

Original Article

Knowledge and Experiences of Diseases with Associated Factors among Agricultural Workers in Manikganj District

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Abstract

Background: Farmers are generally the people of poor segment of the society and agricultural workers are prone to develop different types of health problems. **Objectives:** The study was conducted with a view to finding out the pattern of health problems of the agricultural workers in a rural area of Manikganj district. **Methodology:** This was a descriptive type of cross-sectional study carried out in Koshunda village of Manikganj district during the period of November, 2021 to April, 2022 in the Department of Community Medicine, Monno Medical College, Manikganj. For finding out pattern of diseases, knowledge and practice of the study subjects were determined by using pretested questionnaire. **Results:** Among the 300 cases, majority (124, 41.33%) of the respondents belonged to the age group 36-50 years. Most of the respondents (239, 79.67%) were male, being literate (195, 65.00%) had monthly family income of 10,001 or more BDT (139, 46.33%). Regarding cultivators' knowledge of health problems during cultivation, majority (230, 76.67%) expressed occurring cut injury, followed by 206(68.67%) temperature injury, 85(24.08%) insect bite and others. Responding to question regarding injuries caused by tools and machineries of or animals involved in cultivation, majority (134, 44.67%) told that they are injured by hand tools, followed by 51(17.00%) due to cattle's kick, 46(15.33%) due to tractors and other machineries, and others-whereas, majority of them (199, 66.33%) also reported that the injuries occur in hands, followed by 192(64.00%) in legs and others. Diseases experienced by the respondents during agricultural works included temperature-related injury (165, 55.00%), cut injury (96, 32.00%), skin problems (34, 11.33%) and others. Regarding the knowledge of the respondents' choice of physician, majority (125, 41.67%) preferred MBBS Doctors, followed by rural medical practitioners (121, 40.33%), homeopathic doctors (67, 22.33%) and others. **Conclusion:** Most of the farmers shared their knowledge of suffering from different types of diseases with choice of treatment by MBBS doctors.

Key Words: Disease pattern, Agricultural workers, Manikganj, Bangladesh

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Introduction:

In developing countries agriculture is the vital source of income. But it may lead to poor health as it is associated with infection, injuries and increased occupational diseases to the agricultural workers.¹ One of the riskiest jobs for workers

has always been agriculture.^{2,3} The danger of injury has increased with heavy machinery use.⁴ About 22% of the injuries those occur during agricultural work were greater than or equivalent to an AIS 2 (Abbreviated Injury Scale), even though the majority of the injuries were not serious.⁵

Agriculture is the largest employment sector all over the world. It is also the most hazardous occupation among all the other occupations.⁶ The people engaged in agricultural work are prone to developing multitude of health problems but this is often overlooked due to misconception or neglect of the policy makers of this sector.⁷ The people working in agricultural sector are exposed to many risk factors such as sunlight, cold, pesticide & inorganic dusts etc.⁶ This may cause physical injury to the people & repeated injury may result in permanent disability of the farmers. Generally agricultural workers remain in the workplace for almost 42 hours per week. This long duration makes the workers vulnerable to developing injury. If it happens so, then this can lead them towards extreme poverty specially the families where the agricultural worker is the only earning member.⁵ But this is a fact that most agriculture related diseases can be prevented if proper measures are taken. In order to support the relevant authorities (policy makers) in addressing this worsening situation in agriculture, this study was conducted to identify the pattern of health problems and the factors that are linked to them.

Methodology

This study was carried out in the department of Community Medicine of Monno Medical College for a period of six-months among 300 agricultural labourers in Koshunda village, of Baliakhora union, and Ghior upazila of Manikganj. This was a descriptive type of cross-sectional study using purposive sampling strategy and performed between November 1, 2021, and April 30, 2022.

The institutional Ethical Review Board of the Monno Medical College granted the ethical approval. The inclusion requirements of the study included adult participants of 18 years of age or older, engaged in agriculture as farmers and able to offer informed written consent. The farmers with critical disease condition and with psychological disorders were excluded.

All related information were collected by face-to-face interviews using pre-tested, semi-structured questionnaires. The data were calculated and interpreted after proper editing and cleaning using the statistical software SPSS version 23.0.

Results

In this study, among 300 respondents, majority (124,

41.33%) belonged to the age group 36-50 years with the mean age + standard deviation (SD) of 43.58±3.489 years. A total of 239(79.67%) were male and 195(65.00%) were literate. Among the literate cultivators, majority (101, 51.80%) had primary level of education. Most of the cases were Muslims (278, 92.67%). Monthly family income of majority of the respondents (129, 43.00%) was 5,001-10,000 Bangladeshi taka. (Table I)

Table I: Socio-demographics characteristics of the respondents (n=300)

Socio-demographic characteristics	Frequency	Percentage
Age (years)		
18-35	89	29.67
36-50	124	41.33
51-65	61	20.33
Above 65	26	8.67
Total	300	100.00
Mean±SD= 43.58±3.489 years		
Sex		
Male	239	79.67
Female	61	20.33
Total	300	100.00
Education		
Illiterate	105	35.00
Literate	195	65.00
Primary education	101	51.80
Secondary (up to SSC*) education	50	25.64
HSC**and above	44	22.56
*SSC- secondary school certificate, **HSC-higher secondary school certificate		
Religion		
Islam	278	92.67
Hinduism	22	7.33
Family Income (Taka)		
<5,000	32	10.67
5,001-10,000	129	43.00
10,001-15,000	90	30.00
> 15,000	49	16.33

The study reflected that majority (230, 76.67%) respondents mentioned cut injury as the health problem observed during cultivation, followed by 206(68.67%) of temperature-related injury, insect bite (85, 28.33%), skin disorders (75, 25.00%), respiratory diseases (73, 24.33%) and others. (Table II)

In connection with the mechanical injuries caused by tools and machineries of or animals involved in cultivation, majority told that injuries occur due to hand tools (134, 44.7%), followed 51(17.00%) due to cattle's kick, 46(15.33%) due to tractors and other machineries and others. (Table III)

Table II: Multiple response knowledge of the respondents about the common health problems during cultivation (n=300)

Diseases	Frequency	Percentage
Cut injury	96	32.00
Temperature-related Injury	165	55.00
Skin problems	34	11.33
Insect bite	28	9.33
Snake bite	20	6.67
Helminthic diseases	24	8.00
Others	43	14.33
Respiratory diseases	25	8.33

Table III: Multiple response of the farmers regarding injuries due to tools and machineries of or animals involved in cultivation (n=300)

Tools & machineries/ Animals of injury	Frequency	Percentage
Hand tools	134	44.67
Tractors and other machineries	46	15.33
Animal kick	51	17.00
Others	22	7.33

In this study, considering injuries due to tools and machineries of or animals involved in cultivation, most of the respondents (199, 66.33%) said that injuries occur in hands, followed by 192(64.00%) in legs and others. Only 67(22.33%) respondents said that injuries may occur in any site of the body. (Figure 1)

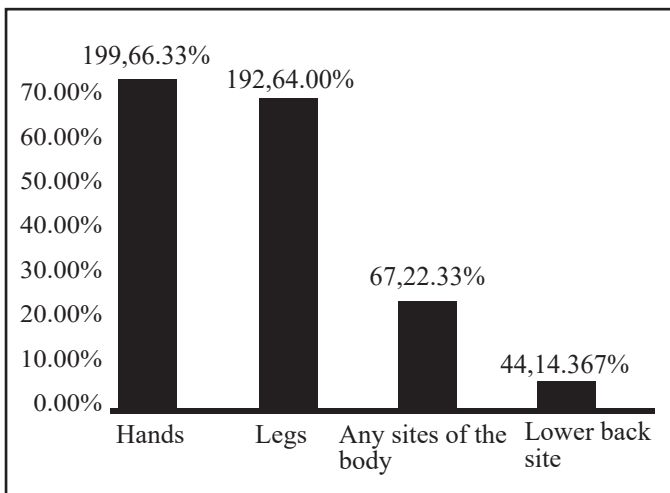


Figure 1. Multiple response of the agricultural workers regarding common sites of injury due to tools and machineries of or animals involved in cultivation (n=300)

The study reflected that majority (165, 55.00%) of the farmers faced temperature-related injury during agricultural works, followed by 96(32.00%) farmers affected by cut injury, 34(11.33%) affected by skin problems, 25(8.33%) suffered from respiratory diseases and others. (Table IV)

Table IV: Multiple response of the participants regarding diseases experienced during agricultural works (n=300)

Diseases	Frequency	Percentage
Cut injury	230	76.67
Temperature related injury	206	68.67
Skin disorders	75	25.00
Insecticide poisoning	51	17.00
Insect bite	85	28.33
Snake bite	77	25.66
Helminthic Diseases	14	4.66
Respiratory Diseases	73	24.33
Others	32	10.66

In relation to choose physicians for treatment of the diseases, majority of the respondents in their multiple responses mentioned about MBBS doctors (125, 41.67%), followed by Rural Medical Practitioners (121, 40.33%), Homeopathic doctors (67, 22.33%) and others. (Figure 2)

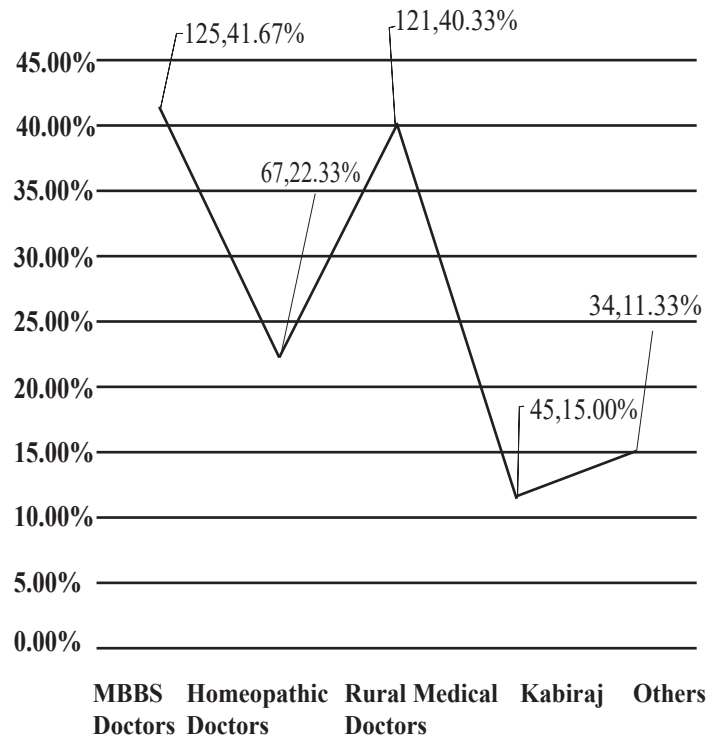


Figure 2. Multiple responses of the agricultural workers regarding choice of physicians for treatment of their illnesses

Discussion

According to the survey, out of 300 respondents, the majority (124, 41.33%) were between the ages of 36 and 50 years, the highest number of respondents (239, 79.67%) were men, and the majority of respondents (105, 35.00%) were illiterate. In contrast to the findings of this study, a comparable study carried out in Thailand⁸ shows that the majority of respondents (60.00%) were female and that the highest percentage of respondents (74.00%) had completed primary school.

Regarding knowledge of the participants about diseases that could arise when working in agriculture, the majority of respondents (230, 76.67%) agreed that physical or cut injuries could occur, while 206(68.67%) agreed that temperature-related injuries could occur. In this survey, 75 (25.00%) of participants reported having concerns about skin conditions, while 73(24.33%) noted respiratory illnesses. A study carried out in Vietnam⁹ reveals that 55.1% of participants reported experiencing damage related to temperature, which is nearly identical to the findings of this study. This could be because both countries' weather patterns are similar. This finding is comparable with another study done in Nepal,¹⁰ which found that 79.7% of people were aware of cut injuries.

In connection with the common sources of injury, majority (134, 44.67%) has mentioned that injuries occurred due to hand tools, followed by 46(15.33%) due to tractors and machineries. However, the study conducted by Parvez et al⁵ reflects that 67.00% of injuries occurred by hand tools and 33.00% were due to machineries and other sources, which is inconsistent with this study. Another study conducted in India¹¹ shows that 64.7% injuries occurred due to hand tools, followed by 29.1% due to machineries, showing dissimilarities with the result of this study.

In relation to knowledge of the participants regarding common organs of injury, majority (199, 66.33%) reported that injuries may occur in hands, 192(64.00%) mentioned in legs. Only 44(14.67%) reported that injuries may occur in lower back site. A study conducted in Nepal¹⁰ to find out knowledge of the participants shows that 67.00% participants mentioned injury may occur in hands, which is consistent with the result of this study. Another study conducted by Keawduangdee et al¹² exploring knowledge reveals that 83.1% participants mentioned injuries could occur in Lower back site, which is dissimilar with the result of this study.

The current study reflects that 96 (32.00%) farmers were affected during agricultural work by physical injury, mostly due to cut or lacerated type, 165(55.00%) faced temperature-related injury, 34(11.33%) suffered from skin diseases and another 25(8.33%) from respiratory diseases. However, another study conducted among the agricultural workers of Mymensingh district¹³ reveals that 16.0% workers suffered from respiratory illness and 10% from skin diseases, which is inconsistent with this study.

Regarding the prescribers for treatment of injuries, majority (125, 41.67%) of the farmers reported MBBS doctors, followed by 121(40.33%) by Rural Medical Practitioners and 67(22.33%) by homeopathic doctors. A study conducted Kulkarni et al¹⁴ reflects that 76.8% informed MBBS doctors as prescribers, which shows dissimilarity with this study.

This was a small study, carried out in a conveniently chosen area in Manikganj. Additionally, the sample size was limited, thus it might not accurately represent Bangladesh.

Conclusion

The majority of participants in this study were aware that cuts might occur during agricultural work, followed by temperature-related injuries. When considering knowledge about weapons or animals that injure farmers, most of them mentioned that hand tools were the main causes of injuries, while tractors and other machineries were following. The majority of respondents listed hands as the most common organ injured, followed by legs. According to this survey, half of the farmers experienced heat-related injuries, and one-third had cuts. The majority of respondents preferred MBBS doctors as their treatment providers, followed by rural medical professionals. To safeguard farmers against accidents, a vast geographic area should be the focus of a thorough study aimed at determining the true pattern of health problems.

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