Health Locus of Control among Students of Isfahan University of Medical Sciences (2018)

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ABSTRACT

Aims Locus of control (LOC) refers to the extent to which individuals believe that they can control events that affect them. Health Locus of Control (HLOC) refers to beliefs that related to how one's health is affected by oneself, others, or fate; and also it is one of the most broadly measured factors of health beliefs for the scheduling of health education programs. The aim of this study was to assess HLOC among Students at Isfahan University of Medical Sciences.
Materials and Methods This cross-sectional study was conducted in 297 students in Isfahan University of Medical Sciences in Iran selected by simple random sampling method in 2018. Data collection was done by the demographic questionnaire and Form "B" of Multidimensional Health Locus of Control (MHLC) scale. Statistical analysis includes (ANOVA, t-test, Pearson test) was performed using SPSS version 20 and $p<0.05$ was considered statistically significant.
Findings The mean±SD of three dimensions of HLOC were 26.41±3.98, 16.64±4.36 and 21.67±4.37 for internal, chance and powerful others respectively. There was a significant relationship between internal and powerful others locus of control dimensions with sex ($p=0.035$, $p=0.041$). Further, there was not a significant relationship between HLOC dimensions with students' age, major, parent's education and occupation.
Conclusion Since the most scores were relating to an internal locus of control dimension and fewer scores were relating to the chance locus of control dimension, it can be concluded that personal behavioral factors have more influence on students' health and their beliefs about chance, luck or fate has less influence on their health.

Keywords Locus of Control; Students; Iran

CITATION LINKS

[1] Locus Of Control And General Self-Efficacy In Students Of Isfahan University ... [2] Health locus of control and health behaviour: An investigation into the role of health value and ... [3] Iranian version of form b of the multidimensional health locus of control scales ... [4] Do you have the power to succeed? Locus of control and its impact on education ... [5] Reliability and validity of the multidimensional health locus of control scale in Japan: Relationship with demographic factors and health ... [6] Multidimensional health locus of control: comments on the construct and its ... [7] Development of the Multidimensional Health Locus of Control (MHLC) ... [8] Generalized expectancies for internal versus external control of ... [9] Locus of control, attributional style and discipline problems in secondary ... [10] Locus of control and avoidant coping: direct, interactional and mediational ... [11] The relationship between the desired disciplinary behavior and family ... [12] Health-related behavior, profile of health locus of control and acceptance of illness in patients suffering ... [13] Locus of control and self-efficacy: potential mediators of stress, illness, and ... [14] Relationship between Dimensions of locus of control and mental health ... [15] Relationship of health locus of control with specific health behaviours ... [16] Validity and Reliability of the Multidimensional ... [17] Perceived health locus of control, self-esteem, and its relations to psychological ... [18] Association of health locus control theory and self-esteem with physical activity in ... [19] The Role of Health Locus of Control in Predicting Depression Symptoms in a Sample of ... [20] Health locus of control and its relation with health-promoting ... [21] Health locus of control and health behaviour: results from a nationally ... [22] Assessment of Health Locus of Control among Students of ... [23] Comparison of self-esteem, locus of control and their relationship with university ... [24] Internal-external expectancies and health-related ... [25] Health-promoting behaviors and health locus of control from a ... [26] Factors affecting the locus of control of the university ...

Introduction

Human's behaviors and belief in all aspects of life including factors related to health, are affected by mental emotional procedures and the way of a person's thinking [1]. Therefore, recognizing behaviors related to health and paying attention to people's belief regarding their health is very considered by researchers and Health Locus of Control (HLOC) is one construct for assessment of those [2]. HLOC is considered as one of the most important scales and indicators for developing health behaviors that useful for designing health education programs [3].

In health education, Paying attention to people's HLOC for creating the messages related to healthy behavior that proportionate to target group is essential because paying attention to personal differences in changing behavior will be very important [4]. So, use of the Multidimensional Health Locus of Control (MHLC) scale cause to developed health education programs toward prevention of unhealthy lifestyle [5] and it also helps us to form our understanding of the role which our beliefs play in health behavior, health consequences and healthcare [6]. HLOC theory has been proposed by Wallstone et al. in the 1970s that derived from the Rotter's Social Learning Theory Based on Rotter's belief, the focus of strengthening people's health-related behaviors is largely related on internal, chance or powerful others [7]. According to Rotter, a human can consider the occurrence of events as the consequence of measures conducted by itself (Internal locus of control) or external factors (Powerful others or chance locus of control) [8]. People with an internal locus of control believe that they surround and control their environment and behavior, also they are generally active and have more constructive behaviors [9]. While people with an external locus of control believe that their life is under the control of the environment and factors such as chance, power of others and destiny that beyond the control of the individual, so attribute their successes and failures to these factors [9, 10]. Lack of sense of control or external locus of control in people has a direct and negative effect on the individual's health status, while the people with the sense of control or internal locus of control more likely conduct behaviors leading to health and it has a direct and positive impact on their health status [11]. Janowski et al. described that health-promoting behaviors were significantly associated with three dimensions of HLC (including internal, powerful-others and chance) in adults with numerous chronic somatic diseases; the most noticeable relationship existence the powerful others dimension of HLC [12]. The research of Roddenberry on students showed that people who have higher scores of stress, feel more illness and have an external locus of control and they are in the lower level of self-efficacy [13].

Owrangi et al.'s study showed that students with an internal locus of control compared with those with an external locus of control considered themselves more effective in the occurrence of life events and had more experience in social and health adaptation [11]. Another study showed that students with an internal locus of control have more mental health compared with those with an external locus of control [14]. The study of Cheng et al. showed that persons with Stronger I-HLOC dimension, commitment more in the two health-enhancing behaviors such as exercise and diet, while people whit stronger C-HLOC dimension were attendant with less acceptance of a healthy diet and more smoking [15]. As regards the students of University of Medical Sciences will be a major contributor to the achievements of health in the community in the future, this study aimed to establish HLOC in Students of the Isfahan University of Medical Science.

The present study aimed to establish HLOC in Students of the Isfahan University of Medical Science.

Materials and Methods

This cross-sectional study was conducted on 297 students of the Isfahan University of Medical Sciences, Isfahan, Iran. This was a simple random sampling method that the research's objectives were explained to students who come to college libraries, self-service of the dining room, prayer room and cafeteria and the questionnaires were filled by the interested students in a self-administered way. Data were collected by demographic questionnaire and Form "B" of MHLC scale that including three dimensions:

1) Internal HLOC: Includes degree of a person's belief in this issue that internal factors and their behaviors are responsible for his disease and health.
2) Powerful others HLOC: Includes degree of a person's belief in this issue that his health is determined by others (doctor, nurse, etc.)
3) Chance HLOC: Includes degree of a person's belief in this issue that his health depends on his chance, fortune, luck, and destiny.

Form B of the MHLC scales includes 18 items and consists of three subscales which Contains six items with a six-point Likert response scale ranging from Strongly Agree (Scored as 6)-Strongly Disagree (Scored as 1). So, a person's score determined from 6 to 36 for each dimension and estimated independently. Three methods including content validity, synchronization, and structure (factor analysis and correlation) have been used in the study of Moshki et al. in order to determine tool's validity that confirmed its validity and questionnaire's reliability has been evaluated through three methods including re-test, peer test, and Cronbach's alpha. Cronbach's alpha coefficient

for internal dimensions, powerful others dimensions and chance were 0.70, 0.75 and 0.69 respectively, Scale's simultaneous validity was conducted through simultaneous implementation with Farsilonson scale [16]. Cronbach's alpha has been used in the present study in order to determine the reliability and it was 0.7.

Information was entered into SPSS 20 following data collection and descriptive statistics such as mean, standard deviation, dispersion, and analytical statistic like ANOVA test, Spearman correlation and t-test were used to analyze data.

Findings

297 students from different fields participated in this study that 64 students (21.5%) were male and 233 students (78.5) were female and they were studying in various fields including nursing, health, nutrition, radiology, midwifery, and medicine. In terms of education, 175 (58.9%) were undergraduate, 4 students (1.3%) at master level, one student (0.3%) at Ph.D. and 103 students (34.57%) were in medicine field. According to the ANOVA test, there was no significant relationship between three dimensions of HLOC and education degree.

The p-value for internal, Powerful others' and chance locus of control was 0.813, 0.583, and 0.335. In term of father's education level, 58 students (19.5%) were under the diploma, 104 students (35.0%) had diploma and 112 ones (37.7%) had a college education and this had no significant relationship with HLOC's dimensions (Internal, powerful others' and chance), p=0.389, 0.537 and 0.363 respectively. In term of mother's education, 79 ones (25.6%) were under the diploma, 137 ones (46.1%) had diploma and 78 students (26.3%) had a college education and there was no significant relationship with internal, powerful others' and chance locus of control p=0.511, 0.231 and 0.091 respectively (Table 1).

According to the ANOVA test, there was no significant relationship between internal locus of control (p=0.888), powerful others locus of control (p=0.209) and chance locus of control (p=0.0209) with marital status.

According to t-test, there was a statistically significant relationship between internal locus of control (p=0.035) and powerful others locus of control (p=0.041) with sex and these two dimensions are stronger in men (p=0.047), but there was no significant relationship between chance locus of control with sex (p=0.763; Table 2).

According to correlation coefficient test, the results showed that there is no statistically significant relationship between three dimensions including internal locus of control (p=0.722), chance locus of control (p=0.983) and powerful others locus of control (p=0.616) with age.

Mean and standard deviation of three HLOC's dimensions include internal locus of control, powerful others locus of control and chance are as following Table 3.

Table 1) Students' demographic features

Variable	Number (%)
Age (Years)	
18-20 years old	87 (29.3)
20-25 years old	198 (66.6)
25 years and older	12 (3.9)
Marriage status	
Singleness	264 (88.9)
Marriage	33 (11.1)
Father's carrier	
Employers	90 (30.3)
Labor	8 (2.7)
Free	107 (36)
Mother's work	
Householder	229 (77.1)
Employed	68 (22.9)

Table 2) Comparison of three dimensions of health locus of control in women and men using t-test

The dimensions of HLOC/ Sex	Mean±SD	P-value
Internal locus of control		
Male	27.3±4.23	0.035
Female	26.1±3.88	
Powerful others' locus of control		
Male	16.4±4.38	0.041
Female	16.6±4.36	
Chance locus of control		
Male	22.6±4.52	0.763
Female	21.4±4.30	

Table 3) Mean and standard deviation of the dimensions of HLOC

The dimensions of HLOC	Mean-SD	(Min-Max)
Internal locus of control	26.41±3.98	(13-36)
Powerful others' locus of control	21.67±4.37	(8-34)
Chance locus of control	16.64±4.36	(6-29)

Discussion

The present study was conducted with the aim of determining the HLOC in Students of Isfahan University of Medical Sciences in 2018. The results showed that the means (SD) of internal, powerful others and chance locus of control are 26.41±3.98, 21.67±4.37, and 16.64±36, respectively. This study showed that the least mean of HLOC is related to chance and the highest mean is related to internal control and men tend to the source of internal control more than women. The highest score of three dimensions of HLOC in two studies conducted by Moshki *et al.* on students was assigned to an internal locus of control, powerful others locus of control and chance locus of control respectively that is consistent with the present study [17, 18]. In the study of Aflakseir *et al.* the highest score was also assigned to internal locus of control and then, it was respectively assigned to powerful others and chance [19]. In the research of Aghamolaei *et al.* which was

consistent with the present study, the least score was related to chance locus of control and internal locus of control and powerful others had the highest score. Despite the present study in which there was a relationship between dimensions of locus of control and sex, none of the three dimensions was different among men and women in the study of Aghamolaei and on the other hand, there was a relationship between internal and powerful others locus of control as the age rises these two dimensions increased, that inconsistent with our study [20]. In the research of Grots et al. higher age associated with higher HLC scores on the powerful others and chance dimension that inconsistent with our study [21].

The obtained results in the research of Ganjoo et al. like the results of the present study showed that there is no significant relationship between three dimensions of HLOC and education of parents, age, and mother's job. There was not also a significant relationship between age, sex, and HLOC in this study that is inconsistent with our study. Both studies have achieved the same results regarding the score of three dimensions of HLOC in this way that the highest score is related to an internal locus of control and the least score is related to chance locus of control [22]. The score of internal locus of control in students in the study of Amidi et al. in 2010 on the students of Isfahan University of Medical Science, as the present study, was higher than internal locus of control's score and there was no significant relationship between the scores of internal and external locus of control and marriage status and education degree and in contrast to the significance of the relationship between locus of control and sex in the present study, this relationship was not significant in that study [1].

According to the results obtained of the study of Mirzaei Alavijeh et al. conducted in 2010 on the students of Yazd University of Medical Science, as the result of our study majority of students had internal locus of control but there was no statistically significant relationship between sex and locus of control that was inconsistent with this study's results but it was consistent with the present research in which there was no significant relationship between locus of control and education degree and also mother's job [23]. In attention to that the questionnaire in the study of Amidi et al. and Mirzaei Alavijeh et al. have been Rotter questionnaire and the method of scoring in this questionnaire is different with scoring of used questionnaire in the present study (Multidimensional scale of HLOC), it is possible that comparing the obtained results with each other is not correct. The study of Kuwahara et al. and also Strickland et al. showed that the score of chance locus of control and powerful others in women is higher than men that is consistent with this study's results [5, 24]. The research's results of Cohen et al.

showed that internal locus of control in women is lower than men that were consistent with the present study's results, but inconsistent with the present study's results, there was no difference between men and women in term of external locus of control (Chance and powerful others) and the persons with higher education level has also higher internal locus of control [25]. The study of Serine et al. conducted on students showed that the study of Serine et al. conducted on students consistent with our study showed that internal locus of control in men is more than women [26]. The results of Roddenberry et al. on students indicated that internal locus of control obtained higher score compared with chance and powerful others that is consistent with the present research and there is a positive significant relationship between stress, anxiety, and depression in students and external locus of control and they have negative significant relationship with internal locus of control [13].

Conclusion

Since the most scores were relating to an internal locus of control dimension and fewer scores were relating to the chance locus of control dimension, it can be concluded that personal behavioral factors have more influence on students' health and their beliefs about chance, luck or fate has less influence on their health. These results can help health education professionals to improve health-promoting behaviors in students.

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