 5% of the global disease burden. However, there are different treatment modules purposely designed for persons with alcohol use disorders including mutual aid groups such as Alcohol Anonymous (AA) and other specialized treatment modules or both [4]. This notwithstanding, alcohol use disorders can be described to be on a spectrum with those at the severe end of the spectrum (dependence) finding it difficult to benefit from help geared towards quitting the use of the substance [5].

In Ghana, alcohol use dates back to the pre-colonial era [6]. Before the arrival of the colonial masters, akpeteshie, a traditional locally produced alcoholic beverage was consumed in Ghana. According to Isidore [7] akpeteshie, a local alcohol beverage in Ghana, has a historical significance for the people of Ghana because

as a local gin, colonial administrators barred it in an attempt to control the West African liquor trade in the early part of the last century. The brewing, sale, and consumption of the locally brewed substance was prohibited and offenders were prosecuted and jailed. Activities associated with the drink thus became an underground business and this gave rise to the name akpeteshie; which in Ga, a local dialect in Ghana means secrecy.

Alcohol use and its related problems are considered a medical and psychological challenge in Ghana. Ofori, et al., [8] have indicated that 1.2 million Ghanaians experience alcohol and drug-related problems owing to problems such as unemployment, economic hardship [9] and sense of loss, interpersonal conflicts, religio-cultural factors, and treatment-based issues [10]. Even though national data on alcohol use disorders is not readily available in Ghana, statistics available from WHO [11] report that Ghanaian college students rank 3rd in Africa for alcohol use with Benin as 1st and Botswana 2nd. Ghana also ranked 16th in continental alcohol use.

Despite this, alcohol use disorders are a misconstrued condition in Ghana as persons with the condition are perceived to have moral defects [12]. This is deepened by the significant influence of religion in most Ghanaian societies, which tends to shape public perception of issues including substance use disorders, and consequently, spiritual explanations are offered by persons with alcohol use disorders for the condition [13]. The underlying cause of the disorder such as depression and anxiety [14] are however often overlooked.

However, in instances where substance use disorders are conceptualized as a health concern, they are tied to mental illness [12]. Consequently, there is some iota of stigmatization and discrimination as in the case of most mental illnesses in Ghana [15,16], and this development is also likely to influence people's willingness to seek treatment for their condition. It is further possible that the stigma attached to alcohol use disorders will likely drive people into social anxiety. Social anxiety is a type of anxiety disorder described by the Diagnostic and Statistical Manual for Mental Disorders V to be marked with fear or anxiety about one or more social situations in which the individual is exposed to possible scrutiny by others [17]. The individual with social anxiety is often anxious about the perception others have of him and thus is likely to experience signs or symptoms of anxiety when in social situations.

Literature has acknowledged the comorbidity of alcohol use disorder and social anxiety [18-22]. A report by the World Health Organisation details that persons with alcohol use disorders who have comorbid anxiety disorders are likely to relapse during the first three months of treatment while Herd & Borland [23] indicated relapse rates ranging from 35% to 95% three months

after treatment of persons with alcohol use disorder. It therefore sufficesto assert that social anxiety threatens the success of professional help offered to persons with alcohol use disorder.

Bandura [24] explains the use or consumption of alcohol via the social cognitive theory. According to this theory, people's use of alcohol can be partly explained by outcome expectancies, thus, the consequences derived from the use of the substance. This is the judgement of the effects of alcohol for the individual, particularly the reinforcement derived from the use of the substance. Moreso, literaturehas provided empirical evidence of outcome expectancies as a contributing factor in alcohol use [25,26] across different contexts.

Positive and negative reinforcement are the outcome expectancies markedly associated with both alcohol use and misuse [27]. Positive reinforcement describes the pleasant feelings and effects derived from the use of the substance while negative reinforcement refers to the use of alcohol to obtain relief from negative affective states such as depression and anxiety. Jester, et al., [28] asserted that negative reinforcement unlike positive reinforcement is a predictor of subsequent drinking-related problems and alcohol use disorder. Consequently, negative affects such as depression, stress, anxiety or social anxiety disorders are more likely to be found among persons with alcohol use disorder.

Alcohol use disorder is a public health concern and treatment is imperative and often geared toward sobriety of the individual with little chance of relapse. Ultimately when an individual is able to effectively achieve this feat, it becomes an immense accomplishment for that individual, the family, society, and the nation at large. It is, therefore, necessary for persons receiving treatment for alcohol use disorders to acquire the strength, will, and self-efficacy to resist alcohol. However, little is known about the self-efficacy to resist alcohol among inpatients receiving treatment for alcohol use disorders in Ghana.

Self-efficacy to resist alcohol is a concept describing the judgement of one's ability toavoid drinking heavily and one's belief in self to modify alcohol use or abstainfrom alcohol use [29]. This research seeks to assess the predictive role of social anxiety and duration of treatment in self-efficacy to resist alcohol in persons with alcohol use disorder in Ghana.

Materials and Methods

Data source

Data was collected from three psychiatric institutions and one rehabilitation facility in Ghana, thus Ankaful Psychiatric Hospital, Accra Psychiatric Hospital, Pantang Hospital, and House of Saint Francis Rehabilitation Clinic in Ghana.

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Design and setting

The study employed a correlational design and used census for the inclusion of all three main public psychiatric hospitals in Ghana while employing purposive sampling to recruit the rehabilitation centre as part of the study as the centre was a facility solely devoted to the treatment of persons with alcohol use disorder. The three mental hospitals are all located in the southern part of the country. Two of these hospitals thus Accra Psychiatric Hospital and Pantang Hospital are located in the national capital, Accra, while Ankaful Hospital is located in Cape Coast. All these hospitals offer inpatient admissions to persons with alcohol use disorder. The Accra Psychiatric Hospital was the first mental hospital to be established in Ghana in 1904 as the Lunatic Asylum. The Ankaful Psychiatric Hospital now Ankaful Hospital was established next in 1965 while the Pantang Hospital was the last to be established in 1975. House of Saint Francis Rehabilitation Clinic was also established in 2012 and it admits 25 persons at a time for treatment of alcohol use disorder.

Study participants

The study was made up of sixty (60) inpatients receiving treatments across four institutions in Ghana. Purposive sampling was adopted to obtain study participants. This was to exempt persons suffering from alcohol-induced psychosis and persons with severe medical conditions causing severe physiological or psychological impairment from the study. All participants had been clinically diagnosed with alcohol use disorder and been in treatment for at least two weeks.

Outcome measure

The outcome variable measured in this study was the participant's perceived self-efficacy to resist alcohol after at least one week in treatment. Self-efficacy to resist alcohol was measured with the Alcohol Abstinence Self-Efficacy Scale (AASES). This is a Likert scale categorised as 1= Not Confident at all, 2 = Slightly Confident, 3 = Moderately Confident, 4 = Very Confident, 5 = Extremely Confident to determine one's perceived self-efficacy to resist alcohol.

Exposure variable

Considering the formulated hypotheses for the study, duration of treatment and social anxiety were the exposure variables in the study. Participants' duration of treatment was measured in the number of weeks they had spent in treatment. Participants were also to self-report their feeling of social anxiety on the social interaction anxiety scale (SIAS). This was categorised as 1 = Not at all, 2 = Slightly, 3 = Moderately, 4 = Very, 5 = Extremely.

Data analysis

Frequencies were used to analysethe demographic characteristics of participants in the study. To test for the hypothetical idea of the study, data were analysed using multiple linear regression. This statistical tool allows for prediction to be made from the two exposure variables of interest on the outcome variable [30]. This tool was also used to test the association between variables. Multiple regression analysis helps a researcher to explain the extent of variation of the independent variables in the dependent variable in a study.

Ethics

Ethical approval was sought from the University of Cape Coast Ethical Review Board and ethical procedures were strictly observed regarding participation in research activities. In addition to this, approval was sought from the head of participating institutions involved in the study. Informed consent was also obtained from individual participants before data collection while anonymity was ensured with no marker to indicate participants' identity.

Results

Participants characteristics

The study involved 60 inpatients receiving treatment for alcohol use disorder from three psychiatric institutions and one rehabilitation facility in Ghana. There were 56 (93.3%) males and 4 (6.7%) females with most of them between the ages of 31-40 years. Of the 60 participants in the study, majority of them were single (70%) and Christians (91.7%). Overall, most of the participants (53.3%) had been in treatment for more than 13 weeks (more than 3 months).

The results also showed that 33 participants out of the 60 (55%) experienced severe social anxiety while 14 (23.3%) were in the normal range of social anxiety and 13 (21.7%) experienced moderate social anxiety. Furthermore, more than half the number of participants in the study (53.3%) had been in treatment for more than 3 months. However, 36 participants (60%) reported low self-efficacy to resist alcohol while 24 participants (40%) also indicated having high self-efficacy to resist alcohol (Table 1).

Multiple linear regression was calculated to predict perceived self-efficacy to resist alcohol based on social anxiety and duration of treatment. The results of the regression indicated the two predictors explained 12.5% of the variance ($R^2 = 0.16$, $F_{(2,57)} = 5.2$, $p < 0.1$). It was found that social anxiety significantly predicted self-efficacy to resist alcohol ($\beta = -0.28$, $p < 0.05$) as did duration of treatment at ($\beta = 0.31$, $p < 0.05$). Duration of treatment carried a significant positive regression weight, thus longer duration in treatment was expected to produce higher self-efficacy to resist alcohol while social anxiety on the other hand recorded a significant negative regression weight which meant those with higher social anxiety scores were expected to have

lower self-efficacy to resist alcohol after controlling for other variables in the model (Table 2).

Discussion

Self-efficacy to resist alcohol was relatively low considering the percentage of persons with low self-efficacy to resist alcohol (60%) to those who had a high self-efficacy to resist alcohol. According Kushner, et al., [31] treating one (alcohol use disorder) of comorbid conditions (social anxiety and alcohol use disorder)

is not an effective regimen. This is asserted because anxiety disorder has been described to typically and often occur prior to the onset of alcohol use disorder [32]. Thus, offering treatment for solely alcohol use disorder may leave the individual vulnerable to relapse before the completion of treatment [31,33]. Treatment for alcohol use disorder in Ghana usually is designed in a manner that the presence of comorbid psychopathology may often not be a primary focus even though some efficacious methods and treatments are provided.

In another study by Kushner, et al., [34] it was found that the risk for developing an alcohol use disorder tripled with persons with an anxiety diagnosis. This is supported by high levels of social anxiety found in persons with alcohol use disorder in Ghana [18]. Schomerus, et al., [35] described the person with alcohol use disorder as a deviant, thus one deviating from the acceptable norms of his/her given context. This description is no different from the conceptualization of alcohol use disorders in the Ghanaian context. Derogatory labels in the native languages such as 'dantorlor, korinsani and ahanola' all meaning drunkard assigned to such persons in the local Ghanaian communities, this is due to their condition which is believed deviates from acceptable Ghanaian norms. However, researchers have asserted that stigmatizing these persons could eventually be a self-fulfilling prophecy that could contribute to their outcomes [35]. This could probably account for the low self-efficacy to resist alcohol among participants in this study. Literature has largely found that comorbidity in alcohol use disorder is further associated with worse alcohol treatment outcomes, relapse, and readmissions [36,37].

The present study also revealed that social anxiety and duration of treatment significantly predicted self-efficacy to resist alcohol. The validity of the model could be explained by studies such as Zimmermann, et al., [38] who reported that social anxiety is a primary cause of alcohol use disorder. This can be described as a mechanism underlying the use of alcohol to self-medicate and consequently reduce tension associated with anxiety. Another research by Kessler, et al., [39] in a community survey also reported a similar trend where people with social anxiety disclosed that they have consciously used alcohol to manage their anxieties. This points to the fact that alcohol's tranquilising effects have proven to be an effective anxiolytic for its users. It is thus justifiable to assert that one's anxiety is present,

Table 1: Sample characteristics (N = 60).

Demographic	N	%
Sex		
Male	56	93.3
Female	4	6.7
Age		
18-30 years	23	38.3
31-40 years	24	40.0
41-50 years	7	11.7
51 years and above	6	10.0
Marital Status		
Single	42	70.0
Married	12	20.0
Divorced	2	3.3
Separated	4	6.7
Duration in Treatment		
2-4 weeks	4	6.7
5-6 weeks	5	8.3
7-8 weeks	2	3.3
9-10 weeks	2	3.3
11-12 weeks	15	25.0
13 weeks and above	32	53.3
Religion		
Christian	55	91.7
Muslim	4	6.7
Traditional	1	1.7
Social anxiety		
Normal	14	23.3
Moderate	13	21.7
Severe	33	55.0
Self-Efficacy to resist alcohol		
Low	36	60.0
High	24	40.0

Table 2: Association betweenperceived self-efficacy to resist alcohol, social anxiety, and duration of treatment.

	Model	B	SEM	B	t	Sig.
1	(Constant)	64.693	10.315		6.272	0.000
	Social anxiety	-0.477	0.208	-0.282	-2.298	0.025
	Treatment duration	3.127	1.234	0.311	2.534	0.014

a. Dependent Variable: Self-efficacy to resist alcohol R = 0.393, R^2 = 0.155; F = 5.208, P = 0.008

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alcohol use becomes highly probable. It is thus not surprising to find a high level of social anxiety among the sample and consequently a low self-efficacy to resist alcohol.

Duration of treatment as observed in this study significantly contributed to the regression model produced in this present research. This supports the dose-effect model of treatment. This model is predicated on the medical assertion that there is a positive association between the dose (number of sessions) clients receive and the treatment outcomes [40] as opposed to the good-enough level model of treatment. The good-enough level model is based on the premise that patients can be considered as asynchronous, differing from one another. Thus, they will respond to treatment at different rates with longer duration been associated with less rapid rates of individual change [41]. Both models have been applied in assessing how much therapy is enough for patients and have both sought to answer 'what should be the optimal duration of therapy?'.

Despite suggesting that the longer the duration of treatment the better the treatment outcome the dose-effect model also acknowledges that, like marginal utility, beyond several doses, the essence of additional doses (therapy) decreases [42]. Findings from this study lend support to experts' calls and recommendations which have argued that alcohol use disorders should be considered as chronic conditions. The implication is that treatment is expected to occur over a much longer duration [43]. Thus, an arguably longer duration of time needs to be spent in rendering treatment services to persons with alcohol use disorder. Despite this assertion, Barkham, et al., [41] found otherwise by arguing that a longer duration of treatment was associated with less rates of individual-level change. To reiterate, inpatients at least for the sample of participants in this study reported a high prevalence of social anxiety despite being in treatment for more than 3 months.

Reasoning from the above, it is imperative and recommended to consider the treatment options made by Kushner, et al., [32] in treating persons with alcohol use disorder. They suggested three approaches that clinicians could consider to provide treatment for their clients. These include the (i) Serial or sequential approach where alcohol use disorder and social anxiety are treated as comorbid disorders but considered one at an instance, (ii) Parallel approach typically involving offering distinct treatment for each condition separately or (iii) Integrated approach that requires that one treatment that can tackle both comorbid disorders be considered for treatment.

Although research has provided different perspectives on which duration of treatment is more efficacious in the treatment of alcohol use disorders, these treatment options need to be critically tested and integrated into treating persons with alcohol use disorder in Ghana. This is been suggested because the duration of treatment proved to be a significant predictor of participants' perceived self-efficacy to resist alcohol. Against this background, it is necessary for clinicians in the area of alcohol use disorder treatment to consider the presence of social anxiety and the duration of clients' treatment as significant indicators of self-efficacy to resist alcohol. This suggestion is further conveyed because studies such as Greenfield, et al. [44] reported a significant relationship between self-efficacy expectancies and other variables including the likelihood of drinking among inpatients. In another study by Vielva & Iraurgi [45] it was found that participants who had high confidence to resist drinking were more likely to keep abstinent for six months. Also, findings from Merikangas, et al., [46] and Morris, et al. [47] have suggested that alcohol use disorder and social anxiety do not merely coexist but interact. The interaction could mean treatment of a single disorder in the comorbidity is likely to impair the success of that treatment.

Conclusion

Persons with alcohol use disorders in Ghana had disturbingly low self-efficacy to resist alcohol coupled with high social anxiety despite receiving amajority treatment for a period more than three months. Interestingly, comorbidity and combined treatment are neither recognized nor given the needed attention [48]. However, WHO [49] declared comorbidity in alcohol use disorder as a threat and major challenge in public health and clinical practice and recommends an integrated approach to treatment. It is recommended that treatment approaches designed for alcohol use disorders in Ghana heed to the calls of time. Persons with alcohol use disorders need more than treatment directed solely to their alcohol use disorder but one that can tackle other comorbidities including social anxiety while offering a considerably long enough duration of treatment.

Limitations

The generalization of this study is limited by the sample size and the purposive selection of participants in the study. Participants in the study have multiple substance use problems which may affect their self-efficacy to resist only alcohol. The instruments used were also self-reported measures hence susceptible to socially desirable responses from participants. In addition to these, treatment received by the participants in the study may vary by institution.

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Contributors

MariePearl Agordzo conceptualized and drafted the manuscript. Joseph Kwarteng Ofosuhene Mensah analysed the data and George Ekem-Ferguson revised the draft manuscript. Kofi Krafona provided intellectual poof reading of the final manuscript.

Declaration of Interest Statement

The authors declare there are no competing interest.

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