



Correlations Between Health Beliefs Model and substance use among University students

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Abstract:

Background: Substance use disorders (SUD) are significant health concern worldwide. Substance use is inveterate trouble which is associated with significant morbidity and mortality.

Material and method: True experimental design, using a randomized controlled trial approach, is carried throughout the current study to determine the efficacy of health beliefs model-based intervention in changing the belief related to substance use among university students in Mosul City for period from 5-January 2020 to 1-February 2021. The study sample consisted of 80 students who participated in training program for behaviors change

Results: Findings of this study depict that there were statistically significant differences among all concepts of the Health Belief Model related to substance use, add to behavioral motivation, behavioral control and intension) over time. On the contrary, the perceived barrier was the only belief that showed no significant changes over time.

Conclusions: This study concluded that designing an HBM-based study could affect students' understanding and their behaviors in the field of substance abuse. Considering the positive correlation between construct of HBM, particularly in "perceived benefits and perceived severity " related to students' beliefs.

Keywords: Correlations, Health Beliefs Model, substance use.

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Introduction:

The country of Iraq expects a population of 39.2 Million, Iraq is one of the West Asian countries bordering the Arabian Gulf. It is bordered by "Turkey in the north, Kuwait and Saudi Arabia in the south, Syria and Jordan in the west, and Iran in the east". Iraq's geographical position is also another agent that makes Iraq vulnerable to drug use, due to the long and spongy border between

Iraq and Iran, as Iran is facing increasing and severe substance use problems ⁽¹⁾. Substance use is expanding particularly among young people who are always in high school and university students ⁽²⁾. Consequently, the distribution in Iraq of lifetime uses of "alcohol, licit or illicit substances" was at least 10.3 percent ⁽³⁾. According to reports of the Iraqi Ministry of Health in 2017, the number of

smokers in Iraq was (31%) male, (4%) female. On the other hand, according to the statistics of the (WHO,2014), the number of alcoholics is (6.8%) for men, and (0.6%) for female. While, the number of drug addicts (illegal drug) in Iraq was around (7.2%). University students, aged (18-24) is duration of quick economic, social, and cultural transmission in Iraq which has produced a suitable condition for growing socially upset types of smoking, hookah, narcotic and alcohol use. Substance use is increased trouble in Iraq, as in many developing countries. In Iraq colleges' students are very a substantial class that is susceptible to depend on the drugs. This is a very earnest trouble that worries both the population and government. Addiction among youth in Iraq is associated with public health troubles such as poverty and school truancy. The most recent study in Iraq found that (41.7%) of students are smokers, and this allows the awful statement that smoking is considered an admission to the use of other illegal drugs, which can in turn destroy your life with alcohol and brain effects ⁽⁴⁾.

Methods and Materials:

True experimental design, using a randomized controlled trial approach, is carried throughout the

current study to determine the efficacy of health beliefs model-based intervention in changing the belief related to substance use among university students in Mosul City for period from 5-January 2023 to 1-February 2024. The study sample consisted of 80 students who participated in training program for behaviors change. The study sample will be recruited from (4) colleges in the University of Mosul's Engineering, Sciences, Medicine and Education Colleges. The participants of each behavior were randomly allocated into one of two groups; (experimental group and control group). The intervention for the experimental group involved a health education lecture about substance use. Analyzed data using SPSS, Version23 using both descriptive statistics, inferential statistics (Means, and SD, Number and percentage) and chi-square , t-Test. A mixed design analysis of variance (ANOVA) is used to measure the changes among participant's beliefs, motivation, control and intentions over three times (pre-test, post-test1, and post-test2), as well as a Pearson's correlation coefficient used to identify the association between Health Belief Model concepts, behavioral motivation , behavioral control and Intentions to changing Beliefs related to substance use⁽⁵⁻⁷³⁾.

Results:

Table 1: Demographical Characteristics and Homogeneity Between Experimental and Control Groups

Socio-demographic	Experimental (n=40)		Control (n = 40)		Total (n = 80)		t
	M	SD	M	SD	M	SD	
Age	23.37	2.09	23.70	2.04	23.53	2.06	0.230
BMI	20.51	2.64	21.95	2.22	21.23	2.53	0.283
Characteristics	F	%	F	%	F	%	χ^2
Gender							0.694
Male	36	90	37	92.5	73	91.25	

Female	4	10	3	7.5	7	8.75	
Marital status							0.856
Married	10	25	11	27.5	21	26.25	
Single	29	72.5	27	67.5	56	70	
Divorced	1	2.5	2	5	3	3.75	
Residential unit							0.433
House owner	29	72.5	32	80	61	76.25	
House rent	11	27.5	8	20	19	23.75	

Table 1 shows that the study participants were 80 students between 18 - 27 years old, and the overall mean age for the participants was 23.53 ($SD = 2.06$). Concerning body mass index (BMI) most of participants were normal body weight. The overall mean BMI for participants was 21.23 ($SD = 2.53$). Regarding other demographic characteristics, most

of participants for the experimental group were male (90%) single (72.5%) and house owner (72.5%). For the control group most of participants were male (92.5%) unmarried (67.5%) with house owner (80%). There were no statistically significant differences in the baseline demographical characteristics between the groups (Table 1).

Table 2: Intercorrelations Between Health Beliefs Model Concepts, Motivation, Behavioral Control and Intentions to substance use among Experimental Group Participants (n= 40):

Variables		1	2	3	4	5	6	7	8
Baseline test (T0)	1. SU								
	2. Severity	-0.050							
	3. Benefit	0.049	0.253**						
	4. Barrier	-0.296	0.271	0.512**					
	5. CA	0.149	-0.173-	0.305	-0.086				
	6. SE	-0.153-	0.186	-0.051	0.098	-0.119			
	7.MO	-0.053-	0.113	0.303	0.273	-0.093	0.192		
	8. BC	0.001	-0.209	0.278	0.129	0.073	0.257	0.562**	
	9. BI	0.067	0.182	0.401*	0.158	0.132	0.204	0.162	0.128

Post-test 1 (T 1)	1. SU								
	2. Severity	0.094							
	3. Benefit	-0.090	0.266**						
	4. Barrier	-0.059	0.358*	0.428**					
	5. CA	0.299	-0.028	-0.027	0.180				
	6. SE	0.066	0.245	0.094	0.194	0.116			
	7.MO	0.082	-0.022	0.317*	0.335*	0.038	0.165		
	8. BC	-0.196	0.074	0.291	0.157	0.061	0.399*	0.060	
	9. BI	0.160	0.137	0.319*	0.253	0.196	0.215	0.271	0.019
Post-test 2 (T 2)	1. SU								
	2. Severity	-0.095							
	3. Benefit	0.020	0.489**						
	4. Barrier	0.085	0.320*	0.218					
	5. CA	-0.072	0.423**	0.251	0.403**				
	6. SE	-0.156	0.110	0.091	0.044	0.225			
	7.MO	-0.062	0.220	0.214	0.413**	0.088	0.021		
	8. BC	0.077	0.057	0.212	-0.280	-0.144	0.198	0.173	
	9. BI	0.073	0.217	0.502**	0.292	0.397*	0.239	0.230	-0.029

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

CA: Cue to action, SE: Self-Efficacy, MO: Motivation, BC: Behavioral Control, BI, Behavioral Intentions

Table 2. represents the results for Pearson's correlations coefficients among and between belief related to substance use, motivation, behavioral controls and behavioral intention over three times (pre-test, post-test 1, post-test 2) for Experimental group.

Discussion:

Table 1 shows that the study participants were 80 students between 18 - 27 years old, and the overall mean age for the participants was 23.53 (SD = 2.06). Concerning body mass index (BMI) most of

participants were normal body weight. The overall mean BMI for participants was 21.23 (SD = 2.53). Regarding other demographic characteristics, most of participants for the experimental group were male (90%) single (72.5%) and house owner (72.5%). For the control group most of participants were male (92.5%) unmarried (67.5%) with house owner (80%). There were no statistically significant differences in the baseline demographical characteristics between the groups (Table 1). Pre-test there was positive significant correlation between participants' perceived seriousness of substance use and their perceived benefit in preventing addiction. This explains that participants feeling about the importance of health education programs in preventing addiction is increased as they felt about severity of substance use. The correlational analysis at same time (T 0) also revealed that there was a strong correlation between perceived benefits and perceived barriers, also association between behavioral motivation and control. This result indicates that participants willing to motivate and control in changing beliefs related to substance use are associated with their Behavioral intentions. Many beliefs and variables showed significant correlations at posttest 1 (post-1) (see Table 2). These new correlations may be explained in the term that is emerged as a result of our substance use related health educations. There was positive significant correlation between participants' perceived severity and their perceived benefits, and perceived severity and perceived barriers of substance use over time. This implies that participants who perceive that they are highly seriousness are more prone to addiction or substance use.

Conclusion:

This study concluded that designing an HBM-based study could affect students' understanding and their behaviors in the field of substance abuse. Considering the positive correlation between construct of HBM, particularly in "perceived benefits and perceived severity" related to students beliefs.

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