

STUDY OF RICE MAN FARMERS' KNOWLEDGE AND PRACTICE IN FIELD OF OCCUPATIONAL INJURIES IN AMOL CITY

Roghayeh Ezati Rad¹, Seyed Jalil Seyedi Andi^{*2}, Shideh rafati¹, Mohammad Saberi³, Abdolmotalieb Hassani⁴, Neda Ghazinezade⁵, Ziba Shirkhani⁶

1. Cardiovascular Research center, Hormozgan University of Medical Sciences, Bandar abbas, Iran

2. Faculty of Medicine, Babol University of Medical Sciences

3. Faculty of Nursing and Midwifery, Hazrat Zainab, Amol

4. Faculty of Nursing and Midwifery, Tehran University of Medical Sciences

5. Shahid Beheshti Hospital, Noshahr, Mazandaran University of Medical Sciences

6. Deputy of Research and Technology, Babol University of Medical Sciences

corresponding author email: ezati_rad@yahoo.com

ABSTRACT: Introduction: The existence of a variety of occupational injuries, various behaviors and sometimes unhealthy of rice farmers in exposure to occupational hazards and also the unique characteristics of rice farming, have prompted researchers to specifying the knowledge and practice of this important and populous group about occupational injuries, acquire necessary information for the development of delicated educational packages for rice farming. Methodes: The present descriptive-analytic research has been carried out in a cross-sectional approach. The study population consisted of all the male rice farmers of Amol city. The sample size was 186 subjects who were selected through available sampling method. Data were collected using a four-part questionnaire, completed by the interview, and were analyzed by SPSS 16 statistical software. Results: Among 186 participants studied, 131 (7.50%) were single and 55 (29.5%) were married. No significant relationship has been found between work experience and educational level ($p > 0.05$). In terms of knowledge on proper preventive measures against complications and incidents, 34%, 45.7%, and 18.3% were found with poor, moderate, and good knowledge, and in terms of practice, 35.5%, 31.2%, and 33.3% were observed with poor, average, and good performance respectively. Radio and Television (76.3%), and friends and relatives (68.8%) played the most significant role in training the occupational safety points to the study samples. Among the farm-related harmful factors, the most risk factors responded was reported to be the sunlight (93.5%), heat (98.8%) and cold (88.7%). Conclusion: Given the results of the present research, it seems that rice farmers' knowledge and practice is insufficient on occupational health, especially in the prevention of complications and incidents and on the other hand, most cases of risk factors responded were announced to be the sunlight, heat and cold. Therefore, educational programming is emphatically recommended for promoting the awareness and improving the performance among the mentioned group.

Key Words: knowledge, practice, rice farmers, occupational injury

INTRODUCTION

In respect to population increase and prediction of this issue that the world population will attain 15 billion people in 2020 and also the necessity for providing food and energy by farmers, firstly the farmer should be completely healthy and secondly the healthy food products should be supplied to society.

According to estimate of international labor organization (ILO), 17000 farmers died annually because of occupational incidents which one can conclude that death danger in agriculture is twice more than other jobs [1].

In New Zealand, the most mortalities arising from work is reported among farmers which are included %25 of occupational mortalities [2].

A study in France shows that the most incidental factors for farmers and served workers range from 35000 to 70000 incidents per year [3].

A study done in Finland in 2012 showed that %16 of farmers, male or female, have experienced one or more occupational injuries in past year which crash was the most common factor [4].

Unsafe utilization of machinery specially tractor is the most fatal factor. The risky behaviors consist in jump a tractor before complete stop, repairing machinery with functioning engine, their usage with wrong objectives, inappropriate fixing and maintenance and presence of children near agricultural machinery [2]. The complications created by pesticides exposure include skin, eye and nose irritation, lung, kidney, liver and stomach abnormality causing

aplastic anemia and involvement of nervous system [5]. The risk factors related to pesticides also constitute, disregarding the safety principles while using and disrespecting required quantity for products, lack of keeping in isolated place and major package, using defective equipments for spraying toxins, inappropriate maintenance of equipments and lack of using shield and suitable clothes [6]. Other risk factors include carrying heavy load, agricultural functions in tiredness, using fire next to flammable materials, walking on roof without shield, no using sunscreen while working under sunlight (5) and staying in farm [7]. Also backache prevalence in these people has increased due to carrying heavy tools in improper conditions and farming in high ages (8). Occupational diseases and incidents are one of the greatest world problems. So that financial load arising from occupational diseases and injuries in comparison with cancers, cardiovascular diseases, Alzheimer and AIDS has the highest number [9].

According a study in South Korea, the farmers do not consider these problems and do not health ordinary activities which these two subjects were caused some people to die in recent years. To analyze broadly the prevalent injuries and diseases related to farmers is difficult. The various injuries include injuries from tools and machinery, pesticides, infections, skin disease [10].

In a study conducted in Lahijan, QaemShahr, Rafsenjan and Savejbelag in 2003, only %25 of farmers were aware of poison dangers and %68 of them did not utilize individual protective tools [11].

A study in Thailand revealed that biologic toxins function in lower cost and identical effectiveness than chemical toxins [12].

Also in a study about rice farmers in Vietnam in 2012, the people who are in more exposure of pesticides threatened by more risks [13]. In a cohort research in Thailand, it has been shown that %65 of farmers expose to complications of pesticides. Also %75.9 and %83.2 of them suffer from muscular- skeletal and injuries arising from agricultural activity [6]. According to Netherland's study, organic agriculture has lower risk than non- organic which insurance increase to organic farmers, government subsidies and demand development for these products were governmental proceeding to encourage organic farming [14]. It seems that promoting knowledge level about the occupational risks and increasing desirable function by rice farmers against occupational injuries can reduce related complications and dangers in a large extent. The existence of

variety in different occupational injuries, numerous and sometimes unhealthy function by rice farmers against to occupational risk and also particular characteristics of this jobs, theresearchers were intended to get necessary information about special educational packages collection of rice farming through determining awareness and function level in this important and over- populated group and occupational injuries.

METHODOLOGY

This descriptive- analytic study in cross-sectional approach conducted following permission from university responsables and expressing the objectives for studied units in 2011.

Data were collected using a four- part questionnaire including demographic characteristics such as, age- gender- marital status- educational level and work experience, farmers' awareness of harmful and risky factors in farming (48 questions), their knowledge about the prevention of occupational complications and incidents (50 questions) and their functions in relation to prevention of the complication and incidents arising from work (36 questions). The studied statistical population was all male rice farmers in Amol analyzed by sampling method based on previous similar researches and determination of sample size (186 individuals). The questionnaire reliability was underlined by Cronbach alpha coefficient 0.83 and the validity via content validity and discussion and analysis by venerable scientific group members working in the field was emphasized. The exclusion criterion from study was the rice farmers who had other occupation in farming domain (gardening and ...) and animal husbandry. Data analysis done statistical software SPSS and Chi-square and prison-correlation tests in which the significant level was considered lower %0.05.

RESULTS

In this research,186 subjects were analyzed and all were male.

Mean age ranged $35/84 \pm 14/48$ in which the most (11%) were in age group of 29 and also work experience mean in the units has been between $15/43 \pm 11/92$. The significant relatedness was not found among work experience, awareness and functional level in rice farmers ($P > 0/05$). Educational level of studied individuals has shown in table 1, and as the table reveal the most frequencies belong to female diploma(21/8) which contradict.

Work experience and also educational Level did not show critical relevance with farmers' awareness and function ($p>0/05$). Among 186 samples, 131 single people (70/5) and 55 married people (29/5) participated in recent study. Radio and Television (76/3%) and friends and relatives (68.8%) respectively played the most important role in training the occupational safety point to the studied groups. 80/1 of subjects contributed directly in spraying insecticide in which 81/2 of them utilized hand tools for farming. Among farm-related harmful factors, the most risk factors responded have been, sunlight (93/5%), heat (98/8%), cold (88/7%), dust (86/6%), in appropriate tools (98/8%) and humidity (79%) respectively. In this research, the studied units expressed extravagant tiredness (89/8%), backache (81/1%), hand callus (87/1%),

muscular pains (84/4%) as the most occupational risk complications. For 92/5% of farmers, reading the instructions on toxin label and 95/2% of them, washing dirty clothes was necessary. The glasses with face shield (34/4%), special gloves (42/5%) and filtered mask (22%) had the least usage among protective tools during work.

Most farmers did not stop work in hot hours of rice harvest. 37/1% of farmers contented only to glass to make safety tractor cabin. Regarding to awareness of preventive proper approaches against complications and events, 34%, 45/7 and 18/3 had poor, moderate and good knowledge respectively and regarding to performance also 35/5, 31/2 and 33/3 had poor, moderate and good functions respectively.

Table 1. Educational level frequency in the studied units:

Educational level	Frequency	Percent
Illiterate	15	8.8%
Primary School	57	33.5%
Secondary School	35	20.6%
High school diploma	37	21.8%
academic degree	26	15.3%

DISCUSSION

In this research, farmers' awareness and performance in relation to occupational injuries in Amol were evaluated that unfortunately in spite of the great importance, with the exception of two research from Ms.Heydari in Qom province in Iran [1] and Mr.Hoseini in South Korasan province in Iran [15], other researchers have not been found or have been much little. In this research, 186 male subjects were analyzed which associate with Oyuzi's study in Ilam[16]. In this research, most farmers perceived their health information via Radio, Television (76/3%) and friends and relatives (68/8%). So collecting and broadcasting Television and Radio program specially through province channels and particular regional dialects are needed. The results of this study corresponds with a

Research during a decade in Arkansas of USA in which giving information about risk factors to farmers via short preventive messages was the best way to prevent occupational injuries [17]. since in a study by Mr.Hoseini in South Korasan province in Iran auxiliary nurses had the most important role [15] which this conclusion associated with a study in India in which effective safety and occupational health management in farmers were accessible by legislators ability in collecting and approving

rules related to regional infrastructures like elementary health cares for suffusion and diffusion of occupational health and safe work in agricultural domain [18]. 81/2 of studied units applied hand equipment for work which correspond to Ms.Heydari's [1] and Mr.Hosseini's [15]. Out comes in Qom and South Korasan respectively. So, the development of mechanized method is needed. It seems that extravagant using of back sprayer is a reason for low economic status, because the minimal cost is paid for this method [19]. 81/1% of rice farmers expressed backache as the most symbole for occupational danger which correspond to the finding from Aiwa in USA indicating that backache has significantly higher prevalence than other complications [20]. In this analysis, the most undesirable performance has been observed in using filtered mask (only 22%) which associate with a study among farmers in Lahijan, Qaemshahr, Rafsanjan and Savejbelagh in Iran which only 32% of them utilized individual protective means [11]. Therefore, farmers requirement to training, legislation and cheap delivery of protective tools is tangible which among them, the serious and immediate proceeding of manager in broad level and also local responsible is felt more than past. The relationship between farmer's awareness and view with work experience was not significant which it corresponds to Ms.Heydari [1] and

Mr.Hosseini's [15] results, so it reveals that knowledge and performance transferred from a generation to next and there is no major intervention in promoting knowledge and performance.

in this respect, a study in India shows that in order to reduce threshers injuries, special preventive programs such as training and legislation are evident [21]. According to a study by Donham KJ in 2007 about the program effect (certified safe farm) CSF, paid cost to trained farmers by insurance company was half of cost for untrained farmers. CSF is interference program in USA aiming to occupational injuries and disease decline and health promotion in order to reduce the cost related to farmers health cares, insurance company and other beneficiary parties [22]. So, regarding to this issue, it seems that compiling a Comprehensive program in national level to increase farmers' knowledge and awareness in Iran is an essential affair.

Considering to the outcome indicating the rice farmers' awareness in a low level, presenting educational material using Radio and television, friends and relatives and also training activities for most auxiliary nurses and farming promoters to this vulnerable group seems vital.

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