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Relationship between the status of occupational health management and job satisfaction among farmers: A health promotion approach

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Abstract:

BACKGROUND: Job satisfaction is one of the most important issues related to human resources in the organization which can reduce organizational productivity. In this regard, occupational health is an important science related to the health of the workforce in any organization, paying attention to it will help health promotion. The aim of the present study was to determine the relationship between the status of occupational health management and job satisfaction among farmers with a health promotion approach.

MATERIALS AND METHODS: This cross-sectional study was conducted in 2020. The number of 209 farmers from all villages of Zabol was included by census method. Data were collected using a researcher-made questionnaire that consisting of three sections of demographic information, occupational safety and health status, and standard job satisfaction questionnaire. At first, the validity and reliability of the questionnaire were evaluated. In addition, 5–10 staff working in Agricultural Jihad Organization were asked about the content, clarity, and simplicity of the questionnaire terms. Content validity index and content validity ratio indexes were calculated as 0.68 and 0.83 for occupational health management and 0.69 and 0.83 for job satisfaction questionnaires, respectively. Instrument reliability was also assessed using the Cronbach's alpha coefficient, which was 0.872. Finally, after verifying the validity and reliability of the instrument, a questionnaire was used to collect the research data. Shapiro–Wilk, Wilcoxon, and Spearman correlation tests were used to analyze the findings. The collected data were analyzed using SPSS software version 19. Armonk; NY, USA: IBM Corp.

RESULTS: The results of the study indicate that occupational health management was at a moderate to a high level (3.701) and job satisfaction (3.381) was at a moderate to a high level. The standard regression coefficient between occupational health management and job satisfaction was obtained as 0.571. With a confidence of 95%, it can be stated that occupational health management in Zabol city under the supervision of jihad-e-agriculture organization has a significant impact on farmers' job satisfaction. In addition, the research findings confirmed a positive and significant relationship between occupational health management and job satisfaction of employed farmers and showed that the implementation of occupational safety and health programs in the jihad-e-agriculture organization can affect the job satisfaction of farmers.

CONCLUSION: According to the evaluation of research findings, job satisfaction and occupational health management in the Agricultural Jihad Organization are relatively favorable among farmers in Zabol city. It was argued that there is a relationship between occupational health management and job satisfaction, that the implementation of programs related to occupational safety and health management system such as Health and Safety Executive will promote health.

Keywords:

Farmers, health promotion, job satisfaction, occupational health

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Introduction

The agricultural sector plays a key role in strengthening the economic base of developing countries. Agricultural development is not possible without empowerment and human resource management in this sector. Therefore, paying attention to manpower in the agricultural sector is of great importance. Agriculture is a profession that involves a wide range of labor activities, many of which face a wide range of health and safety hazards. Farmers are exposed to different risks depending on the place of work, the type of cultivation, and the area or land in which they work. Physical hazards (light, heat, and noise), chemical hazards (dust), and mechanical hazards when planting and harvesting are the main hazards that farmer's exposure when working. Because the farming profession requires irregular working hours (for example, afternoon to evening), risks are more likely to occur. When work environment is safe and a person is more satisfied by his/her job, his/her ability is more and the workforce is more health, which in turn increases his/her productivity and reduces work-related injuries and diseases.^[1] Job satisfaction is one of the most important factors in job success and a factor that leads to increase efficiency and a sense of personal satisfaction.^[2,3] Job satisfaction includes one's attitude toward his job and refers to positive tendencies or emotions that people have toward their job and after doing it.^[4,5] Studies have also indicated that occupational health management may influence job satisfaction.^[6] Since most individuals spend almost half of their waking hours in their workplace, thus satisfaction with the job and workplace is important and necessary.^[7] Various studies show that those who are satisfied with their job have a lower rate of quitting.^[8]

According to the studies, about 50% of occupational accidents are due to a lack of occupational safety and health management system. In addition, if the establishment of occupational safety and health management system is absent, great financial costs may be incurred by the organization. By following such management plans in organizations and creating comfort for human resources, employees can be protected against the dangers in the workplace environment, or, in other words, reduce the existing risks.^[9,10]

In addition, farmers' satisfaction with their quality of life is related to job satisfaction. Factors affecting job satisfaction include age, gender, income, level of education, experience, marital status, employee personality, structural characteristics of farms, and geographical location of the farm.^[8] Previous studies have reported that improving initiative and innovation, entrepreneurship, risk-taking, accountability, social participation, and mental health status are greatly dependent on farmers' job satisfaction.^[3] In occupational

health management, with interventions performed in the workplace, such as reducing physical hazards, increasing workplace safety, etc., while increasing job satisfaction, it is also possible to promote health in the workplace.^[11] A review study was conducted on the purpose of Job Satisfaction among New Zealand farmers found that farmers experience high levels of stress due to the influence of various uncontrollable factors in the workplace. Job satisfaction related to the agricultural sector includes the following: (1) economic factors, (2) compliance with government regulations, (3) labor shortages, (4) the impact of globalization on trade, (5) climatic conditions, and (6) farm size.^[12]

The First Ottawa International Conference (1986) defined health promotion as the concept of empowering people to recognize the factors that affect individual-social health and to make the right decisions in choosing health behaviors and thus adhering to a healthy lifestyle. In short, health promotion is the process of empowering people to increase control and improve their health. Establishing justice, suitable environment, sustainable ecosystem, peace, access to services, income guarantee, nutrition, education were introduced as the basic conditions and infrastructure of health promotion.^[13] The Moda *et al.* study was conducted to assess job satisfaction among 435 Nigerian farmers. The results of this study showed that job satisfaction is a very important factor among farmers that have a significant impact on efficiency. Managing stress and work-life balance as well as workplace safety and health and well-being as a tool to increase self-confidence and increase productivity and ultimately improve health promotion among farmers.^[14]

Although several studies have been done to assess the satisfaction of different occupations, despite the importance of the impact of occupational safety and health factors on job satisfaction, no study has been conducted in this field considering both factors on farmers. In general, the group of farmers is less considered in studies, and most researchers study health management systems in industry, and this group of people have been neglected. Therefore, the present study was conducted to evaluate the status of occupational health management among farmers in Zabol city and determine its relationship with their job satisfaction in 2020. By identifying the relationship between occupational safety and health among farmers in Zabol city with job satisfaction, solutions can be provided to eliminate or correct the risk factors due to poor occupational safety and health, and therefore, steps can be taken to reduce financial and human costs suffered from job dissatisfaction among them.

Materials and Methods

Study design

This research was conducted as cross-sectional research in 2020 during 12 months among farmers in Zabol city. The statistical population of the study included farmers working on 173 plots of agricultural land in this province. This method was performed using the census method with the participation of all farmers working in agricultural land in Zabol city ($n = 209$). After obtaining a license from the jihad-e-agriculture organization and obtaining the consent of the participants in the study, data were collected using a researcher-made questionnaire that included three sections of demographic information, occupational safety and health status, and standard job satisfaction questionnaire.

Determining the validity and reliability of questionnaires

Job satisfaction was measured using a job satisfaction questionnaire (JDI, including occupational activity, management, group activities, motivation system, and payment system components). The semantic differential rating scale was used for scoring this questionnaire. In this scale, the respondent is asked to mark a concept on a five-point bipolar scale. There are two opposite adjectives in two poles of scale. The numbers mentioned on a continuum (from 1 (not satisfied) to 5 (highly satisfied) represent the score assigned to the relevant factor. To measure job satisfaction, scores of the dimensions are first calculated separately, and then, scores of all dimensions are summed and divided by five. The scores are interpreted as follows: (1) no satisfaction, (2) low satisfaction, (3) moderate satisfaction, (4) high satisfaction, and (5) very high satisfaction.

To assess the status of occupational health and safety management, a researcher-made questionnaire containing questions including items of electrical safety risks, equipment, and buildings (traffic flow in rehabilitation centers, entrances and exits, maintenance, electrical equipment and energy generators, facilities and services, platforms and floors) and items related to fire safety and emergency situations, and items related to risk factors in the rehabilitation centers (including physical factors, biological factors, and chemical factors) and items related to ergonomic, psychological factors and psychology and items related to farmers' management issues were used, which was used to measure occupational health and safety management among farmers.

At first, by reviewing the sources and tools used in other similar researches, a draft of the researcher-made tool was prepared and designed. Then, the research questionnaires were edited and the ideas of ten

specialists and faculty members were taken and content validity of the tool was examined using face and content validity index (CVI) regarding the content, clarity, and simplicity of questionnaire's statements, and required modifications were applied. Content validity was confirmed using Lawshe's content validity coefficient index. CVI and content validity ratio indexes were calculated as 0.68 and 0.83 for occupational health management and 0.69 and 0.83 for job satisfaction questionnaires, respectively. Instrument reliability was also assessed using the Cronbach's alpha coefficient, which was 0.872.

Data collection

After approving the reliability and validity of the research tool, the questionnaire considered for data collection was used. To collect data, the researcher referred to the Agricultural Jihad Organization, and a questionnaire was distributed among farmers. Descriptive statistics indexes were used for investigating the demographic characteristics of respondents. The frequency of respondents was investigated in terms of gender, education, work experience, age, marital status, working hours, and working area. Occupational health management was measured using this tool among farmers in Zabol city under the supervision of the Jihad Agriculture Organization. To calculate this index, expert ideas about the content of the relevant test were used. They were asked to rate items on a five-point Likert scale. The scoring range for evaluating occupational health management for each item was one to five as following: poor management (1), low-level management (2), intermediate level management (3), medium to high-level management (4), and strong management (5).

Data analysis

The collected data were analyzed using SPSS software version 19. Armonk, NY, USA: IBM Corp. First, the normality of the data was determined using the Kolmogorov-Smirnov test. Shapiro-Wilk, Wilcoxon, and Spearman correlation tests were used to analyze the findings. The regression test was used to determine the effect of occupational health management on farmers' job satisfaction. Significance level was considered 0.05 in all tests.

Ethical consideration

In this study, explaining the objectives and research process to the subjects, the voluntary participation in the study, obtaining written and informed consent from all individuals, and keeping information confidential from ethical standards were observed. This study was conducted in the form of a research project approved at the Zabol University of Medical Sciences with the code of ethics IR.ZBMU.REC.1399.078.

Results

According to the results, 193 (92.34%) and 16 (7.66%) of respondents in this study were male and female, respectively. 54 (25.84%) of whom were below 30 years old, and 116 respondents (55.5%) were in the age range of 30–40 years. In addition, 39 respondents (18.66%) were 40 years old or older. 141 respondents (67.46%) had educational levels lower than high school, 38 (18.18%) had high school degrees, and 30 (14.36%) had diplomas.

According to research results in Table 1, the average views of respondents in terms of occupational health management were 3.701. In addition, the average view of respondents regarding job satisfaction was 3.381.

In addition, according to the results in Table 2, the standard regression coefficient between occupational health management and job satisfaction was obtained as 0.571. Test statistics were calculated as 11.162, which is larger than *t* critical value at an error level of 5% (1.96), and thus, the effect was considered as significant at an error level of 5%. Therefore, with a confidence of 95%, it can be stated that occupational health management in Zabol city under the supervision of jihad-e-agriculture organization has a significant impact on farmers' job satisfaction.

According to results in Table 3, the average view of respondents in occupational health management, job satisfaction, general safety, firefighting and safety, ergonomic and psychological factors, occupational activity, management, motivation system, payment system, and group activities was all higher than the medium level of Likert scale (expected value = 3) with $P < 0.001$. In addition, *t* statistics for all aspects were

Table 1: Descriptive analysis of research variables (n=209)

Variables	Mean	Median	Mode	SD
Occupational health management	3.701	4.00	4.00	0.89
Job satisfaction of farmers	3.381	3.67	4.00	0.38
General safety	3.527	3.33	4.00	0.64
Firefighting and safety	3.362	3.57	4.00	0.73
Ergonomics and psychological factors	3.272	3.33	4.00	0.43
Occupational activity	3.472	3.57	4.00	0.93
Management	3.129	3.67	4.00	0.84
Motivation system	3.276	3.33	4.00	0.87
Payment system	3.219	3.50	4.00	0.61
Group activities	3.376	3.33	4.00	0.74

SD=Standard deviation

Table 2: Regression effect of occupational health management on job satisfaction of farmers

Independent variable	Nonstandardized coefficient (B)		Standardized coefficient (β)	T	Probability value
	Value	SD			
Occupational health management	0.541	0.049	0.571	11.162	<0.001

SD=Standard deviation

larger than critical value as 1.96. Based on the statistical findings, with confidence of 95%, it can be stated that dimensions of occupational health management, staff's job satisfaction, public safety, firefighting and safety, ergonomics and psychological factors, occupational activity, management, motivation system, payment, and group activities all are very significant.

Discussion

This study was conducted to investigate the relationship between occupational health management and job satisfaction among farmers under the supervision of the jihad-e-agriculture organization in Zabol province. According to previous studies, it seems that most farmers working in agricultural areas are men because of their nature, and women are reluctant to provide services in these jobs. In addition, results obtained from this research suggested a young research population. In other words, most participants (55.5%) were in the 30–40 age range, and the majority of them were males (92.34%). The findings of the current study are consistent with other studies; so that, in the study conducted by Papadopoulou *et al.*, 73.6% of the farmers were male and the average age of the subjects was 32 years, which is a young population that was in line with our study.^[8]

Findings showed that the average job satisfaction and occupational health management among the studied farmers was in the middle of the Likert scale. According to this evaluation, occupational health management was at a moderate to a high level (3.701) and job satisfaction (3.381) was at a moderate to a high level. With a confidence of 95%, it can be stated that occupational health management in Zabol city under the supervision of jihad-e-agriculture organization has a significant impact on farmers' job satisfaction. In the study of Poursadeqiyani *et al.* conducted for examining the relationship between occupational health management and job satisfaction in the staff of the Rehabilitation Center, the average score of occupational health management variables and its subscales, as well as job satisfaction variables and its subscales, exceeded the average Likert scale.^[15] In another study, Afshar *et al.* examined job satisfaction among occupational therapists in Ahvaz and observed that the rate of job satisfaction was moderate to high, which is consistent with the present study.^[16] In this regard, Ghoudarzi *et al.* conducted a study on the relationship between health and safety management status and job satisfaction of

Table 3: Results of one-sample t-test for minor research variables

Research variables	Average	T	Probability value	95% CI (lower limit–upper limit)
Occupational health management	3.701	11.359	<0.001	3.58–3.822
Job satisfaction of farmers	3.381	14.460	<0.001	3.329–3.433
General safety	3.527	11.875	<0.001	3.44–3.614
Firefighting and emergencies	3.362	7.1518	<0.001	3.263–3.461
Ergonomic and psychological and mental factors	3.272	9.123	<0.001	3.214–3.33
Occupational activity	3.472	7.319	<0.001	3.346–3.598
Management	3.129	2.214	<0.001	3.015–3.243
Motivation system	3.276	4.575	<0.001	3.158–3.394
Payment system	3.219	5.178	<0.001	3.136–3.302
Group activities	3.376	7.328	<0.001	3.275–3.477

CI=Confidence interval

rehabilitation center staff and the results showed that there was a significant relationship between health and safety management and job satisfaction of rehabilitation center staff ($P < 0.05$). In general, management and job satisfaction in this study and the present study were at a moderate level.^[17] In general, the research findings show that paying attention to creating a safe environment and promoting health status in the workplace creates a suitable atmosphere in the workplace, motivates farmers, and ultimately leads to job satisfaction.

Given obtained results, test statistics, t critical value, and significance level, it can be concluded that dimensions of occupational health management, job satisfaction, general safety, firefighting and safety, ergonomics and psychological factors, occupational activity, management, motivation system, payment system, and group activities are all significant. In addition, there is a significant relationship between occupational health management in the jihad-e-agriculture organization and the job satisfaction of their farmers. It means better occupational health management status and higher job satisfaction. This part of the findings was also consistent with the results of research by Poursadeqiyani *et al.*^[15] Therefore, it can be said that managers should pay attention to the establishment of safety and health systems and the development of safety and health programs.

In a study by Zaboli *et al.*, it was found that there is a significant relationship between the establishment of occupational safety and health management system and improvement of environmental conditions, staff satisfaction, and promotion of individual and organizational performance.^[18] On the other hand, these findings confirm that the implementation of occupational safety and health programs in the jihad-e-agriculture organization can affect the job satisfaction of farmers and climate change is effect in this area.^[19] The Holte and Follo study pointed to the need to examine the status of occupational health management among farmers. It was stated that training in this field should

be considered for farmers at regular intervals.^[20] This was also confirmed in a Muri *et al.* study to examine work-related characteristics as a predictor of emotional job satisfaction among Norwegian farmers,^[21] which is consistent with the results of the present study.

A review of the trend shows that, especially in recent years, although with delays, important steps have been taken to shift the focus from focusing solely on health education, which focuses on changing knowledge, attitudes, and behavior, to a health promotion approach that focuses on change. Various social and environmental components affecting health at the community level have been emphasized. Health promotion approaches include medical approach (control of physiological risk factors), behavioral approach (correction of lifestyle factors), socio-environmental approach (for general situations).^[13] In this study, behavioral approach and socio-environmental approach are considered. In this study, we try to take effective decisions and steps in this field by evaluating the status of health and safety management, work, and job satisfaction of individuals. Therefore, it is necessary to plan and take the necessary measures to improve occupational safety and health and provide more job satisfaction to farmers. So far, various studies have been conducted on the relationship between job satisfaction and health promotion. In a study conducted by Huang at a Taiwan hospital, the results showed that improving health in the hospital environment increased job satisfaction.^[22] Furthermore, in another study conducted by Williams, the results showed that health promotion increased job satisfaction and reduced job stress of hospital nurses.^[23]

The Noblet and Lamontagne study examined the role of promoting workplace health in relieving job stress. It was stated that to reduce stress and increase job satisfaction of employees, workplace health promotion programs should be on the agenda as a goal.^[24] Peterson and Dunnagan study also showed that paying attention and increasing job satisfaction will improve health.^[25] The Houston *et al.* study was conducted as a multidisciplinary

approach to assessing health promotion, occupational health, and occupational health and safety management. The results showed that, in general, large companies tend to address health and safety management issues, while small and medium-sized companies focus on health promotion issues.^[26] Implementing a health promotion program in the farming community is likely to improve workers' job satisfaction by finding appropriate ways to deal with stress and implementing safety and health management programs.

Agriculture is one of the riskiest jobs in the world. Employees in this sector are exposed to a wide range of harmful physical, chemical, and ergonomic factors that can cause a variety of accidents and diseases for them.^[27] Therefore, recognizing the risk factors and also paying attention to job satisfaction of people in this job and improving the work environment to prevent accidents and diseases is one of the main duties of agricultural safety and health officials, which will be possible to grow and develop only in the shadow of safety and health management. Therefore, establishing a safety and health system to promote the health of individuals and achieve other goals is essential.

This research, like many other types of research, faced limitations that the researchers tried to overcome; of these limitations, low sample size and the limitations of access to the data of the jahad-e-agriculture organization, lack of sense of responsibility, and motivation to complete the questionnaire among some employees and consider a specific period for research. Therefore, the current research lacks the necessary certainty for all courses, and generalizations should be made with caution. In addition, due to the generalization of the results of this research to other agricultural areas of Zabol city should be done with caution.

In addition, in the field of future research, it is suggested that job satisfaction be measured by conducting an interventional study and promoting occupational safety and health, and even this research can be measured in several cities or countries and their results can be compared by the quantitative and qualitative mixed method. Since job satisfaction is one of the essential pillars of health promotion, paying attention to it is of special importance, so increasing job satisfaction in the employees of a community will improve and promote health in that community. In other words, there is a two-way relationship between job satisfaction and health promotion.

Conclusion

One of the objectives of this study was to design a professional health management evaluation checklist that

included related factors. According to the evaluation of research findings, job satisfaction and occupational health management in the Agricultural Jihad Organization are relatively favorable among farmers in Zabol city. In addition, the research findings confirmed a positive and significant relationship between occupational health management and job satisfaction of employed farmers and showed that the implementation of occupational safety and health programs in the jihad-e-agriculture organization can affect the job satisfaction of farmers. Therefore, it is necessary to provide job satisfaction to most farmers in Zabol city by planning and taking necessary measures to improve the level of occupational safety and health. On the other hand, providing the possibility of farmers' participation in supervising safety and health projects and determining rewards, conducting the necessary tests to determine the suitability of farmers with the desired work, training farmers in the fields of safety, health and ergonomics, and providing rotational programs tailored to the job are also recommended to reduce occupational injuries.

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Conflicts of interest

There are no conflicts of interest.

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