

Exploring practice of Isfahan University of Medical Science students regarding using ecstasy based on health belief model in 2011

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ABSTRACT

Introduction: Ecstasy consumption has increased 70% worldwide, and its use is currently outweighed heroin and cocaine. Conducted survey found that students more than other groups used ecstasy pills. Ecstasy usage has recently augmented in students. Therefore, this study aims to determine practice of Isfahan University of Medical Science students about using ecstasy based on health belief model in 2011. **Materials and Methods:** A cross-sectional study was conducted on 267 students of Isfahan University of Medical Science. Data were collected by a validated and reliable questionnaire in 3 parts (demographic information, H.B.M constructs, and practice). To analyze, SPSS software (ver.18) and statistical test including T-Test and Kruskal-Wallis were used. **Results:** The mean score of age was 20.95 ± 1.61 years, and 39.3% of men and 90.6% of women were single. 2.2% of students have used ecstasy pills. The mean score of H.B.M constructs was perceived susceptibility (72.75 ± 19.68), perceived severity (84.58 ± 16.98), and perceived benefits (80.43 ± 23.49). The finding presented that there was significant differences between the using ecstasy and perceived severity and perceived benefits ($P \leq 0.001$), but there was no significant statistical relationship between the using ecstasy and perceived susceptibility and perceived barriers ($P = 0.076$, $P = 0.554$). In terms of cues to action, students suggested that radio and TV are most significance cues. **Conclusion:** According to results, to prevent ecstasy usage among Isfahan University of Medical Science students based on health belief model, we should improve perceived susceptibility. Besides, radio and TV rules as the most important cues should not also be denied. Moreover, newly identified susceptibility indicates the need for quantitative research and behavioral trials.

Key words: Ecstasy, health belief model, student

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INTRODUCTION

Ecstasy pills belonged to two groups named amphetamines and hallucinogens, which diagnosed by chemical formula as 3,4-methylenedioxy-methamphetamine (MDMA). This drug was introduced by E. MERCK Company in 1914, and unfortunately it was widely used. However, the use of this substance was banned due to its side effects.^[1] These pills have a temporary positive effect such as tendency to communicate with others, escalate awareness, and perceive music. Its negative and destructive effects like visual hallucinations, increased heart rate and blood pressure, sleep disturbances,

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lack of concentration, forgetfulness, anxiety sudden attacks, and increased body temperature are also considerable.^[2,3] Ecstasy usage has dramatically increased up to 70% during 1995 to 2000 across the world, and its consumption is even more than heroin and cocaine, currently.^[4] Studies conducted in United States have found that using ecstasy is more prevalent among student compared to other groups, and its use has recently increased among students of universities.^[4] A portfolio of studies in different countries shows that ecstasy consumption rate is approximately 4%, 4%, 8.4%, 2.8%, and 7% in Turkey, France, Brazil, Italia, and United State, respectively.^[5,6] The ecstasy consumption has reached peak during the past 5 years in our country.^[7] More than 40000 people in Iran used ecstasy in 2001, that the vast majority of them included students and youths.^[8] Ecstasy consumption among male students of Rasht Universities, Qazvin University of Medical Science, Gilan Province students, Gilan Universities of Medical Science, and Tehran students was 7.25%, 1.5%, 4.2%, 2.05%, and 0.7%, respectively.^[9,10] The health belief model (HBM) is presented as the organizing theoretical framework for this research, which is also one of the oldest theories of health behavior. Numerous behavioral sciences scholars applied this model in terms of designing and assessment of behavioral intervention.^[11] Health belief model, in fact, authorize us to study people effective beliefs toward decision-making process. Executing this model make it possible for respondent's beliefs, perceived benefits, and barriers to be more diagnosed. This model, in brief, is likely to be effective in educational designing of ecstasy preventive manner. Therefore, lack of researches in terms of ecstasy consumption among Isfahan University of Medical Science has necessitate scholars to execute this paper to determine student performance of Isfahan University of Medical Science about ecstasy use based on health belief model. According to effectiveness of model-based education about prevention of ecstasy consumption, the result of this model can likely be beneficial in designing of attuned educational approaches in prevention of ecstasy use as this efficacy has been proven in various studies.^[12,13]

MATERIALS AND METHODS

We executed a cross-sectional study. To obtain samples, 267 students of Isfahan University of Medical Science were selected through random classify sampling who were studying in colleges including Medical, Health and Nutrition, Management and Rehabilitation, Nursing and Midwifery and Dental. To gathering data, a triplet questionnaire based on the parameters of the health belief model that was designed and confirmed by some of health education specialists was implemented. The first part comprised demographic information including age, gender, marital condition, parent's education, residence, and the number of family. The second section consisted of health belief model constructs, including perceived susceptibility (4 questions), perceived severity (9 questions), perceived benefits (6 questions), and cues to action (3 questions). The third part, finally, was a question in terms of ecstasy. Model constructs reliability for perceived susceptibility, perceived severity, perceived benefits, and

perceived barriers was 0.65, 0.72, 0.80, and 0.69, respectively. Questionnaire scoring method was implemented; this method that model constructs were vetted using three point likert scale (agree, no comment, and disagree) and were scored from 0 to 2. Besides that, performance was also assessed using yes and no items and scoring from 0 to 1. Sum of scores was finally considered from 100. Data analysis was conducted with SPSS 14.0 using parametric and non-parametric tests of association. A two ailed *P* value less than 0.05 was considered statistically significant. Questionnaires were completely filled through public health specialist and attending to different campus. From the outset, individuals were informed towards study aims and ensured them that all private information will keep confidentiality. All subjects signed the consent forms and answered all the survey questions.

RESULTS

In total, 267 eligible individuals from different colleges of Isfahan University of Medical Science took part in this study. The mean age of students was 20.95 ± 1.61 years [range 18-30 years]. Less than half the samples were male [39.3%, $n = 105$], and over half of the subjects [60.7%, $n = 162$] were female. 242 (90.6%) of subjects were single, and 25 (9.4%) of samples were married. It seems that the statistics of parents literacy of students be approximately similar in such a way that 32.6% of fathers and 35.2% of mothers had diploma. In terms of residence, 127 (47.6%) of students were lived with their family, 132 (49.5%) of individuals were resided in dormitory, and 105 (39.3) of them were lived in rental homes. In addition, the mean number of family was also 4.84 ± 1.64 (2.2%) of students have eaten these pills that shows in table 1 based on gender, as well. The mean of model constructs for perceived susceptibility, perceived severity, perceived benefits, and perceived barrier was 72.75 ± 19.68 , 84.58 ± 16.96 , 80.43 ± 23.49 , and 81.65 ± 18.53 , respectively. Table 2 showed health belief model constructs based on gender. About perceived susceptibility, 88% of subjects believed that they were not getting involved with complications due to knowledge acquisition toward procedure and consumption rate of ecstasy. In terms of perceived severity, 83.5% of individuals believed that using ecstasy will lead consequently to death, 83.9% of students demonstrated that ecstasy consumption will result in poisoning, and 81.3% also thought that its consumption has probably increased their contingency risk of AIDS and hepatitis. Consistent with perceived benefits, 67.4% of respondents also revealed that lack of consumption will lead to a healthy body, and 66.7%, as a whole, pointed out that lack of use will result in stable conditions, mentally. 82.5% and 77.9% of people illustrated that lack of parent's supervision and lack of adequate knowledge are perceived as barriers, as well.

Results have revealed that there is a significant relationship between ecstasy consumption with perceived severity and benefits ($P \leq 0.001$). However, there is no significant relationship between ecstasy consumption with perceived susceptibility and barriers ($P = 0.076$, $P = 0.554$).

Table 1: The frequency of students ecstasy consumption based on gender

Consumption	No		Yes	
	Percent	Number	Percent	Number
Gender				
Male	38.7	101	66.7	4
Female	61.3	160	33.3	2
Total	100	261	100	6

Table 2: The mean and standard deviation of health belief model constructs based on gender

Model constructs	Perceived barriers	Perceived benefits	Perceived severity	Perceived susceptibility
Gender				
Male	82.45 ± 19.00	83.21 ± 22.72	83.01 ± 20.17	70.00 ± 22.31
Female	81.13 ± 18.25	78.62 ± 23.87	85.60 ± 14.38	74.53 ± 17.62
T- test	T = 0.007 P = 0.119	T = 0.08 P = 0.57	T = 8.84 P = 0.224	T = 11.75 P = 0.08

Kruskal-Wallis statistic test showed that there is a significant relationship between ecstasy consumption and parents' education ($P \leq 0.001$) in such a way that students having parents under diploma are more likely inclined to ecstasy consumption.

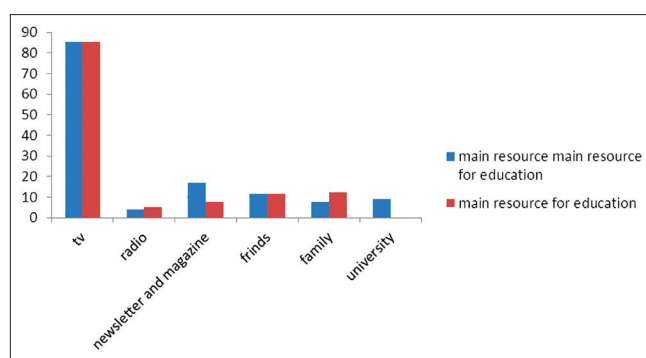
Independent t-test also not indicated the significant relationship between ecstasy and age ($P = 0.455$). Some of guiding sources introduced by students included 41 (15.4%) educational programs, 231 (86.5%) radio and television, finally, 131 (49.1%) newspaper (Figure 1).

229 (85.8%) of subjects said that they were not provided adequately with information, and 227 (85%) of individuals were interested to be more aware of ecstasy pills.

DISCUSSION

Drawing on the aim of this study that planned to assess practice of Isfahan University of Medical Science students regarding using ecstasy based on health belief model, as a direct result, shows that frequency of ecstasy consumption among students was 2.2% compared to Birjand University 3.4% and Gilan University of Medical Science 2.05%.^[14,15] These statistics shows a smaller percentage compared to executed surveys in United States and England.^[16-18] It seems that pills consumption rate in Isfahan University of Medical Science is partly less than other universities, its reason may be attributed to greater knowledge of students toward these pills.

Consistent with this survey, the average score of perceived severity is partly more than other constructs of model and is associated with performance, as well. In terms of perceived severity, most subjects believed that ecstasy consumption will lead to poisoning and even death. Moreover, they identified that ecstasy consumption make them more susceptible to be at risk of AIDS and hepatitis. High average rate of perceived severity means students are roughly aware of ecstasy implications; however, they think that they are not supposed to be at risk. As 86.5% of students portrayed radio and television as mains cues to action, thus, regarding these media, seems majority of educations are in

**Figure 1: The frequency of the most important information source**

accordance with side effects of ecstasy consumption and making attempt to augment perceived susceptibility is not their point of view.

In current study, it was existed a significant relationship between perceived benefits and practice in such a way that 67.4% mentioned that lack of use will lead to a healthier body. It seems that informing individuals in terms of physical ramifications of ecstasy will cause increased perceived benefits and will result consequently in decreased usage.

In Khosravi investigation that was done on Arak University students, the mean of perceived susceptibility was more than other components of model and had a relation with performance as well, which is not commensurate with this survey.^[2]

In this implemented survey, although 66.7% of people were women compared to 33.3% men, there was no significant relationship between two sex ($P = 0.167$); however, in other similar studies, consumption rate among men was higher outlive women.^[10,14,19,20] Moreover, in this investigation, 66.7% of participants who consumed pills were single, and there was no significant relationship between both single and married groups. It is remarkable that these results found in other studies.^[9,19] On the other hand, in Homa Zarabi survey, consumption rate was more highlighted among married group.^[14]

A portfolio of other factors that seems be effective in ecstasy consumption are residing in dormitory and rental homes. In this study, consumption rate was also high among students residing in dormitory that supported by consistent surveys.^[9,15,21,22] According to these results, it seems that dormitory students must firstly be prioritized and we must turn our attention, especially to them.

229 (85.8%) of individuals mentioned that they had not provided adequately with information and 85% of people are also motivated by getting more information in this issues. It will necessitate executing attuned educational programs for University of Medical Science students. Since people who used radio and television programs were more than subjects who used writing media including journals, besides, as their most important and beneficial source of information was television. Hence, television's essential role must be considered for elevating knowledge of students, and we must strive to formulate and deliver attuned educational programs, timely and appropriately.

High average rate of health belief model constructs in both sexes indicates low rate reason of ecstasy use among students. As mentioned above, diminish of ecstasy consumption can be partly achieved using increased perceived susceptibility, severity and benefits and decreased perceived barriers. We can mention education as an effective approach to change model constructs. In other studies, education based on this model will also lead to changing in model construct mean, and it will result finally in decreased dangerous behaviors, in this regard, Sharifirad and Karimi study is mentionable.^[12,22]

CONCLUSION

In brief, essential to the success of prevention of ecstasy consumption using health belief model will be the attention significantly to perceived susceptibility. Framing interventions toward susceptibility to the individual may be the most appropriate avenue in this population. Moreover, radio and television must play a pivotal role in this process, and they shouldn't be neglected as essential cues to action.

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