Acceptance and action questionnaire – substance abuse: translation into arabic, content validity and reliability

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Background
Substance abuse is a chronic illness with complex and intervening treatment process. It is important to have measurement scale to help in the follow-up of individuals throughout the therapeutic and rehabilitation process. It helps to make patients confident in treatment phases and assist health professionals to track their clients' progress, measuring acceptance and action towards therapeutic process, and its effect on commitment to treatment plan is essential for patients with substance use disorder.

Objective
The aim was to validate the Arabic version of acceptance and action questionnaire – substance abuse (AAQ-SA) and assess reliability of this questionnaire and translation into Arabic.

Patients and methods
AAQ-SA has been translated into Arabic. Methodological design was used to investigate content validity index (CVI) reported by eleven expert jurors. Judgment was done by eight psychiatry professors, one psychiatry assistant professor, one psychiatry consultant and an assistant lecturer of psychology, and then, the Arabic version was distributed among 45 substance abuse patients in recovery. Among them, six patients did not attend the second interview. A total of 39 rehabilitated substance abuse patients with remission period from 3 weeks to 28 months completed their interviews. Intraclass correlation coefficient ICC (inter-rater and intrarater agreement) and Cronbach's α reliability coefficients were addressed to investigate reliability.

Results
The I-CVI Item CVI for relevance ranged from 0.717 to 1.0 and for clarity from 0.636 to 1.0. The S-CVI Scale CVI was 0.873 for both relevance and clarity. On the contrary, the e-CVI expert CVI ranged from 0.667 to 1.0 for relevance and from 0.778 to 0.944 for clarity. All inter- rater and intrarater correlation coefficients are positive and significant and ranges from 0.48 to 0.92 for inter-rater and from 0.44 to 0.9 for intrarater. The inter-rater and intrarater correlation coefficients of the total score were 0.83 and 0.85, respectively. The total Cronbach's α of the total scale was 0.92. Cronbach's α for value commitment and defused acceptance are 0.92 and 0.91, respectively. The mean total scores of pretest rater 1, pretest rater 2, and post-test rater 1 were 68.6±15.7, 70.7±17.9, and 70.6±17.1, respectively, with no statistically significant differences.

Conclusion
In conclusion, AAQ-SA Arabic version based on the results is valid, reliable, and stable, and its translation is convenient to the culture. More research studies should be done in the field of therapy and rehabilitation for patients with addiction problems in Egypt and the Arabic world.

Keywords:
acceptance and commitment therapy, Addiction, Arabic, validation

Introduction

Substance use disorders are considered to be a significant burden on the health care system as well as the community, as it is responsible for many medical, psychological, and legal consequences later in life. The hazards of this problems begin early in life, as in the year 2015, the statistics revealed that approximately half of high school students have reported taking a drug of abuse other than alcohol or tobacco at some point of their life. Approximately 21% of grade 8 students and 58% of grade 12 students admitted drinking of alcohol (Mental Health, 2017).

Substance abuse refers to dangerous pattern use of psychoactive substances that involves alcohol and illicit drugs. DSM-5 stated that the core sign of substance abuse is a maladaptive pattern of use that is explained by recurrent use of the addictive substance regardless of the adverse consequences related to the repeated use of it. There is also a consistent failure to fulfill essential life needs, and reckless repeated use in situations that may be dangerous, and the need of increasing the amount of consumed drug to achieve the desired effect (Adzrago and Adu-Gyamfi, 2018).

Globally, the number of individuals experiencing drug and alcohol health problem complication up to death is nearly 13 per 1000 population, where alcohol alone is responsible for loss of ~58.3 million individuals per year (Adzrago and Adu-Gyamfi, 2018).

Addiction is considered to be a chronic illness with varying remission rates and multiple relapses. Remission rates vary, ranging from 19.6 to 95.7%, with a pooled mean estimate of 51.7, 54, and 60.0% for alcohol, heroin, and multiple substance use disorders, respectively. Individuals with co-morbid mental health condition with substance abuse disorder have more sever course of illness and poorer compliant to treatment and much worse outcome (Lo *et al.*, 2019)

The situation in Egypt is not different. The percentage of substance use problem according to DSM-IV diagnostic criteria is estimated among younger population from age 11 to 18 years old to be 22.9% in the age group 12–16 years and 49.68% in the age group 16–19 years, with marked male preponderance (94.59% males and 5.41% females). Nicotine was the commonest substance used (89.9%), then cannabis (5.3%), followed by alcoholic beverage (1.8%), and finally, tramadol (1.5%) (Mental Health, 2017).

For the effect of the problem, many therapeutic modules for addiction problems were designed, including contingency management, cognitive behavior therapy, skills training, motivational interviewing, drug counseling, and couples and family therapies. Researchers have investigated the efficacy of these modules. One of the most recent and effective modules of psychotherapy and rehabilitation programs for many of psychiatric diseases is acceptance and commitment therapy (ACT). Many researchers have studied the efficacy of ACT in the area of addiction in comparison with other effective treatment plans (Lee *et al.*, 2015).

A meta-analysis study reviewed the efficacy of ACT compared with other treatments (e.g. cognitive behavior therapy, pharmacotherapy, 12-step facilitation, and treatment as usual) on substance use outcomes. The study compared 10 randomized controlled trials, which were identified through systematic searches. The results revealed that there is a significant small to medium effect size favoring ACT relative to current treatment plans regarding following treatment continuity and outcome (Lee *et al.*, 2015).

However, with all treatment plans available for substance use disorders treatment, it is still a hard health issue to deal with. Reviewing of the available therapeutic programs shows that substance abstinence is achieved only by 30–50% of the treated individuals, with great possibility of future relapses (Lee *et al.*, 2015).

One of the most tackling factors when dealing with substance use problem is social prejudice that patients with substance use disorders face. Social attitude towards substance users shows great lack of empathy and psychological inflexibility, which in turn affects the self-image and patients' prospective of themselves that can affect the recovery process. Although stigma against addiction may be a protective factor that prevents nonusers from experimenting substance use, it paradoxically results in continued use among individuals who are already trapped within the drug culture, and it may delay their access to treatment programs (Crapanzano *et al.*, 2018).

Tackling prejudice by more empathic attitude, perspective taking, and psychological flexibility is a key factor for building and supporting a healthy social functioning and prosocial behaviors that help the recovery process and assist in preventing relapses for patients with substance abuse problem (Levin *et al.*, 2016).

On the contrary, even the presence of a healthy social environment is not enough when facing intense negative thoughts and emotions that patients with substance use disorders are dealing with such as feelings of guilt, shame, isolation, and experiencing previous prejudiced reactions that make them feel personal distress from empathic responding in the therapeutic communities. In such cases, it may also be important for individuals to find a way to learn more adaptive ways to deal with these difficult experiences (Levin *et al.*, 2016).

From all these factors, substance use disorder is often characterized by a lack of therapeutic engagement, lack of motivation for change, and recurrent relapse after some initial successful change. Patients may comply with therapeutic programs when they are admitted to hospitals and they are paying effort to resolve some acute problem, and then they often avoid all their rehabilitation visits once discharged. This is owing to chronic dysfunctional thought processes, impaired decision making skills, diminish ability to recognize the need for treatment and lack of social support to help them to attend to outpatient therapeutic programs (Diclemente *et al.*, 2008).

It is essential for any therapeutic program for addiction to focus of values of self-compassion. Acceptance includes self-acceptance and embracing a personal experience as it is. It is important to have skills that help in being aware of and distancing from self-critical thinking and reducing sensitivity to negative surrounding feeling and experience and gaining a sense of transcendent that raise above constricting self-stories of shame and self-stigma. Additionally, behavioral skills that help to develop more flexible, empathic ways of relating to oneself and building empathy and a sense of interconnection with others are important as well. Contact with the present moment and being consciously present on daily basis is the core in any rehabilitation program. One of these effective programs is acceptance and commitment module of treatment (Luoma and Platt, 2015).

In chronically ill cases with complex and intervening treatment processes, it is important to have measurement scale to help in the follow-up of individual throughout the therapeutic and rehabilitation process. It helps patients to make confidence in treatment plans, and assist health professionals to track their clients' progress, measuring internalized stigma and defensive attitude toward therapeutic process, and its effect on commitment to a treatment plan is essential for patients with substance use disorder (http://www.portlandpsychotherapyclinic.com/training/publications).

acceptance and action questionnaire – substance abuse (AAQ-SA) was developed by Professor Luoma who did substantial work in the area of acceptance and commitment psychotherapy. He performed multiple research studies on the area of self-stigma, shame, and acceptance in many vulnerable groups such as substance abusers, patients with chronic painful conditions, suicidal patients, patients with post traumatic stress disorder (PTSD), and alcoholic patients. His work in developing approach for these groups helped with better understanding of the rule of self-perception in commitment and continuity of therapeutic process for these chronic conditions (http://www.portlandpsychotherapyclinic.com/training/publications; Lejeune *et al.*, 2013).

Regarding AAQ-SA, similar research studies had investigated the same area assessed by this scale: AAQ, AAQ-II and AAQ-S(Stigma) (Galhardo, 2014; Levina *et al.*, 2014). AAQ-SA shows good internal consistency, factor structure, and construct validity, and it is theoretically different from AAQ (&z.squf;, &z.squf;). We conducted this study to make assessment of motivation to change in patients with substance use disorder feasible.

Patients and methods
Settings
This study was carried out in Mansoura University Hospital, Psychiatry Department. Data were collected from beginning of the first of October to the end of November 2019.

Study design
This methodological (validation) design is a cross-sectional study with a longitudinal component for measuring test–retest reliability.

Study population
A convenience sample of 45 patients with substance abuse in recovery was recruited. Among them, six patients did not sit for the second interview; thus, 39 patients completed the test–retest (response rate 97.5%).

Inclusion and exclusion criteria
All cases were males, with age above 18 years. Any patient with major psychiatric disorder other than substance abuse disorder was excluded. Patients must fulfill the diagnostic criteria of DSM-V.

The acceptance and action questionnaire – substance abuse scale
The AAQ-SA scale was developed by Lauoma *et al.* (2011) in English to measure defused acceptance and value commitment. It is composed of 18 items measuring along a seven-point Likert-type scale as follows: never true (1), very seldom true (2), seldom true (3), sometimes true (4), frequently true (5), almost always true (6) and always true (7). Items 2, 3, 6, 8, 14, 15, 16, 17, and 18 had reverse scores. If the total score is higher, it means better acceptance and action. Either of the domains can be used alone, and both can be used combined.

The translation and culture adaptation procedures

The translation and culture adaptation of the AAQ-SA scale followed international guidelines of cross-cultural adaptation of health questionnaires (Beaton *et al.*, 2000). The process was performed in five stages: forward translation, synthesis of the translated versions, backtranslation, expert committee, and test of the prefinal version.

Forward translation

The scale was translated from the original English language into Arabic by two independent bilingual translators whose native language is Arabic. One translator is a psychiatrist fluent in English and knowledgeable about drug abuse and psychiatric terminology. The other was a certified translator. This step generated two forward-translated versions of the instrument (T1 and T2).

Synthesis of the translated versions

The two translators and the first author evaluated the two translated versions (T1 and T2), creating an agreed synthetic Arabic version of the AAQ-SA scale (T1–2).

Back translation

The synthetic Arabic version of the scale (T1–2) was translated back into English by two other independent qualified translators, one of them was bicultural. The two translators were blind to the original English version. As a result, two back-translated versions (BT1 and BT2) were produced.

Expert committee

The scale was cross-culturally adapted by a multidisciplinary bilingual expert committee composed of four translators involved in the forward and back-translations, a methodologist (professor of epidemiology), and a professor of psychiatry. The committee was asked to review produced material (T1.T2, T12, BT1, and BT2) and the original version. The necessary modifications were introduced by consensus to achieve semantic, idiomatic, and conceptual equivalence between the original version and the target one. At the end of this stage, researchers produced a consolidated prefinal Arabic version of the scale.

Test of the prefinal version

The prefinal Arabic version of the scale was tested on 20 patients with drug abuse (not included in the full-scale study) who were asked to complete the Arabic version of the scale. After that, cognitive debriefing process was utilized; each participant was interviewed about the meaning of each item and the chosen response. A minor modification was done at this stage and final Arabic version was produced.

Content validity

To estimate the content validity, opinions of 11 expert jurors were taken. Judgment was made by eight psychiatry professors, one psychiatry assistant professor, one psychiatry consultant, and an assistant lecturer of psychology (Polit and Beck, 2006). The Arabic version of the scale was evaluated for clarity, relevance, and translation of the content. The experts were asked independently to review each item (clarity and relevance) using three-point ordinal scale (translation), using yes or no. The content validity index (CVI) was calculated at the item level (I-CVI) and scale level (S-CVI). To obtain the CVI at the item level (I-CVI), the number of experts judging the item as relevant or clear (rating 3) were divided by the total number of experts. If the I-CVI is higher than 0.79, the item was appropriate. If it is between 0.70 and 0.79, it needs revision. If it is less than 0.70, it is eliminated. The CVI for the entire scale (S-CVI) was assessed using the S-CVI with the average approach, by summing all I-CVI for relevancy divided by the number of items. The scale as a tool was considered to be valid if S-CVI greater than or equal to 0.90 (Polit and Beck, 2006).

I-CVI and S-CVI were calculated using the following formula (Almanasreh *et al.*, 2019):

$$\mathrm{ICVI} = \text{Number of experts rating the item either}$$
$$3 \text{ total number of experts.}$$

$$\mathrm{S-CVI} = \text{Sum of the } \mathrm{I-CVIs(I-CVI1}$$
$$+ \mathrm{I-CVI2} + \mathrm{I-CVI3} + \ldots \ldots + \mathrm{I-CVIn})/$$
$$\text{total number of items.}$$

The CVI for each expert (E-CVI) is number of items scored 3 (relevant)/total number of items.

Reliability was assessed in the forms of internal consistency, test-retest reliability, and inter-rater reliability. To test the reliability of the AAQ-SA, the final version was applied to 39 drug abusers during three assessments. The first two assessments were performed consecutively on the same day by two observers (interobserver reliability), at an interval of ~15 min, with either observer 1 or observer 2 applying the first assessment, thus preventing a habituation bias in terms of the tasks performed by the children obeying immediately the voice of the observer. The third

assessment was applied after 10 days by observer 1 (intraobserver reliability). Internal consistency was examined by Cronbach's α reliability coefficients. Cronbach's α value of 0.50–0.70 was acceptable, whereas 0.70 or higher shows good homogeneity among the items. Two-week test-retest reliability was conducted for measuring reliability for two tests, use the Pearson correlation coefficient. Correlation coefficient (r) values are considered good if r greater than or equal to 0.70 (Bolarinwa, 2015).

Ethical consideration

(1) IRB approval was obtained to conduct this study.
(2) Permission for the translation, adaptation, and psychometric testing of the questionnaire was obtained from the originators of the scale.
(3) Informed consent was obtained from all participants after explanation of the aim of the study.
(4) Participants were confirmed about the confidentiality of the information gathered and that they have the right to withdraw or refuse at any time without penalty.

Statistical analysis

Data were analyzed with SPSS version 24 (IBM Corporation, Illinois, Chicago, USA). Qualitative variables were presented as number and per cent, whereas quantitative variables were presented as mean (SD). CVIs were calculated for each item and each expert. Pearson's correlation coefficient (r) was used to measure inter-rater and intrarater correlation. Cronbach's α was calculated to measure the internal consistency between items. Unpaired t-test was used to compare the mean score of the two observers, and paired t-test was used for test-retest comparisons. P less than or equal to 0.05 was considered statistically significant.

Results

Table 1 shows that all drug abuse patients are males, and the mean age was 36.9 years, with 10.8 years of mean duration of abuse. Single patients were 23, whereas married were 16. Longest duration of abstinence was 28 months. Patients with secondary education represented 53.8%, those with rural residence represented 64.1%, and patients who were semiskilled represented 74.3%. Heroin is the most common substance of use (56.4%).

Stage 1: content validity
Table 2 shows that the I-CVI item CVI for relevance ranged from 0.717 to 1.0 and for clarity from 0.636 to

Table 1 Sociodemographic and clinical features of patients

	N (%)	Mean±SD	Median (minimum–maximum)
Age (years)		36.97±11.7	35.0 (18–46)
Duration of abuse (years)		10.8±8.01	9 (1–20)
Number of hospitalization		3.7±4.1	2 (1–10)
Longest duration of abstinence (months)		8.4±8.2	5 (0–28)
Male sex	39 (100)		
Marital status: single	23 (58.9)		
Married	16 (41)		
Education: illiterate	5 (12.8)		
< secondary	5 (12.8)		
Secondary	21 (53.8)		
>secondary	8 (20.5)		
Occupation: not working	5 (12.8)		
Semiskilled	29 (74.3)		
Skilled	0 (0)		
Student	5 (12.8)		
Residence: rural	25 (64.1)		
Urban	14 (35.8)		
Substance abused: heroin	22 (56.4)		
Cannabis	2 (5.1)		
Tramadol	5 (12.8)		
Polysubstances	10 (25.6)		
Lyrollin	0 (0)		
Legal problem	2 (5.1)		
Psychiatric manifestations	0 (0)		
Organic diseases	6 (15.3)		

1.0. The S-CVI scale CVI was 0.873 for both relevance and clarity. On the contrary, the e-CVI expert CVI ranged from 0.667 to 1.0 for relevance and from 0.778 to 0.944 for clarity.

Stage 2: reliability
Table 3 shows that all inter-rater and intrarater correlation coefficients are positive and significant and ranges from 0.48 to 0.92 for inter-rater and from 0.44 to 0.9 for intrarater. The inter-rater and intrarater correlation coefficients of the total score were 0.83 and 0.85, respectively.

The total Cronbach's α of the scale was 0.92. Cronbach's α for value commitment and defused acceptance was 0.92 and 0.91, respectively. The mean total scores of pretest rater 1, pretest rater 2, and post-test rater 1 were 68.6 ±15.7, 70.7±17.9, and 70.6±17.1; respectively, with no statistically significant differences.

Discussion
With the development of a new psychotherapeutic approach that is acceptable and commitment therapy, it was necessary to develop a measure to

Table 2 Content validity index per item and per expert

Items	I-CVI for relevance	I-CVI for clarity
Q1/AR*Q1/EN	0.818	0717
Q2/AR*Q2/EN	0.909	0.818
Q3/AR*Q3/EN	0.717	0.909
Q4/AR*Q4/EN	0.909	0.818
Q5/AR*Q5/EN	0.818	0.909
Q6/AR*Q6/EN	1.0	0.818
Q7/AR*Q7/EN	0.909	1.0
Q8/AR*Q8/EN	0.818	1.0
Q9/AR*Q9/EN	0.909	1.0
Q10/AR*Q10/EN	0.818	1.0
Q11/AR*Q11/EN	0.909	0.818
Q12/AR*Q12/EN	1.0	0.818
Q13/AR*Q13/EN	1.0	0.818
Q14/AR*Q14/EN	0.818	0.909
Q15/AR*Q15/EN	0.818	0.636
Q16/AR*Q16/EN	0.818	0.909
Q17/AR*Q17/EN	0.818	0.909
Q18/AR*Q18/EN	0.909	0.909
Total scale content validity index	0.873	0.873
Experts	E-CVI for relevance	CVI-e for clarity
Expert 1	0.889	0.944
Expert 2	0.778	0.833
Expert 3	0.944	0.778
Expert 4	0.889	0.944
Expert 5	0.944	0.889
Expert 6	0.889	0.889
Expert 7	0.667	0.778
Expert 8	0.944	0.778
Expert 9	0.889	0.833
Expert 10	0.889	0.944
Expert 11	1.0	0.944

CVI, content validity index.

Table 3 Intrarate- and inter-rater correlation coefficients of different items of scale

Items	Inter-rater		Intrarater (test-retest)	
	r	P	r	P
Q1/D1*Q1/D10	0.71	≤0.001	0.78	≤0.001
Q2/D1*Q2/D10	0.60	≤0.001	0.80	≤0.001
Q3/D1*Q3/D10	0.51	≤0.001	0.90	≤0.001
Q4/D1*Q4/D10	0.60	≤0.001	0.84	≤0.001
Q5/D1*Q5/D10	0.48	0.002	0.81	≤0.001
Q6/D1*Q6/D10	0.51	0.001	0.87	≤0.001
Q7/D1*Q7/D10	0.56	≤0.001	0.87	≤0.001
Q8/D1*Q8/D10	0.47	0.002	0.80	≤0.001
Q9/D1*Q9/D10	0.86	≤0.001	0.57	≤0.001
Q10/D1*Q10/D10	0.89	≤0.001	0.52	0.001
Q11/D1*Q11/D10	0.90	≤0.001	0.52	0.001
Q12/D1*Q12/D10	0.92	≤0.001	0.64	≤0.001
Q13/D1*Q13/D10	0.84	≤0.001	0.61	≤0.001
Q14/D1*Q14/D10	0.62	≤0.001	0.44	0.005
Q15/D1*Q15/D10	0.77	≤0.001	0.74	≤0.001
Q16/D1*Q16/D10	0.74	≤0.001	0.61	≤0.001
Q17/D1*Q17/D10	0.70	≤0.001	0.74	≤0.001
Q18/D1*Q18/D10	0.81	≤0.001	0.75	≤0.001
Total score	0.83	≤0.001	0.85	≤0.001

explain the action and effect of its strategies. The theory depends on main components, which are psychological flexibility, experiential avoidance, and cognitive fusion. Implication of these concepts explains the effect of negative thoughts and emotion of the individual rather than the classic ways of discussing the content of it. Aspects of psychological inflexibility and experiential avoidance are clear in drug use disorder. Drug and alcohol are continuously used by addicted patients to try to control or eliminate distressful thoughts and emotions, and private experiences. Factors such as distress intolerance and thought suppression are predictors of therapy failure and predisposition to relapse in drug abuse therapy (&z.squf;, &z.squf;).

Presence of a tool for measurement of these component helps in more understanding of course and progress of treatment, hence acceptance. The action substance abuse scale is important to be translated and

implicated on substance use patients as tracking tool in their course and progress. The current study assessed the psychometric properties of AAQ-SA. The AAQ is the most established tool to assess the psychological flexibility/inflexibility across different medical diagnosis and psychological issues. The scale has performed well across abroad spectrum of psychological health problems. However, version with narrower focus predicts even more accuracy in measuring psychological flexibility among specific contexts or population, for example, the specified scale for tinnitus was more accurate in measuring outcome rather than the general version as well as other specified version for diabetes, epilepsy, chronic pain, auditory hallucination, and smoking cessation. However, for drug abuse sample, it showed low internal consistency, for reasons of lack of specify, the poor psychometric properties of AAQ in drug abuse sample, and its lack of efficacy in mediating ACT treatment outcome in substance use disorder. Making a specified version for AAQ scale for substance use is more convenient (&z.squf;, &z.squf;).

In our current research, the I-CVI for relevance ranged from 0.717 to 1.0 and from 0.636 to 1.0 for clarity. The S-CVI was 0.873 for both relevance and clarity. On the contrary, the e-CVI ranged from 0.667 to 1.0 for relevance and from 0.778 to 0.944 for clarity. All inter-rater and intrarater correlation coefficients are positive and significant and ranges from 0.48 to 0.92 for inter-rater and from 0.44 to 0.9 for intrarater. The

inter-rater and intrarater correlation coefficients of the total score were 0.83 and 0.85, respectively. The total Cronbach's α of the scale was 0.92. Cronbach's α for value commitment and defused acceptance was 0.92 and 0.91, respectively, which show good homogeneity among the items. The mean total scores of pretest rater 1, pretest rater 2, and post-test rater 1 were 68.6±15.7, 70.7±17.9, and 70.6±17.1, respectively, with no statistically significant differences, which mean stability of the reviewed scale. This questionnaire was translated into French and Urdu (&z.squf;, &z.squf;). Our research aimed to facilitate research in Arabic countries by providing an easily accessible and little time-consuming scale for assessment of patients with substance abuse disorder.

Conclusion

In conclusion, AAQ-SA Arabic version based on our results are valid, reliable, and stable, and its translation is convenient to our culture. More research should be done in the field of therapy and rehabilitation for patients with addiction problems in Egypt and the Arabic world.

Study limitations

This study is applied on a limited number of drug addicts. It was not possible to do factor analysis for different items of the tool.

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Conflicts of interest

There are no conflicts of interest.

References

Adzrago D, Adu-Gyamfi AB (2018). Rehabilitation processes involved in rehabilitating individuals with alcohol and drug addictions at Rehabilitation Centres in Ghana Rehabilitation Processes involved in rehabilitating individuals with Alcohol and Drug Addictions at Rehabilitation Centres in Ghana. J Addict Res Ther 9. doi:10.4172/2155-6105.1000364

Almanasreh E, Moles R, Chen TF (2019). Evaluation of methods used for estimating content validity. Res Social Adm Pharm 15:214–221.

Beaton E, Bombardier C, Guillemin F, Ferraz B (2000). Guidelines for the process of cross cultural adaptation of self-report measures. Spine 25:3186–91.

Bolarinwa O (2015). Principles and methods of validity and reliability testing of questionnaire used in social and health science researchers. Nigerian Postgraduate Med J 22:195–201. doi:10.4103/1117-1936.173959

Crapanzano K, Hammarlund R, Ahmad B, Hunsinger N, Kullar R (2018). The association between perceived stigma and substance use disorder treatment outcomes: a review. Subst Abuse Rehabil 10:1–12.

Diclemente CC Ph D, Nidecker M Ph D, Bellack AS (2008). Motivation and the stages of change among individuals with severe mental illness and substance abuse disorders 34:25–35.

Galhardo A (2014). Validation of the Psychometric Properties of Acceptance and Action Questionnaire-II in Clinical and Nonclinical Groups of Portuguese Population. Int J Psychol Psychol Ter 2014;353–364.

Lauoma JB, Hayes SC, Kholenberg BS (2011). Substance abuse and psychological flexibility: The development of a new measure. Addict Res Theory. ISSN:1606-6359 print/1476-7392 online.

Lee E, Lee EB, Levin ME (2015). An initial meta-analysis of acceptance and commitment therapy for treating substance use disorders. Drug Alcohol Depend doi:10.1016/j.drugalcdep.2015.08.004

Lejeune J, Thompson BL, Luoma JB, Lejeune JT. (2013) Using acceptance and commitment threapy to guide exposure based interventions for post traumatic stress disorder. J Contemp Psychothr 43:133–140.

Levin ME, Luoma JB, Vilardaga R, Lillis J, Nobles R, Hayes SC (2016). Examining the role of psychological inflexibility, perspective taking, and empathic concern in generalized prejudice. J Appl Soc Psychol 46:180–91.

Levina ME, Luoma JB, Lillis J, Hayes SC, Vilardaga R (2014). The Acceptance and Action Questionnaire – Stigma (AAQ-S): developing a measure of psychological flexibility with stigmatizing thoughts. J Contextual Behav Sci 3:21–26.

Lo CG, Melchiori F, Oieni V, Infurna R, Strauss B, Schwartze D, et al. (2019). PT. J Subst Abuse Treat 2019. doi:10.1016/j.jsat.2019.01.016

Luoma JB, Platt MG (2015). ScienceDirect Shame, self-criticism, self-stigma, and compassion in Acceptance and Commitment Therapy. Curr Opin Psychol 2:97–101.

Mental Health, (2017). Substance use and abuse among secondary schools students in Egypt.

Polit F, Beck T (2006). The content validity index: are you sure you know whats being reported? Critique and recommendations. Res Nurs Health 29:489–79.