A cross cut survey on musculoskeletal disorders among farmers in selected areas of northern part of Bangladesh

Abstract

Bangladesh is a land of agriculture; majority of the people reside in rural area and engage in agricultural activities. Keep them fit is a prime issue because they are contributing in our economy. This study was conducted to assess musculoskeletal disorders among farmers in selected areas of northern part of Bangladesh. First of all history was taken followed by physical examination and radiological evidence from conveniently selected 89 farmers. Verbal consent was taken from village head/community head to avoid odd situation and confirmation of the study subject as a farmer. Average age of the respondents was 38.13 ± 7.93 years. More than half of the respondents (59%) completed primary education. Most of the respondents (77.30%) earned ≤ 10000 BDT monthly. About 67.40% respondents worked in the field 5-8 hours per day. About two-third of the respondents (69%) worked in farming activity for 10-15 years. About 61.80% farmers suffered some form of musculoskeletal problem and 38.20% did not have musculoskeletal problem. Lower back pain was common (43.8%) followed by neck pain (9%), foot pain (3.4%) and knee pain (5.6%). It is concluded from the findings that high prevalence of musculoskeletal problem was seen among farmers which is alarming indeed. Further depth study can be conducted to get precise result.

Keywords: Musculoskeletal Disorders, Farmers, Northern Part of Bangladesh

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Introduction

Farming is a physically effortful task which has various health risks and musculoskeletal disorders/discomfort being some of the most common.¹ Farmers are playing vital role in our national economy because they are providing food for us. So their health status should be prioritized issue for us. But we often observe that they show ignorance about health issue and seek treatment from traditional healer. Actually musculoskeletal problems are mechanical in origin and solution of those problems should be mechanical as well. The extent of the musculoskeletal disorder (MSD) problem is not well understood among Canadian farmers, and little too is known about their epidemiology.² Due to lack of up-to-date data same scenario is observing in our country. Though systematic review identified the prevalence of MSDs by body region in farmers and established that low back pain was the most common MSD, followed by upper and then lower extremity MSDs.³ Reported trends suggest that the prevalence of MSDs in farmers is greater than in non-farmer populations.³ This is why current study was an attempt to explore the present scenario of musculoskeletal condition of farmers in northern part of our country.

Materials and methods

This was a cross sectional survey like study conducted among 89 farmers at conveniently selected villages in Chapainawabgonj district in Bangladesh. Their main occupation was farming and usually worked in field. As a physiotherapist i had the scope to deal lot of patients with musculoskeletal problem in day to day practice and many of them were farmers. From that point of view i visited some villages and collected data from farmers. First of all history was taken followed by physical examination and radiological evidence. Verbal consent was taken from village head/community head to avoid odd situation and confirmation of the study subject as a farmer. Then verbal consent was taken before initiation of interview. Assurance was given about confidentiality of information and freedom to withdraw any stage of interview.

Results

Average age of the respondents was 38.13 ± 7.93 years. About 43.8% of the study subjects belonged to 31-38 years followed by 22.5% from 47-55 years, 16.9% from 23-30 years and 16.9% from 39-46 years (Table 1).

More than half of the respondents (59%) completed primary education followed by illiterate (29%) and below SSC (12%) (Figure 1).

Table 1 Age group distribution of the respondents (n=89)

Age group in years	Frequency	Percentage
Mean $\pm$ SD	38.13 $\pm$ 7.93	
23-30	15	16.9
31-38	39	43.8
39-46	15	16.9
47-55	20	22.5
Total	89	100

Figure 1 Educational level of the respondents (n=89).

Most of the respondents (77.30%) earned ≤ 10000 BDT monthly whereas 21.70% had monthly income 10001-20000 BDT and only 1% had monthly family income > 20000 BDT (Figure 2).

Figure 2 Monthly family income of the respondents (n=89).

About 67.40% respondents worked in the field 5-8 hours per day and 29.20% did work 9-12 hours per day as well as only 3.40% worked > 12 hours per day (Figure 3).

Figure 3 Working hour per day (n=89).

About two-third of the respondents (69%) worked in farming activity for 10-15 years followed by 17% for < 10 years and 14% for > 15 years (Figure 4).

Figure 4 Farming activity in years (n=89).

About 61.80% farmers suffered some form of musculoskeletal problem and 38.20% did not have musculoskeletal problem (Figure 5).

Figure 5 Prevalence of musculoskeletal problem (n=89).

Lower back pain was common (43.8%) followed by neck pain (9%), foot pain (3.4%) and knee pain (5.6%) (Table 2).

Table 2 Region affected (n=89)

Region	Frequency	Percentage
Lower back	39	43.8
Neck pain	8	9.0
Foot pain	3	3.4
Knee pain	5	5.6
Total	55	61.8

Discussion

It is general observation that musculoskeletal problems are increasing day by day and in my daily practice I observe that high prevalence of musculoskeletal disorder among those people who are engaged in strenuous activity like day labor, rickshaw puller etc. Considering that issue farmers are prone to develop/suffer different type of musculoskeletal problems. The present study was a small effort to go through this scenario in cross cut way. This study found that mean age of the respondents was 38.13 ± 7.93 years whereas more than half of the respondents (59%) completed primary education and most of the respondents (77.30%) earned ≤ 10000 BDT monthly. So their socio-economic condition was not solvent. About 61.80% farmers suffered some form of musculoskeletal problem. Lower back pain was common (43.8%) followed by neck pain (9%), foot pain (3.4%) and knee pain (5.6%). This may be due to unawareness about proper posture while performing hard work. Moreover farming is a hazardous activity-no doubt about that.⁴ Number of evidence have identified farming as a risky occupation because of the nature of farm work is responsible behind developing musculoskeletal disorders (MSDs).^{4,6} Millions of people around the world are suffering from MSDs and are the most common cause of severe long-term pain and physical disability.³ A survey of 15 European countries showed that agriculture is one of the industries with the most exposure to heavy physical loads.⁷ A Swedish study found that the odds of reporting musculoskeletal problems were 51% higher among farmers than non-farmers.⁸ In a survey of Southeast Kansas farmers,⁹ nearly 60% of the respondents reported that they experienced a farm work-related MSD symptom during the last 12 months, while a survey of self-reported

work-related illness in Britain during 1995 found that 43 000 or 7% of the agriculture workforce ascribed MSDs to their work.¹⁰ Evidence shows that agriculture type, years of farming, and ergonomic factors increased the risk of MSDs among Korean farmers.¹ A cross-sectional analysis was conducted using baseline survey data from the Saskatchewan Farm Injury Cohort Study and showed that most common MSD site in farmers was the low back followed by the upper and then lower extremities.² So it is urgent to care musculoskeletal issues of farmers. Proper posture training can be an easy way to reduce burden of musculoskeletal problem. Though sample was too small but I have tried to bring out pattern of musculoskeletal problem and their prevalence. In future my intention is to carry out another study on risk factors of musculoskeletal disorder among farmers by taking clustering sample from different part of the country.

Conclusion

Very high prevalence of musculoskeletal problem including back pain, neck pain, knee pain and foot pain was observing among farmers. Involvement of Physiotherapists in rural health setting can reduce this high prevalence of MSDs.

Conflicts of interest

None.

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