



Article

Perceived barriers and benefits of Intervention on Health Beliefs about Drugs of High School's Female Students

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Abstract: This investigation sought to explore the effects of a belief-based intervention regarding health on the prevention of drugs in female students in Diwaniyah. Additionally, it sought to determine the association between preventative strategies for drugs and the demographic characteristics of female students, such as age, grade, economic status of the family, and atmosphere in the family. This research utilized a true experimental design and a randomized controlled trial methodology to determine if an intervention based on the health belief model would have an effect on the beliefs of addiction to drugs among high school students in Diwaniyah, CA between January 7th, 2025 and May 15th, 2025. The results demonstrated that the concept of health belief was different in the context of drug prevention. The study concluded that the health intervention via the health belief model had a positive impact on female students' health beliefs and emphasizes the need to prevent drug use. According to the study, further research based on the HBM should be conducted on a large segment of the Iraqi community in order to alter drug consumption..

Keywords: Self-Efficacy, Health Beliefs Model, Drug Use

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1. Introduction

The widespread prescription of drugs has been acknowledged as a problem that primarily affects urban and inner-city communities. However, the past decade has witnessed a significant increase in the number of cases of substance use disorders and fatalities due to drug-related reasons in rural areas [1]. One consequence of the global phenomenon is that drugs have spread across the country from urban to rural areas in both developed and developing countries. The misuse of prescription drugs and opioids (particularly heroin) is increasing, as is the utilization of methamphetamine, cocaine, cannabis, and other narcotics [2].

Despite the lack of information regarding the complete prevalence of drug usage in rural nations, existing research suggests certain trends. One significant controversy is the utilization of drugs by young individuals. A study from 2010 documented that the use of dangerous "high-risk" drugs led to nearly 27 million instances of mental health and social issues. Additionally, approximately 300,000 people perished as a result of the use of drugs in 2015 [3]. According to (GBD) 2010 more than expected. This theory is backed by recent research on addiction to drugs.

Over 84% of persons who fit the diagnostic criteria for a SUD continue to use drugs into adolescence, according to research. Unlike in adulthood, when teenagers may outgrow the diagnostic criteria for drug use disorder, few people recover from substance use disorders [4].

Adolescents who misuse drugs or alcohol are more likely to have negative consequences, such as subpar academic performance, school dropout, conflicts with friends and family, and criminal involvement. Medical facilities, other social care organizations, and the criminal justice system are also impacted [5,6].

Thankfully, there are evidence-based and reasonably priced methods to break the cycle of drug abuse. We can effectively delay or even prevent the start of drug use and lower the chance of developing dangerous behaviours by putting preventive programs into place for kids, teens, and adults [4]. Choosing the right treatment choices is also essential for helping individuals with drug use disorders take back control of their life and lessen the short- and long-term harmful impacts of substance dependency. Rehabilitation programs are also necessary to assist these individuals enhance their everyday lives, raise their general standard of living, and eventually stop using drugs [7].

Drug abuse is on the rise, especially among young people ; college students and those in elementary and middle school [8]. In light of this, it is estimated that at least 10.3% of Iraqis have used alcohol or drugs, whether legal or illicit, at some point in their lives [9]. Ministry of Health in Iraq reports that in 2017, 31% of Iraqi smokers were men and 4% were women. However, according to statistics from [10], 6.8% of men and 0.6% of women were categorised as alcoholics. Furthermore, it is estimated that 7.2% of Iraqis suffer from an illicit drug addiction. A sizable section of the population that is susceptible to drug usage are Iraqi students. Both the public and the government have taken notice of this grave issue [11]. Adolescent drug usage is a major issue throughout the globe. Poor peer connections, mental illness, a greater risk of suicide, risky sexual behaviour, HIV, learning disabilities, absenteeism, high dropout rates, and poverty are just a few of the well-known outcomes that are linked to it [12]. Between the ages of 15 and 18, adolescence is a crucial time for rapid social, cultural, and economic transformation. Numerous types of social deviance, including drug and alcohol misuse, tobacco usage, hookah smoking, and other behaviours, have increased as a result of these developments. Similar to trends seen in other emerging nations, drug usage is increasing in Iraq. Drug usage among schoolchildren is higher than among the general population. The people and government should take action on this crucial problem. [9] Schools have a big chance to make a big difference in the concerning issue of teen drug usage [13].

Adolescent drug addiction in Iraq is linked to socioeconomic problems including poverty and absenteeism. A recent nationwide research found that a sizable percentage of students (41.7%) smoke, which regrettably raises the risk of engaging in drug usage. Due to its detrimental effects on brain function study, almost 44,000 deaths were directly related to the use of opioids, cocaine, and amphetamines, along with a additional 702,000 deaths that were and alcohol dependency, this risky route has the potential to destroy the lives of young people. [14]HBM was one of the first models to use ideas from behavioral science to solve health problems., which showed how beliefs and behaviour are related. [15]. It is one of the most commonly utilized psychological theories about health behavior. The Health Belief Model (HBM), which considers both psychological preparation and normative or environmental factors that influence health behavior, is made up of six parts:self-efficacy, perceived vulnerability obstacles, severity, action signals, and incentives [16].

Concepts of the HBM:

- a. Perceived susceptibility: This term is derived from the subject's perception of their potential for disease development [17].

- b. Perceived severity: This describes how someone feels about the gravity of being sick or unwell (or not getting treatment for a sickness or illness) [18].
- c. Perceived benefits: This describes how a person evaluates the efficacy of certain therapies that are offered to cure or prevent sickness [19].
- d. Perceived barriers: This describes how someone feels about the challenges they face while engaging in a suggested health activity [20].
- e. Cue to action: This initiates the adoption of advised health measures [21].
- f. Self-efficacy: The degree to which a person is confident in their ability to complete the task. The most latest part of the model was added around the middle of the 1980s. Self-efficacy is a term that's commonly used in behavioral theories because its effect on whether or not a person can accomplish a intended goal is direct [21].

2. Materials and Methods

Study Design:

From January 7th, 2025, to May 15th, 2025, a experimental design that employs a research control group methodology will be conducted in order to determine if the Health Perspectives Model has the capacity to alter the perspective of female students in Al-Diwaniyah City.

Study Sample:

Using a probability-based methodology, a sample of 150 high school students from Diwaniyah was chosen as the baseline. The random sample was split into a experimental group and a control group, each consisting of 75 students with a uniform distribution of age and grade. This procedure was employed to choose participants who possessed the following traits:

- a. Just female students.
- b. Nineth, tenth, and twelfth graders. The Steps in the Study.

Study Instrument:

Self-report questionnaires are made specifically for the research.

These tools are shown as follows:

Part I: Demographic data included the students' age, gender, grade, college, and economic status.

Part 2: This investigation employed a scale to gauge the students' perception of the utilization of substances. This scale was derived from various resources, the items on this scale are 15, 16, 17, 18, and 19. This instrument is derived from the HBM , and has six constituent elements: perceived vulnerability, perceived severity, perceived benefits, perceived barriers, perceived clues to action, and perceived self-confidence. The entire scale is composed of 35 sections, each containing 5 items. A nine-scale with the word "Likert" was used to determine the degree to which high school students would alter their behavior in accordance with the Health Belief Model (HBM).

Data Collection:

The data collection process began on February 7, 2025, and concluded on March 14, 2025. The pretest-posttest approach and the usage of research instruments are two techniques for collecting data..

Statistical Analysis

IBM SPSS 26.0 was used for the following analyses. The continuous variables (mean and SD) were represented using the mean and standard deviation, whereas the variables were classified using numbers and percentages (No. and %).

3. Results

Table 1. Features of the Study and Control Groups' Demographics.

Demographic characteristics	Rates and Intervals	Control group=75		Study group=75	
		Frequency	Percentage	Frequency	Percentage
Age	16	10	13.3	11	14.7
	17	8	10.7	9	12
	18	10	13.3	19	25.3
	19	13	17.3	17	22.7
	20	34	45.3	19	25.3
Stage	Fourth stage	12	16	12	16
	Fifth stage	20	26.7	29	38.7
	Sixth stage	43	57.3	34	45.3
Marital status	Married	16	21.3	12	16
	Single	57	76	61	81.4
	Dead	0	0	1	1.3
	Divorce	2	2.7	1	1.3
Educational level of father	doesn't read	2	2.7	1	1.3
	writes and reads	7	9.3	2	2.7
	Primary	8	10.7	2	2.7
	Medium	13	17.3	2	2.7
	Junior high	13	17.3	16	21.3
	Institute	15	20	17	22.7
	Bachelor's	11	14.7	19	25.3
	Diploma	2	2.7	3	4
	Master's	2	2.7	7	9.3
Educational level of mother	Doctorate	2	2.7	6	8
	doesn't read	3	4	1	1.3
	writes and reads	9	12	4	5.3
	Primary	15	20	7	9.3
	Medium	17	22.7	8	10.7
	Junior high	14	18.7	14	18.7
	Institute	7	9.3	14	18.7
	Bachelor's	7	9.3	15	20
	Diploma	2	2.7	3	4
Job description of father	Master's	1	1.3	5	6.7
	Doctorate	0	0	4	5.3
	Professional	19	25.3	11	14.7
	Semi-professional	16	21.3	17	22.7
	skilled worker	14	18.7	7	9.3
	Semi-skilled worker	7	9.3	5	6.7
	Unskilled	6	8	8	10.7
Monthly income	Writer	7	9.3	7	9.3
	does not work	6	8	20	26.7
	Lower class	5	6.7	13	17.3
	Upper lower class	26	34.7	20	26.7
	Lower middle class	21	28	14	18.7
	Upper middle class	14	18.7	16	21.3
	Upper class	6	8	8	10.7
Residence	And more	3	4	4	5.3
	House owner	59	78.7	54	72
	House rent	16	21.3	21	28

As indicated in Table 1, the 150 participants in the study were all female students between the ages of 16 and 20. The experimental group had 25.3% of the participants, while the control group had 45.3%. The control group was primarily composed of female students, other data indicates that they were unmarried (76.0%) and possessed homes (78.7%). Conversely, the study's participants were primarily single (62.7%) and homeowners (72.0%).

Attached to them. earnings each month. While most members of the control group (34.7%) earned between \$300 and \$500 per month, participants in the research group (26.7%) made insufficient money.

Table 2. Distribution and Consistency of the Behaviour Patterns of the Study and Control Groups.

Drug abuse	Control group		Study group	
	Yes	No	Yes	No
Never	29	38.7	18	24.0
1-2 daily	5	6.7	2	2.7
3-4 daily	2	2.7	2	2.7
5 daily	0	0	1	1.3
1-2 weekly	11	14.7	7	9.3
1-2 monthly	28	37.3	45	60.0

Table 2 shows that the mostly of the control group reported the greatest amount of drug utilization. Among the control group, 29 individuals responded "Yes" to the question, while the response to "never" was exact "Yes" followed by 38.7 individuals who responded "no." The investigation's responses were "yes" (18 people) and "no" (24.0 people), and "1-2 drinks per month" (45 people) and "no" (60.0 people), respectively, for the study group, while the control group's responses were "yes" (28 people) and "no" (37.3 people).

Table 3. Repeated Actions ANOVA evaluates the health beliefs model's ability to alter female students' perceptions of the perceived benefits of drug use in the classroom.

Perceived Benefit	"Repeated Measure ANOVA test"			
	F	P	(η^2)	O. P.
Main time effect	56.354	0.000	.276	1.000
Between groups effect	36.008	0.000	.196	1.000
Groups interaction overtime	69.854	0.000	.321	1.000

η^2 : partial Eta squared (size effect). O.P. Observed power.

Table 3's results indicate that the subject-by-subject test had a significant main effect of time ($F=56.354$, $p=0.000$), as well as a significant interaction between time and group ($F=69.854$, $p=0.000$). The cross-group test also demonstrated a significant influence of the group characteristic ($F=36.008$, $p=0.000$).

Table 4. Using the LSD corrections process, a post-hoc examination of how the research and control groups' opinions of the health beliefs model (perceived benefits) changed over time.

HBM	Groups	Post hoc using LSD		
		(pretest) vs (post 1)	(pretest) vs (post 2)	(post 1) vs (post 2)
Perceived Benefit	Exp.	0.000	0.000	0.202
	Con.	0.317	0.228	0.838

Calculated on the basis of average marginal costs. The mean differences are significant at the 0.05 level. Multiple comparison balancing: LSD. P values less than 0.05 are bolded.

Regarding alterations to the health belief model (perceived benefits), Table 4 demonstrates that the study group's perceived benefits of their beliefs have changed significantly over the course of the three time periods. The group in charge continued to believe evolutionarily, as demonstrated in Table 4.10. However, the students' perspectives did not have a significant increase or significant change over time.

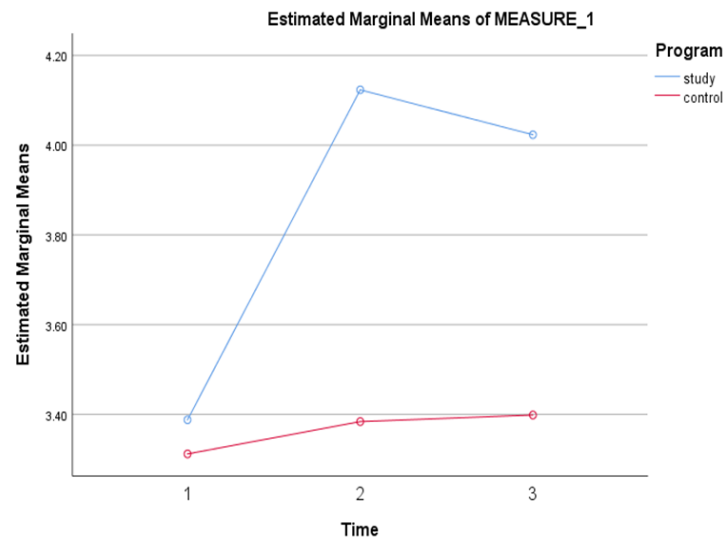


Figure 1. Over the course of the three periods, female students in the research and control groups' perceptions of the advantages of drug usage altered.

Table 5. Repeated Behaviours ANOVA looks at how female students' opinions of perceived obstacles to drug use are impacted by the health beliefs model.

Perceived Barrier	"Repeated Measure ANOVA test"			
	F	P	(η^2)	O. P.
Main time effect	57.862	0.000	.281	1.000
Between groups effect	60.127	0.000	.289	1.000
Groups interaction overtime	49.610	0.000	.251	1.000

η^2 : partial Eta squared (size effect). O.P. Observed power.

The findings in Table 5 show that the major temporal impact is not significant ($F=0.167$, $p=0.046$). Figure 2 shows that there is no discernible interaction between the two groups' lines, suggesting that the Health Beliefs The research and control study participants' models are not static and evolve over time.

Table 6. Procedure for Bonferroni Corrections Post-hoc Analysis of Shifts in the Study and Control Groups' Perceived Obstacles in the Health Beliefs Model Over Time.

HBM	Groups	Post hoc using LSD		
		(pretest) vs (post 1)	(pretest) vs (post 2)	(post 1) vs (post 2)
Perceived Barrier	Exp.	0.000	0.000	0.009
	Con.	0.839	0.429	0.320

Calculated on the basis of average marginal costs. Mean differences were significant at the 0.05 level. Multiple comparison oversight: LSD. $P < 0.05$ is written in bold.

Research group members' scores on the modified beliefs associated with perceived obstacles altered significantly over time ($p < 0.05$), according to this test, see Table 6.

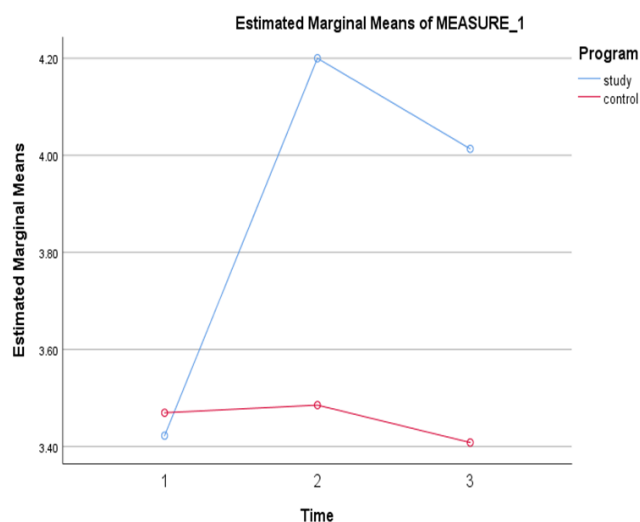


Figure 2. A shift in convictions. pertaining to female schoolchildren's drug usage (Perceived Barrier), for both the research and control groups over the course of three.

4. Discussion

The control group was 20 years old, while the study group included the majority of participants, as shown in table 1. Further demographic information revealed that 78.7% of participants were homeowners. Of those who participated, 81.4 percent were unmarried. Tables (1) supported the findings of research (14) that found no significant correlation between the knowledge scores and the fathers' employment, age, gender, and level of education, as well as their home ownership. According to this research, students in their 20s have a life expectancy that is in line with (21, 22).

The study's findings (table 2) indicate that the greatest percentages of users of drugs were found in the study group (60.0%) and the control group (37.3%). Goings, Hidalgo, and McGovern (2018) documented that the prevalence of drug use during adolescence was as great as 57%, this was a highly significant predictor of future drug use.

Similar results were seen in 2017 in Baghdad, Iraq, where the lifetime prevalence of alcohol drinking was 17.8% and drug use was 7.02% [9]. Increases in the use of illicit substances, prescription medications, and alcohol may be signs that drug abuse is becoming more widespread in society and that more individuals need treatment programs.

Table 2 Given that randomised controlled trials (RCTs) need group homogeneity, the study's results imply that the sample was homogenous. RCTs are seen to be the best method for using HBM to assess the effectiveness of a program. Thus, it was found that the two groups' (the study and the control) outcomes were similar. Furthermore, the majority of individuals in the experimental and control groups—roughly 34.7% and 26.7%, respectively—had household incomes estimated to be between \$300 and \$500.

An analogous interpretation of the Data indicates that low income families and mothers and fathers with limited education are more likely to commit addiction to drugs and utilize the region due to the lack of personal education, low family education, or family dissolution. 23[Table (3,4)]. Perceived benefits have been demonstrated to be one of the primary causes of increased utilization of preventive strategies compared to alternative strategies. As a result, this investigation was expected to have a significant perceived benefit, this component received the highest average score.

The survey found that female students were more in favour of preventative measures and lowering the likelihood that drug addiction would spread. There was evidence that as a woman progressed through her course, her view of the advantages changed. Additionally, the research and control groups' perceptions of perceived benefits varied over time among female schoolchildren.

The research group participants' belief levels significantly increased, as shown by Posttest 1. Even though the instructional program was continuously maintained to preserve their believe levels as much as feasible, this subsequently decreased considerably at posttest-2. Female children's involvement in the program most likely helped them learn more.

This research found that after health education, the intervention group's evaluation of the significance of altering students' attitudes around drug use considerably increased. The findings are consistent with studies showing an increase in perceived benefits after an intervention [24].

The results of this investigation align with those of Tavafian and Mohammadi. They found that the study group's views on the benefits of drug use and the elements of the Health Belief Model differed significantly ($p < 0.001$) based on a repeated measures ANOVA. However, the effect size (Perceived Benefits) of changed perceptions was shown to be large, accounting for about 40% of the fluctuation across time.

This outcome shows how the kids' opinions dramatically changed after they began school. The post hoc test revealed significant differences in the mean score of the study group members on the modified Health Belief Model (perceived Benefits) ($p > .000$). When compared to participants in the control group, the results indicate no appreciable change in the mean score of beliefs during the duration of the educational program.

More specifically, the mean scores of post-tests 1 and 2 differed significantly from the research group's pretest mean scores on the subscale Health Belief Model (Perceived Benefits). However, there was no discernible difference between post-tests 1 and 2.

The study's findings demonstrated that students' belief levels significantly rose after an instructional intervention. These findings are consistent with research by Solhi & Abolfathi, which shown that participants' perceptions of the advantages of drug prevention programs were positively impacted by health education [25].

Table (5,6) Perceived obstacles Establishing a mentality that maintains that visible problems are not significantly connected to drug use requires more thorough consideration of lowering barriers.

Students' assessments of the true costs of completing the task are the source of the perceived barrier. The approach had little effect on behaviour modification since it was expensive to set up facilities specifically for addiction treatment.

The Health Beliefs Models of the research and control subjects, which are evolving over time without exhibiting any appreciable changes, do not significantly interact, according to our results.

According to this statistics, schooling did not significantly change the views of female students, particularly with regard to perceived limitations.

These results align with the reduction of barriers to addiction (Shamsi et al., 2010), which discovered that the absence of a secondary school curriculum that educates about the negative effects of drug use is the biggest barrier to addiction prevention. 26[.

The inability to say no to family members and coworkers was found to be the most significant perception of perceived barriers in an Iranian study by Solhi and Abolfathi titled "The effect of education about prevention of addiction through health belief model (HBM) on knowledge and perceptions of high school students in Saveh" [27].

Other studies confirmed our findings. According to Sharifzadeh et al. and Aster et al., there is evidence that behaviour is linked to less perceived obstacles. The observed reduction in obstacles may be attributed to a number of variables, including treatment expenses, referral fees to addiction treatment clinics, prescription shortages, family issues, ignorance, cultural, and economic concerns [28] [29].

According to the results, the HBM had the least impact on the perceived magnitude of obstacles. One explanation for this might be the age-related traits of female students, which allow them to act spontaneously and naturally. Another may be the emotional and social circumstances of the children.

During the educational session, the post-hoc test revealed that the study group's mean score on the Health Belief Model (perceived barriers) changed, whereas the control group exhibited no change at all.

Lotfi et al.'s research, which revealed no indication of a significant difference between participants' and HBM's reported problems following health education, is supported by this one [30].

5. Conclusion

The results indicate that HBM-based research approaches can have an effect on student's attitudes and behavior towards substance abuse. The positive associations between HBM concepts and student's perspectives on school, particularly the association between perceived benefits and perceived severity, suggests that HBM is pertinent to the prevention of drugs in schools.

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