



Review Article

Validity of the Arabic Version of the Beliefs Related to Alcohol Questionnaire (ASP): An Exploratory Study

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Abstract

The French ASP questionnaire was made to estimate the patients' beliefs concerning alcohol. These beliefs presented in the ASP model stands for Anticipatory, Solace (relief-oriented) and Permissive (facilitative) beliefs. The aim of this study was to explore the beliefs associated with alcohol in Saudi Arabia and to validate the Arabic version of the ASP. This study includes 144 subjects between ages 18-62, mean age was 31.33 (SD = 7.75). There were 52.4% male and 47.6% female. The exploratory factor analysis displayed seven models with two and three-factor solutions; the best model found is a three-factor solution of 37 items. Confirmatory factor analysis considered this model as satisfactory. The internal consistency is considered as excellent. The Arabic version of the ASP questionnaire could evaluate the patients' beliefs related to alcohol consumption in three aspects or factors (disadvantages, advantages and moral rules) each factor includes Anticipatory, Solace and Permissive beliefs. Testing the new version of the questionnaire in a larger study sample will provide us with a better understanding of the psychometric stability of this questionnaire.

Keywords: Alcohol; Beliefs; Dependence; Psychometrics

Introduction

Schemas consist of mental structures including a complex recognized valuation [1] The schema if deciphered into words is basic beliefs. Basic beliefs when dysfunctional are identified by irrational

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appearance, highly generalized and strict. Three main categories of dysfunctional beliefs related to the patient's acute decision to take on substance abuse: 1) Anticipatory, 2) Relief-oriented and 3) Facilitative or permissive. Anticipatory beliefs, in general, contain a number of expectations of substance consumption, like, "I feel like a superman when I use". Beliefs are somehow steady, continuing cognitive processes that, when shaped, are hardly changed by experience. They result in mental distress and inappropriate behaviors, in addition to preventing the achievement of objectives [2].

Studies revealed that substance addiction portray much elevated levels of dysfunctional thinking [3] with schemas associated with extreme difficulties in emotional expression manifesting to be the most powerful in polysubstance abusers [4] A Turkish study showed that there was a relationship between dysfunctional thoughts and relapse among alcohol dependent males [5] Another study also confirmed this relationship among methamphetamine consumers [6,7] proposed to assess the dysfunctional beliefs of patients, to give careful consideration to patients who have the most dysfunctional beliefs and to take care of them through cognitive and behavioral therapies.

The French ASP questionnaire (Anticipatory, Solace and Permissive) was made to estimate the patients' beliefs concerning alcohol based on Beck's et al. model in 1993 [8] This model was validated and verified experimentally among people with Drug Use Disorder (DUD) [9] and people with Alcohol Use Disorder (AUD) [10] In this study, the questionnaire has been translated into Arabic language and adapted to Saudi population. In addition, some new items have been added to make this questionnaire portray the alcoholic beliefs observed in this society. The aim of this study is to discover the beliefs associated with alcohol in Saudi Arabia and to validate the Arabic version of the ASP. Indeed, it appears as a necessary step to have a global primary overview on this issue to be able to produce a validated and reliable instrument to assess such type of beliefs within a society where this subject has always been neglected.

Methods

Procedure and participants

Our study included a sample of 144 subjects. The study explored the beliefs of alcohol from a clinical perspective in Saudi society. For the clinical group, the evaluation was done at Al-Amal hospital in Jeddah, Saudi Arabia and for the control group we collected our data from different companies which agreed to cooperate in the study (i.e., public spaces, relatives and local individuals). Our study sample is divided into three groups: 1) clinical group-male, 2) control group-male and 3) control group-female (Table 1).

Alcohol consumption was controlled only in the clinical group, while no questions about the personal consumption were asked for the control groups; The formulation of the questions about the beliefs was rewritten in an indirect way for the group control (e.g., We feel satisfied in resisting the urge to drink alcohol versus Resisting the urge to drink alcohol make the person feels satisfied).

Clinical group M	Control group M	Control group F
41 patients with AUD	54 subjects	49 subjects
Inclusion criteria	Inclusion criteria	Inclusion criteria
Male	Male	Female
Aged between 18 and 60	Aged between 18 and 60	Aged between 18 and 60
Having an AUDIT's score of 8 or above		

Table 1: Study Population Characteristics Divided by Group

Ethical considerations of the study

According to the human ethics protocol for performing this research study, approval was obtained from “Jeddah Research Center”, Jeddah- Saudi Arabia, and the required protocols and terms of approval were followed carefully. An authorization by the proper authority was received to investigate participants prior to the beginning of the collection of data. All participants were provided with adequate information about the study, so they could make an informed and voluntary decision about whether to participate or not. The anonymously completed and returned questionnaires indicated consent to participate in the study.

Complete confidentiality was maintained in every stratum of the research and all participants were assured that there would be no risks involved in their participation in the study. Data were treated and reported in such a way to maintain the anonymity of the participants.

Measures

The ASP questionnaire includes 30 items. This questionnaire is scored on a 5-point Likert scale. High scores in factor disadvantages mean low beliefs related to the disadvantages of alcohol consumption, high scores in the factor Advantages mean high beliefs related to the advantages, and high scores in the factor Moral rules mean low beliefs related to moral rules. Some items are scored in ascending order from zero to four (items 1, 4, 7, 8, 11, 15, 18, 21, 24, 27, 29, 30, 34, 37, 39, 40, 43) while some others are counted in descending order from four to zero (items 2, 3, 5, 6, 9, 10, 12, 13, 14, 16, 17, 19, 20, 22, 23, 25, 26, 28, 31, 32, 33, 35, 36, 38, 41, 42, 44, 45, 46, 47, 48). Internal consistency was assessed using Cronbach’s alphas, reliable if alphas are equal or higher than 0.7 [11].

The alcohol use disorders identification test [12] is a screening tool used to measure excessive alcohol consumption. It was developed to facilitate the determination of excessive consumption to be the cause of the current or emerging disease. This questionnaire consists of 10 items, measured on a 5-point Likert scale ranged from 0 to 4. The total scores vary between 0 and 40. An overall score of 8 or more is related to hazardous or harmful alcohol consumption [13,14]. The alcohol use disorders identification test is the most commonly used practical tool as well as the fact that it was translated and adapted to about 16 languages from the time of its primary publication which includes Arabic language and Saudi tradition in particular. Although this questionnaire is validated in Arabic language, the reliability was checked through this study and the scale had a high level of internal consistency, as determined by Cronbach’s alpha of ($\alpha = 0.775$).

Statistical analysis

Statistical analyses performed on our data, include descriptive statistics and independent-samples t-test which was applied to find out

the difference between the means of two independent groups on a continuous dependent variable.

Exploratory Factorial Analysis (EFA) was used to explore the factor structure of the scale (principal components analysis with Varimax rotation). The relative amount of the population should not be lower than five [15] thus we run EFA in the three groups. The components that were retained in the analyses had an eigenvalue higher than 1. The data were assessed for factorability by inspecting the correlation matrix along with the Kaiser-Meyer-Olkin (KMO) measure and Bartlett’s test of sphericity [16,17] The scree test was used to determine a solution. Only items that loaded $> .60$ on a factor were kept.

Confirmatory Factorial Analysis (CFA) was performed to test each model including: Chi-square test (X^2/df), Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean square Residual (SRMR), Bentler’s Comparative Fit Index (CFI), Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI) and Normed Fit Index (NFI). The model can be considered satisfactory when the X^2/df is lower than 2, RMSEA and SRMR lower than .08, NFI, CFI, GFI, and AGFI higher than .90 [18,19]

The internal consistency for each subscale was evaluated with Cronbach’s alpha and mean inter-item correlations (MIC). The internal consistency of the scale is considered as fair (.70-.79), good (.80-.89) or excellent (.90 and above) (Cicchetti, 1994) and satisfactory if the MIC equal to or greater than 0.20 [20] All statistical analyses were performed with Excel, SPSS 21 and Statistica.

Questionnaire adaptation procedures

For adapting this questionnaire to Saudi population, we realized a primary qualitative analysis representative of the most prevalent beliefs associated with alcohol. First, simple individual investigations were performed with Saudi people, about their alcoholic’s beliefs. We used two main questions in each conversation: What do you think about alcohol? What do you think about people who drink alcohol? Eighty-seven individuals completed the exploratory online survey in which 38.4% male and 61.6% female. Also, 92% of these individuals were Saudis and 8% were of other nationalities, but they are living in Saudi Arabia. Secondly, according to the beliefs discovered among Saudis, we created an online questionnaire which includes all these beliefs in addition to certain beliefs we supposed to exist in Saudi society. We put the beliefs as individual items, preceded by the headline instructions: “In the following collection of beliefs, indicate how much you do agree with each item”. The aim of this questionnaire is to explore the frequent beliefs in Saudi society among local people about alcohol to help us adapting this scale. Thirdly, we chose the beliefs which scored high in regard to the results of the online questionnaire. Fourthly, we constituted a scientific community, including specialists in psychology from Saudi Arabia, and then we sent them the questionnaire to evaluate and choose the most suitable items, particularly for prudent society. Finally, we made the ultimate design of the questionnaire from the precedent results.

Results

Descriptive results

This study includes 144 subjects aged from 18 to 62 with mean age (SD) = 31.33 (7.75). The sample was constituted of 52.4% male and 47.6% female. This sample was divided into three groups:

clinical group-male, control group-male and control group-female. Single subjects represented 44.4% of the sample, 49.3 % were married and 6.3% divorced. Moreover, 30.6% finished high school, 46.6% have a bachelor degree, 6.3% finished intermediate school, 6.3% have master degree, 2.8% finished primary school, 2.1% have a PhD degree and 5.6% have other diplomas.

Factor analysis

The models derived from the EFA were tested with CFA, as the original three-dimension scale. A principal component analysis (PCA) was done on a 48-question questionnaire that evaluated the positive beliefs associated with alcohol on 144 subjects. The appropriateness of PCA was evaluated before analysis. The examination of the correlation matrix demonstrated that all variables had at least one correlation coefficient greater than 0.3.

EFA yielded 10 factors with eigenvalues exceeding 1.0. The eigenvalue curve suggested a one-, two-, or a three-factor solution. Visual inspection of the scree plot pointed out three components ought to be retained [21]. Furthermore, a three-component solution met the interpretability criterion; therefore, three components were retained (Table 2).

CFA revealed that the three-factor model (A) produced an almost acceptable fit ($\chi^2/df = 1.69$) but all loadings were not significant. Therefore, a second CFA was performed after deleting the items loaded lower than 0.04, which did not fit the data well ($\chi^2/df = 1.29$). The third CFA realized on the two-factor solution does not fit the data better ($\chi^2/df = 1.31$). So we removed the items loaded lower than 0.04. This two-factor solution fit the data more ($\chi^2/df = 1.19$), explaining why this model was also tested with the exclusion of two items on the second factor. The model E ($\chi^2/df = 1.02$) revealed an improvement in the model fit. We tried to check this model with the three-factor solution again, and we called it model F. The model F ($\chi^2/df = 0.99$) showed better fit with the three-factor solution for the 37 items than the two-factor solution. The indications given by this last model, made us doubt the possibility to find a better model by retesting the 40 items with three factors, which means that the items were deleted because they were not appropriate in any factor in the two-factor model. This last analysis led us to a model consisting of three factors and 38 items. However, this CFA done on the three-factor solution does not fit the data better. Accordingly, the best model is the model F ($\chi^2/df = 9.90$), which explained 48.2% of the variance was retained 29.5% (Moral rules factor), 14.3% (Advantages factor) and 4.4% (Disadvantages factor). All the factorial solution including the final three-factor model (i.e., Model F) are presented in the (Table 3).

	Models	Factor 1	Factor 2	Factor 3	Total variance	KMO	Bartlett's Test	p
A	3 factors	Disadvantage	Advantage, permission and relief	Moral rules				
	48 items	2, 5, 6, 9, 10, 12, 13, 14, 16, 17, 19, 20, 22, 23, 25, 26, 28, 31, 32, 33, 35, 36, 38, 41, 42, 44, 45, 48	1, 4, 7, 8, 11, 15, 18, 21, 24, 27, 29, 30, 34, 37, 40, 43, 46	3, 39, 47	44.30%	0.84	3435.798	< .000
	Variance	25.50%	12.60%	6.20%				
B	3 factors	Disadvantage	Advantage	Moral rules, limitation				
	43 items	5, 6, 9, 10, 13, 14, 17, 19, 20, 22, 23, 25, 26, 28, 31, 32, 33, 35, 36, 38, 41, 42, 44, 45, 48	1, 4, 7, 8, 11, 15, 18, 21, 24, 27, 29, 30, 34, 37, 40, 46	3, 47	44.80%	0.85	3086.362	< .000
	Variance	26.30%	13.50%	5.00%				
C	2 factors	Disadvantage	Advantage					
	42 items	5, 9, 10, 13, 14, 17, 19, 20, 22, 23, 25, 26, 28, 31, 32, 33, 35, 36, 38, 41, 42, 44, 45, 48	1, 3, 4, 7, 8, 11, 15, 18, 21, 24, 27, 29, 30, 34, 37, 40, 46, 47		40.20%	0.86	2998.654	< .000
	Variance	26.40%	13.80%					
D	2 factors	Disadvantage	Advantage					
	40 items	5, 9, 10, 13, 14, 17, 19, 20, 22, 23, 25, 26, 28, 31, 32, 33, 35, 36, 38, 41, 42, 44, 45, 48	1, 4, 7, 8, 11, 15, 18, 21, 24, 27, 29, 30, 34, 37, 40, 46		42%	0.86	2865.32	< .000
	Variance	27.50%	14.50%					
E	2 factors	Disadvantage	Advantage					
	37 items	5, 9, 10, 13, 14, 17, 19, 20, 22, 23, 25, 26, 28, 31, 32, 33, 35, 36, 38, 41, 42, 44, 45, 48	1, 4, 7, 11, 15, 18, 21, 27, 30, 34, 37, 40, 46		43.90%	0.87	2750.006	< .000
	Variance	29.50%	14.30%					
F	3 factors	Moral rules	advantages	disadvantages				
	37 items	5, 9, 10, 14, 17, 19, 20, 23, 31, 33, 36, 38, 41, 44, 45	1, 4, 7, 11, 15, 18, 21, 27, 30, 34, 37, 40, 46	13, 22, 25, 26, 28, 32, 35, 42, 48	48.20%	0.87	2750.006	< .000
	Variance	29.50%	14.30%	4.40%				
G	3 factors	disadvantages	advantages	moral rules				
	38 items	5, 10, 14, 17, 19, 23, 25, 26, 28, 31, 32, 33, 36, 41, 42, 44, 45, 48	1, 4, 7, 8, 11, 15, 18, 21, 24, 27, 29, 30, 34, 37, 40, 46	9, 13, 22, 35	47.50%	0.72	2815.964	< .000
	Variance	27.90%	15.20%	4.40%				

Table 2: Results of Exploratory Factor Analyses.

Note: KMO = Kaiser-Meyer-Olkin

Model	χ^2/df	RMSEA	RMR	CFI	GFI	AIC
A - 3 factors 48 items	1697.61/1031	0.067	0.092	0.758	0.660	13.807
B - 3 factors 43 items	1298.05/816	0.063	0.086	0.809	0.695	10.745
C - 2 factors 42 items	1311.15/818	0.064	0.085	0.804	0.692	10.811
D - 2 factors 40 items	1190.92/739	0.064	0.083	0.818	0.703	9.804
E - 2 factors 37 items	1021.81/628	0.065	0.080	0.833	0.718	8.491
F - 3 factors 37 items	990.65/626	0.059	0.078	0.845	0.733	8.295
G - 3 factors 38 items	1067.79/662	0.062	0.078	0.832	0.720	8.883

Table 3: Results of Confirmatory Factorial Analyses.

Note: χ^2/df = Chi-square test; RMSEA = root mean square error of approximation; SRMR = root mean square residual; CFI = comparative fit index; GFI = goodness of fit index; AIC = Akaike information criterion.

Internal consistency

The model F (3 factors with 37 items) is the best among all the models tested. The Cronbach's alpha for this whole scale was $\alpha = .92$ (MIC = .264), and $\alpha = .87$ (MIC = .367) for the factor disadvantages, $\alpha = .91$ (MIC = .421) for the factor advantages and $\alpha = .88$ (MIC = .423) for the factor moral rules.

Mean comparison

An Independent sample t-test was run to compare the means between clinical group-m and control group-m to verify if people with AUD have more positive beliefs associated with alcohol than others. The result shows that the clinical group had significantly more positive beliefs associated with alcohol ($M = 48.39$, $SD = 25.99$) than the control group-m ($M = 36.15$, $SD = 30.44$), $t_{93} = 2.07$ and $p = .042$. The results also revealed that the factor Advantages is significantly more elevated in the clinical group ($M = 23.88$, $SD = 11.96$) than in the control group-m ($M = 10.13$, $SD = 11.91$), $t_{93} = .24$ and $p = .000$. Also there is a significant difference found in the schema S with a score higher in the clinical group ($M = 14.76$, $SD = 7.34$) than in the control group-m ($M = 8.54$, $SD = 8.72$), $t_{93} = 3.68$ and $p = .000$ while the differences between these two groups are not significant in the schemas A and P (Table 4).

Discussion

Factorial analysis and reliability

The main objective of this study was to validate an Arabic version of the ASP questionnaire among Saudi Arabian population of alcohol consumer. An exploratory factor analysis (EFA) was conducted to determine the underlying factorial structure of the scale items of the ASP questionnaire, using data from the current sample of 144 subjects. Seven models were proposed for this questionnaire with two or three factors, including between 37 and 48 items.

Hence, as a result of long factor analyses the model F seems as the much appropriate model among the models proposed according to Akaike information criterion. Therefore, in view of these results we sought to find an explanation for the reason why the three schemas of addiction ASP did not show up in our current study population, which have been found in western population. Thus, we suggested that the schemas of addiction could manifest more in the society where people recognize alcohol at an earlier age and have a stronger relationship with alcohol. The expectations of alcohol impacts build-up in the first stage of life, even before consuming it [22] If we supposed that our

study population did not know alcohol in their earliest stage of their lives and according to the point of view, the absence of specific schemas related to alcohol could be logical. We also ran an EFA on the original version of the questionnaire which did not reveal these three schemas in our population as well. Therefore, testing the new version of the questionnaire in a larger study sample by including participants from the two cultures will absolutely provide us with a better understanding.

Consequently, we proposed another category for our current version of the questionnaire according to the study population. The items in this questionnaire are divided into three factors (disadvantages, advantages and moral rules). Each factor includes Anticipatory, Solace (relief-oriented) and Permissive (facilitative) beliefs. This category was chosen upon our observation of the way the subjects in this current sample answered the ASP questionnaire. This exploratory research revealed that there are vital associations between having a positive A, S or P belief and consuming alcohol (taking action). On the other hand, the three expected schemas had not shown up either in the original or in the adapted version of the questionnaire in this exploratory study. However, this result made us thinking about the possibility of the non-existence of these schemas in these type of population. In our opinion, the absence or the fragility of schemas related to alcohol in an individual makes the treatment of AUD easier and faster in terms of working on these dysfunctional beliefs and obtain faster benefits while applying a Cognitive Behavioral Therapy (CBT). Extending the research on this questionnaire will be immeasurably helpful to prove or disprove this supposition. This finding also emphasizes what many researchers have mentioned about how the experience that an individual had and what he learned during the first stage of his life determine and play an essential role in one's entire life. Surrounding children with positive, rational and healthy information will likely prevent the development of dysfunctional schemas.

The Cronbach's alpha coefficient was calculated to evaluate the internal consistency reliability of the scales and sub-scales of the study. Results revealed that the new version of the ASP questionnaire is reliable to evaluate the beliefs A, S and P related to alcohol consumption, through three categories disadvantages, advantages and moral rules. These results are confirmed by those obtained from the mean inter-rater correlation which highlights the reliability of the scale through homogeneity.

	Clinical group		Control group		t	df	p
	Mean	SD	Mean	SD			
ASP 1: Drinking alcohol makes life more enjoyable.	2.19	1.42	0.72	1.32	5.21	93	0.000
ASP 4: If you are careful not to exceed a certain amount per day, alcohol is not dangerous.	2.07	1.75	1.11	1.47	2.90	93	0.005
ASP 5: A person behaves contrarily to his/her principles, when he/she drinks alcohol	0.90	1.32	0.80	1.22	0.41	93	0.686
ASP 7: We can drink alcohol to help us cope, when we face difficulties.	1.71	1.55	0.74	1.30	3.29	93	0.001
ASP 9: With alcohol, you may have health problems.	0.98	1.37	0.57	1.18	1.54	93	0.128
ASP 10: Drinking alcohol has a negative effect on family life.	0.61	1.22	0.83	1.38	.82	93	0.415
ASP 11: If we drink alcohol, we can express our feelings better.	2.22	1.81	1.24	1.55	2.83	93	0.006
ASP 13: I do not feel good about myself when I drink alcohol.	0.88	1.31	1.28	1.68	1.26	93	0.210
ASP 14: A man who drinks alcohol cannot be a good father.	1.22	1.59	1.41	1.70	0.55	93	0.584
ASP 15: When we go through a hard day, we deserve to treat ourselves with alcohol.	1.68	1.63	0.55	1.12	3.99	92	0.000
ASP 17: It is hard to handle tasks Under effect of alcohol.	0.61	1.05	0.61	1.20	0.00	93	0.995
ASP 18: Drinking alcohol helps relieve anxiety and relax.	2.54	1.57	1.02	1.47	4.84	93	0.000
ASP 19: It is a fact, there are disadvantages of drinking alcohol as a habit.	0.80	1.30	0.87	1.33	0.26	92	0.799
ASP 20: Drinking alcohol leads a person to lose respect from society.	1.24	5.01	1.24	1.44	0.00	93	0.996
ASP 21: We can drink alcohol to be more comfortable and more popular in society.	0.80	1.29	0.39	0.98	1.79	93	0.077
ASP 22: Drinking alcohol increases laziness.	1.83	1.45	1.31	1.55	1.65	93	0.103
ASP 23: When a person drinks alcohol, he/she misses a fulfilled life.	0.83	1.36	1.24	1.65	1.23	93	0.197
ASP 25: I do not accept that my partner drink alcohol.	1.24	1.66	0.93	1.60	0.95	93	0.347
ASP 26: When drinking alcohol, It is hard to maintain good relationships with people.	1.20	1.40	1.20	1.63	0.03	93	0.979
ASP 27: Drinking alcohol can help us fight boredom.	2.39	1.51	1.00	1.45	4.51	92	0.000
ASP 28: Drinking alcohol complicates life.	0.80	1.21	1.00	1.45	0.70	93	0.488
ASP 30: Drinking alcohol can help to work.	1.39	1.72	.39	0.90	3.68	93	0.000
ASP 31: Drinking alcohol is a sign of immaturity.	1.37	1.65	1.50	1.56	0.40	93	0.687
ASP32: Drinking alcohol can make us feel nervous.	0.85	1.30	1.13	1.40	0.98	93	0.329
ASP 33: A woman who drinks alcohol can't be a good mother.	0.59	1.16	1.07	1.54	1.70	93	0.093
ASP 34: Since alcohol is freely available, it is easy to drink.	1.59	1.69	1.06	1.46	1.64	93	0.105
ASP 35: Alcohol makes us more isolated.	1.24	1.58	1.30	1.46	.17	93	0.868
ASP 36: Drinking alcohol is a negative imitation of the Western world.	0.90	1.48	1.33	1.66	1.31	93	0.193
ASP 37: When you are angry, you can use alcohol to release anger.	1.88	1.69	0.83	1.21	3.51	93	0.001
ASP 38: Having problems does not justify drinking alcohol.	1.51	1.69	0.69	1.34	2.66	93	0.009
ASP 40: Drinking alcohol can help them be more awake intellectually and inspired.	1.61	1.56	0.63	1.20	0.77	92	0.001
ASP 41: Tolerance towards alcohol drinking leads to tolerance towards other negative things.	1.27	1.58	1.02	1.54	0.77	92	0.443
ASP 42: In fact, alcohol is a distraction that does not help to solve problems.	0.88	1.45	0.76	1.34	0.41	93	0.681
ASP 44: Alcohol often disrupts our existence.	0.98	1.35	0.87	1.45	0.360	93	0.720
ASP 45: Drinking alcohol is a crime that deserves punishment	0.78	1.41	1.26	1.63	1.51	93	0.136
ASP 46: When you really have a strong desire to drink alcohol, the only relieve way is to drink a glass.	1.80	1.52	0.48	1.00	5.10	93	0.000
ASP 48: Alcohol quickly turns into an addiction.	1.02	1.31	1.83	1.68	2.55	93	0.012
ASP Original	67.56	14.90	46.61	25.13	4.74	93	0.000
Anticipatory Original	14.41	6.84	8.89	8.60	3.38	93	0.001
Solace Original	16.32	7.39	9.43	9.33	3.98	93	0.000
Permissive Original	14.49	6.69	9.72	7.06	3.33	93	0.001

Table 4: Independent Sample t test Results Comparing between Clinical and Control Groups.

Note: SD: Standard Deviation; ASP: the Beliefs related to alcohol questionnaire; Original: The original version of the ASP questionnaire.

Comparison between clinical and control groups

The results showed that people with AUD had positive beliefs associated with alcohol significantly more than others. It also revealed that people with AUD believe that there are more advantages in consuming alcohol than others. In addition, the pattern Solace (Relief-oriented) is significantly more elevated in people with AUD than in others which means that our results are according to previous

studies on the relationship between substance addiction and elevated levels of dysfunctional thinking. In the present study, some of the advantages and/or solace dysfunctional beliefs were more elevated in people with AUD, such as drink to make life more enjoyable, drink to help themselves cope when they are faced with difficulties, drink so they can express their feelings better, and drink alcohol to relieve anxiety and relax. These items indeed suggest that individuals with alcohol consumption consider alcohol consumption as a tool to cope

with their difficulties and relief, thus it is essential to train patients/individuals with AUD to use healthier ways to cope by developing and improving their coping skills.

Sensibly, it was debated that dysfunctional schemas can be for the reason of limited coping skills that notably contribute to substance addiction, and ought to therefore take place through therapy. These behaviors are supposed to be intervened by the idea that consumption is the best way to relieve bad psychological feelings because of inadequate coping techniques critical elements connected with the negative reinforcement properties of substance are low emotion regulation abilities, low self-esteem and inadequate abilities for relationship building. With regards to relapse prevention and coping-skills training, they are not officially concerned as independent therapy models. Relapse prevention and coping skills training are founded on cognitive and behavioral theories and their clinical use depends on more refined methods for the conduct of substance consumption.

In addition, while testing the original model of the ASP questionnaire and its three schemas (A, S and P), the results indicated significant higher scores in people with AUD than in others. Therefore, this finding could be considered as an extra sign that supports the point that we had mentioned earlier on about the lack of specific schemas related to alcohol consumption in our study population. This result could also be counted as a point to annul the supposition if we had hypothesized that the set of the newly added items is the reason for the absence of the three schemas which had been noticed in other study populations (e.g. European population).

Limits

This study has some limitations including the sample size and characteristics. The authorization received for collecting the data which only allowed us access to the Al-Amal Hospital in Jeddah. In addition, the number of male patients with AUD in this hospital was limited, coupled with the lack of female subjects. Also, we were not allowed to investigate the control groups about their alcohol consumption, therefore we only had controlled alcohol consumption within the clinical group. The sensitivity of alcohol as a subject in the Saudi society resulted in a considerable amount of time and numerous efforts used to convince people or organizations to participate in this kind of study. Finally, other statistics could have been relevant to explore in this population, which was complicated given the sample and group sizes.

Conclusion

According to the significant differences found between the clinical and the control groups in their beliefs related to alcohol, we can conclude that the Arabic version of the ASP questionnaire is a solid tool to evaluate the patients' beliefs related to alcohol consumption through three main aspects (disadvantages, advantages and moral rules). Such types of beliefs have been rarely studied and particularly in population from Saudi Arabia or Gulf-countries. Therefore, testing the new version of the questionnaire in different and larger samples will provide us with a better understanding of the beliefs related to alcohol consumption.

Conflict of Interest

The authors declare that they have no conflict of interest.

Ethical Approval

According to the human ethics protocol for performing this research study, approval was obtained from "Jeddah Research Center", Jeddah- Saudi Arabia, and the required protocols and terms of approval were followed carefully. An authorization by the proper authority was received to investigate participants prior to the beginning of the collection of data.

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