

Determining the effect of electronic health literacy on job burnout in the staff of health information management

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ABSTRACT

Introduction: Job burnout is one of the problems in today's society and electronic health literacy has also been introduced as a global issue in the 21st century. Because of the use of technologies such as computers, Internet and office automation that are a prerequisite for understanding the concept of electronic health literacy, the rate of job burnout is affected. The present research was conducted for the purpose of determining the effect of electronic health literacy on job burnout among the staff of health information management. **Methods:** This study was a descriptive-analytical study in which standard questionnaires of Norman and Skinner electronic health literacy and Maslach job burnout questionnaire were used. The study population included all staff of health information management in Zahedan hospitals in 1398. In this study, the whole population sampling method was used for sampling the target population. So that the number of the population is 60 people with at least an associate degree, therefore the same number was selected as the statistical sample. The data obtained using statistical methods in two parts of descriptive (mean and standard deviation) and inferential (regression analysis) using spss 22 software, $P < 0.05$ was analyzed in significant level. **Findings:** The results showed that there is a significant relationship between job burnout and health literacy (frequency, severity) and for one unit increase in health literacy score, job burnout rate (frequency) was reduced by 0.88. **Conclusion:** To reduce job burnout and increase health literacy among the staff of health information management, we can hold training workshops as the title of "to fight against job burnout and management methods for managers and staff" and make them familiar with factors Increasing Job Burnout in work area and to confront with the factors that cause them and teach the skills to increase electronic health literacy.

Keywords: Electronic Health Literacy, Burnout, Staff, Health Information Management.

Introduction

Job burnout is one of the problems in today's society that is associated with feeling tired and overworked and it is one of the components that is popular among the staff of health information management due to overworking. In this social syndrome

negative changes in the attitudes and moods of people confronting with work-related pressures are shown that cause serious problems in the relationships and performance of people with others^[1]. The US intelligence agency has said that among the occupations, health care is associated with the highest rate of occupational injuries, including job burnout^[2]. From the viewpoint of Jackson et al., In the human services profession, most people are more concerned with job burnout^[3]. Burnout is a set of emotional, attitudinal, behavioral, and organizational signs and symptoms that bring about irreparable consequences. Some of them include lack of staff ethics, incomplete work performance, absenteeism, inappropriate personal behavior with clients, negative attitudes toward work, reduced job satisfaction, job change, diminished quality of life and poor mental health and

Access this article online

Website: www.japer.in

E-ISSN: 2249-3379

How to cite this article: Sajede Rahdar, Reza Khajouei, Moghadameh Mirzaee. Determining the effect of electronic health literacy on job burnout in the staff of health information management. *J Adv Pharm Edu Res* 2020;10(S1):92-97. Source of Support: Nil, Conflict of Interest: None declared.

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psychological well-being. On the other hand, due to these side effects, some factors such as having a child, feeling valued, optimism, job satisfaction, monthly salary and most importantly raising the level of electronic health literacy can counteract job burnout [4]. The World Health Organization defines health literacy as the cognitive and social skills that determine individuals' motivation and ability to access, understand, and use information. In fact, health literacy includes: the ability to understand medical education guidelines and brochures, consent forms, the ability to benefit from the complex medical system, reading and writing skills, analysis, decision making, and the ability to apply these skills in situations of health [5]. The rapid development of information and communication technology has affected all areas, including health care [6]. The increasing use of Internet and mobile technology has made information accessible to anyone, anywhere and at any time. The Internet has become a major source of health information as well as numerous health electronic resources to help technology consumers and has been developed to access new knowledge [7]. Electronic health resources help people manage important health issues, make informed health decisions or communicate with physicians [8]. The integrated model of electronic health states that people with high health literacy not only tend to use the Internet to find answers to health questions, but can also understand the information they find, verify the information and use this information to improve health behaviors. This model demonstrates that the underlying social structure influences the level of health literacy and computers, the intrinsic health motivation, and the perceived ability to use the Internet for health purposes. Health literacy is mutually related to people's motivation to use the Internet for health and their perceived ability to collect and use health information when making decisions [9]. In a study by Soleimani Nejad *et al.*, Who examined the evaluation of electronic health literacy skills in elderly caregivers, they found that information is more important for older health caregivers, which may be due to higher skills. They get access to health and medical information through the internet [10]. Given that the staff of health information management are at a desirable level due to the use of technologies such as computers, the Internet and office automation, this is a prerequisite for electronic health literacy and on the other hand, due to the high number of people referring to medical records, they are strongly influenced by the factors that cause job burnout and the quality of work in this category will be better.

Methods

In this descriptive-analytical study, the study population included all the staff of health information management in Zahedan hospitals in 1398. In this study, the whole population sampling method was used for sampling the target population. Thus, the number of the population is 60 people with at least an associated degree, So the same number was selected as the statistical sample. Before submitting the questionnaires, a brief description of the purpose of the study and the necessity of honest cooperation and how to answer the questions was provided. The

researcher noted that there is no need to mention names and addresses. Each person answers the questions independently and there are no time limits for answering the questions. The collected data were analyzed by descriptive (mean and standard deviation) and inferential (regression analysis) methods using SPSS22 software.

Research Tool

The following two questionnaires were used in this study:

Electronic Health Literacy Questionnaire:

Norman and Skinner's (2006) Electronic Health Literacy Index, which has eight items, was used to assess electronic health. This self-assessment questionnaire on knowledge and understanding of what health information sources are available on the Internet, where to find useful health resources, how to access these resources, how to use the Internet to respond to health issues, ability to evaluate information focus on health and identifying quality resources from quality resources on the internet. However, this tool measures people's cognitive knowledge, not their actual knowledge. The electronic health literacy Index is designed to: 1. Evaluate employees' perceptual skills in using information technology for health; and 2. Help to determine the appropriateness between electronic health programs and its consumers. Respondents indicate their agreement with the rating propositions on a five-point Likert scale from completely disagree (1) to completely agree (5). In this way, each respondent's final score will range from eight to forty, and a higher score will indicate higher electronic health literacy. A score of 32 or higher indicates high electronic health literacy. Bazm *et al.* (2016) in a cross-sectional study examined the validity and reliability of the Iranian version of the EHS. They reported factor loadings of 0.723 to 0.862 which were acceptable and the Cronbach's alpha coefficient (0.88) and test-retest coefficient were also reliable (0.96). The results showed that the items in the translated version were equivalent to the original measure, and the Iranian version of the EHI had good validity and reliability with respect to the EHR [11]. Also, in the study of Rasouli *et al.* (1979), Cronbach's alpha was used to calculate the reliability of the questionnaire and its value was 0.938, which is a desirable value [12].

Maslach job Burnout Questionnaire: The job burnout Questionnaire was designed by Maslach in 1981. This tool is a questionnaire that provides a new estimate of the phenomenon of stress or exhaustion. The questionnaire has 25 questions that measure emotional exhaustion, deterioration phenomena, and individual performance in the context of professional activity. The incidence (frequency) of these feelings is measured from zero score (never) to six (every day) and their severity from zero (never) to seven (too much). The scoring method of this 25-question questionnaire follows the following instruction: 1. In the emotional exhaustion subscale, a score above 30 indicates "high emotional exhaustion", a score between 18-29 indicates "moderate emotional exhaustion", and a score below 17 indicates a "low emotional exhaustion". 2. On the personality depersonalization scale, a score above 12 indicates "high personality depersonalization", a score between 6-11 indicates

"moderate personality depersonalization", and a score below 6 indicates "low personality depersonalization". 3. In the individual performance subscale, a score above 40 indicates "high individual performance", a score between 39-39 indicates "moderate individual performance", and a score below 33 indicates "low individual performance". Paydachi et al reported the content validity of this questionnaire as desirable and obtained reliability through Cronbach's alpha of 0.82 [13].

Findings:

A total of 58 out of 60 health information management staff were included in the study. The demographic characteristics of the research samples are given in table 1. Results showed that 72.4% of participants were female and half of them (50%) were under 30 or 30 years old. 60.3% of them have bachelor's and master's degrees and their level of internet use is good (55.2%). Participants acknowledged that their daily Internet use was 69%. 56.9% of the respondents agree with the usefulness of internet in health decisions and 60.3% agree with the importance of access to health resources in internet. The findings showed that 70.7% were concerned about their health status.

Variable	Percent	Number
Gender:		
Male	27.6	16
Female	72.4	42
Age:		
≤30	50	29
≥30	50	29
Education:		
Associate Degree	39.7	23
Bachelor and Master	60.3	35
People's level of skill in using Internet:		
Average	20.7	12
Good	55.2	32
Very good	24.1	14
The Internet usage rate:		
Every day	69	40
Several times a day	31	18
The usefulness of the Internet in health decisions:		
Agree	56.9	33
Completely agree	43.1	25
Importance of People Accessing Internet Health Resources:		
Agree	60.3	25
Completely agree	39.7	23
Concerning about health status:		
Worried	70.7	41
Completely Worried	29.3	17

Descriptive Indicators of Electronic Health Literacy, frequency and severity of burnout, and subscales of emotional exhaustion, depersonalization, and individual performance are shown in table 2. The average personal performance of individuals with a

frequency of 35.79 was higher than other sub-scales and the mean of burnout in general was 67.72 higher than the mean of electronic health literacy (25.15).

Variable	Average	Standard deviation	The lowest	the highest
Electronic Health Literacy	25.15	7.57	13	36
Burnout. Frequency	67.72	12.47	47	92
Burnout. Severity	70.67	16.57	44	98
Emotional exhaustion. Frequency	16.15	9.38	0	30

Emotional fatigue. Severity	18.55	11.68	0	34
Betrayal of personality. Frequency	8.72	4.94	3	24
Betrayal of personality. Severity	5.58	5.21	0	18
Individual performance. Frequency	35.79	7.7.0	16	48
Individual performance. Severity	38.63	6.68	20	49

Table 3: The effect of job burnout on eHealth literacy. Frequency

Variable	The regression coefficient	Std.error	p-value
Gender:			
Female	8.49	3.42	0.013
Male	Ref	-	-
Age:			
30≤	-11.78	4.08	0.004
30≥	Ref	-	-
Education			
Associate Degree	7.21	5.18	0.163
Bachelor and Master	Ref	-	-
The Internet usage rate:			
Every day	10.33	3.4	0.003
Several times a day	Ref	-	-
People's level of skill in using Internet:			
Average	-13.32	5.24	0.011
Good	-7.67	3.34	0.022
Very good	Ref	-	-
The usefulness of the Internet in health decisions:			
Agree	-6.93	3.21	0.031
Completely agree	Ref	-	-
Importance of People Accessing Internet Health Resources:			
Agree	-10.78	33.3	0.001
Completely agree	Ref	-	-
Concerning about health status:			
Worried	12.82	4.14	0.002
Completely Worried	Ref	-	-
Electronic Health Literacy	-0.88	0.27	0.001

Table 3 shows that the score of job burnout in frequency part in women is 8.49 more than men. The job burnout score for people more or equal than 30 years old is 11.78 lower than for people who are 30 years old. The job burnout score of those people who use the Internet daily is 10.33 higher than those who use the Internet many times a day. The job Burnout score on skill level Internet use in people with moderate to good skills was 13.32 and 7.67 lower than those with very good skills, respectively the

job burnout score on the Internet's usefulness in making health decisions was 6.93% lower than those who fully agree. The job burnout score on the importance of accessing health resources to the Internet by those who agree is 6.93 lower than those who fully agree. The job burnout score in people concerned about health status was 12.82 more than those concerned about health status and job burnout per unit increase in health literacy rate (frequency) is reduced to 0.88.

Table 4: The effect of job burnout on eHealth literacy. Severity

Variable	The regression coefficient	Std.error	Significance level
Gender:			
Female	0.73	4.21	0.862

Male	ref	-	-
Age:			
30≤	2.07	5.03	0.681
30≥	ref	-	-
Education			
Associate Degree	28.18	6.37	0.000
Bachelor and Master	ref	-	-
The Internet usage rate:			
Every day	19.14	4.21	0.000
Several times a day	ref	-	-
People's level of skill in using Internet:			
Average	-22.45	6.46	0.001
Good	-10.26	4.11	0.013
Very good	ref	-	-
The usefulness of the Internet in health decisions:			
Agree	-12.02	3.95	0.002
Completely agree	ref	-	-
Importance of People Accessing Internet Health Resources:			
Agree	-4.4	4.11	0.284
Completely agree	ref	-	-
10.54	10.54	5.11	0.039
Completely Worried	ref	-	-
Electronic Health Literacy	-0.78	0.34	0.022

Table 4 shows the severity of burnout scores in those with associated degree is 28.18 more than those with Bachelor and above. Burnout score of those who use the Internet daily is 19.14 higher than those who use the Internet several times a day. Burnout score on skill level Internet use in people with moderate to good skills is 22.45 and 10.26 less than those with very good skills. Burnout score on Internet usefulness in health decision making is lower by 12.02 compared to people who completely agree. Burnout score on health concern factor in people who were concerned about health status was 10.54 more than those who were completely concerned about health status and burnout per unit increase in severity of health literacy (severity)

Discussion

The purpose of this study was to determine the effect of electronic health literacy on job burnout. Given the importance of burnout among the staff of health information management and understanding how health literacy levels in hospitals are, therefore, this study helps decision makers how to devise strategies to increase electronic health literacy and reduce job burnout. The results showed that there is a significant relationship between burnout and electronic health literacy (frequency, severity). Since none of the internal and external studies have so far examined the relationship between electronic health literacy and job burnout. Comparison of the results of this study with other studies was not possible. In this study, the results of the frequency section are compared with other studies and it shows that job burnout has a significant relationship with gender and age. Job burnout in women is higher than men and job burnout increases with age. The results of the study by Schooley et al confirm the findings of the present study. In their

research, all hospital staff such as physicians, nurses, etc. are in high level of job burnout. And this job burnout had a significant relationship with age, sex, economic status and income level [14]. In the study of Berg-Beckhoff et al., Which was a systematic study of the use of ICT in reducing burnout and stress among workers, The results showed that there is a significant relationship between burnout and the use of information and communication technology (ICT), which is consistent with the present study [15]. In Mackert et al.'s research, the results of the analysis showed that low health literacy is associated with negative consequences, including poor general health [16]. Research by Yu et al. Also showed that the impact of ICT adoption behavior is moderated by information literacy and digital skills [17]. Nash et al. 'S research also found that increasing the e - health literacy of people using technology is effective in understanding education properly, and the results are in line with the results of the present study [18].

Conclusion

According to the results of the study and in order to reduce burnout and increase health literacy of EHS staff, Workshop on coping strategies for burnout and its management can be held for managers and staff and we can make them familiar with the factors increasing to job burnout in the workplace, to properly counteract the factors that led to it, they were trained in skills related to enhancing eHealth literacy. Every research has its limitations according to the method. A small number of surveyed and non-cooperating individuals tried to cooperate with the researcher by expressing the aims of the study and allowing them to complete the questionnaire out of office time. It should also

be noted that because of the lack of research to date, its results have been limited to other studies.

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