Prevalence of Low Back Pain in Farmers.

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Abstract

Title : Prevalence of Low back Pain in Farmers.

Aim: To study the prevalence of low back pain in farmers. **Objective :** To find frequently affected disabilities due to low back pain in farmers. To find the most common age affected by low back pain in farmers. **Background :** Musculoskeletal Disorders (MSDs) are prevalent and the impact is pervasive across a wide spectrum of occupations, as is evident from numerous studies conducted across the globe. However, there are very few studies that document the prevalence of LBPs in India, and there are hardly any studies that focus on the country's farming community, which constitutes more than 58 percent of the Indian work force. Thus in the present study an attempt has been made to analyze the prevalence of LBPs in farmers of villages of ahmednager, India. **Methods :** A sample of 50 farmers of ahmednagar , aged between 20-60 years, was selected. Rolando and Morris low back pain disability questionnaire to measure the Low back pain was given to all the farmers. **Results :** The most common musculoskeletal disorders affecting the farmers is lower back pain (60%), the more prevalent groups are 41-50 years & 51-60 years.**Conclusion :** Finding of the present study shows that nearly 60 percent of are affected, this is poor postures and lack of ergonomic awareness in the farmers.

Keywords : Farmers; Low back pain(LBP); Occupation Prevalence;.

Introduction : "Low back pain is usually defined as pain, muscle tension, or stiffness localized below the costal margin and above the inferior gluteal folds, with or without leg pain (sciatica). Low back pain is typically classified as being 'specific' or 'nonspecific'. Specific low back pain refers to symptoms caused by a specific patho – physiologic mechanism, such as hernia nucleus pulposus, infection, inflammation, osteoporosis, rheumatoid arthritis, fracture, or tumor. In only about 10% of patients can specific underlying cause of a disease can be identified. The vast majority of patients (up to 90%) are labeled as having nonspecific low back pain, which is defined as symptoms 0without clear specific cause, i.e., low back pain of unknown origin [1]or as a pain between the costal margins and the inferior gluteal folds, usually accompanied by painful limitation of movement, often influenced by physical activities and posture, and which may be associated with referred pain in the leg[2].

Non-specific low back pain is defined as low back pain not attributable to a recognizable, known specific pathology (e.g., infection, tumor, osteoporosis, fracture, structural deformity, inflammatory disorder, radicular syndrome, or caudaequina syndrome). Low back pain became one of the biggest problems for public health systems in the western world during the second half of the 20th century, and now seems to be extending worldwide [3,4].

'Non-specific' low back pain is caused by problems with structures in the back, such as the joints, discs, muscles, tendons and ligaments. In nonspecific low back pain it is usually not clear what is actually causing the pain. In other words, there is no specific problem or disease that can be identified as the cause of the pain. This type of back pain is not caused by cancer, infection, a fracture or an inflammatory disorder [5].

India is primarily an agrarian economy as farming is one of the most important occupations in the country. It is generally perceived as a healthy outdoor occupation. However numbers of studies have classified farming as a risky and hazardous job [6, 7]. Because of the nature of farm work, farm workers are at particular risk of developing musculoskeletal disorder, besides a large number of other health problems [8].

COPCORD studies in over 17 countries around the world have identified low back pain and knee pain are common in the community and are likely to increase with the ageing population [9]. In the Community survey in a rural area in western India, LBP was 17.3%10. Based on the pain duration, there are 3 types of LBP: acute, sub acute and chronic [10,11].

Low back pain (LBP) is extremely common in the general population in Western countries, with one year prevalence rates between 50% and 76% [12]. Some studies have reported that subjects who carry excessive abdominal fat mass over a long period may be at risk of low back pain, as a result of altered posture to counterbalance the protruding fat mass. It is also observed that height may relate independently to low back pain from large abdominal fat mass and may aggravate back pain associated with stooping especially in those with large waist or large abdominal

fat mass[13].

Roland and Morris developed a questionnaire for evaluating patients with low back pain. This can be used to determine the level of patient disability and can help measure outcome following therapeutic intervention[14].

Methods : This study was an epidemiological survey. The study was approved by research committee of Dr. Vithalrao Vikhe Patil Foundations, college of physiotherapy, Ahmednagar, Maharashtra, India. Farmers were recruited from their individual homes using conventional sampling technique. A sample of 50 full time farmers aged between 20 and 60 years and able to read and understand the local dialect Marathi, were included in the present study. Part-time farmers who were also involved in jobs other than farming were excluded from the study. Farmers who were diabetic or had any known neurological, psychiatric or cardiovascular problems were also excluded. Care was also taken not to include in the study those farmers who were known to have spinal fracture resulting from tumors, infection, or any major trauma to the spine. To answer the research questions on prevalence of Low back pain in farmers of Ahmednagar, India an appropriate scale: Rolando and Morris Low back pain disability quetionnair(RMQ) was selected. Since Marathi is language used in rural areas of Ahmednagar, Marathi version of the scale was used in the present study. RMQ translation was done using forward and backward translation method. Face and content validity was established for the Marathi version of RMQ. The RMQ can be used as a questionnaire or as a structured interview. In very explicit and simple terms respondents were asked if they had experienced Low back pain which prevented them from performing normal activity during the past 12 months or for a short and temporary period of 7 days. After explaining the need and purpose of the study, a duly signed consent form was obtained from each participant. Those who fulfilled the inclusion and exclusion criterion were then asked for their demographic details, about present and past medical history, family history and surgery undergone if any, and so on. Patients were then given clear-cut instruction for responding to the Rolando and Morris quetionnair; there was no any further assistance or prompting to the respondents. Data was recorded on the assessment sheets and data collection forms. Analysis of the data was done by using SPSS software (version 14.0).

Results : The study was conducted to find the prevalence of Low back pain in the farmers of the Ahmednagar. The descriptive statistical analysis of data (N=50, Farmers), showed that the age group was 41-50 and 51-60 years.

From our study we have analyzed the data which includes age distribution, Sex distribution, Visual Analogue Scale, Rolando Morris Questionnaire score and RMQ component distribution.

The table no. 1 and graph no. 1 shows the age distribution in which the age group of (31-40), (41-50) are having more participants as compared to other age group. Out of 50 total 36 were male and 14 female , so more participant were males which is shown in graph no. 2.

To know the intensity of their back pain which is measured with the help of VAS (Visual Analogue Scale) at rest the pain intensity was less but while assessing intensity on movement which was more, at rest and on activity which is shown in Table and Graph no. 3.

For assessing their Low Back Pain Disability, we have used the RMQ (Rolando Morris Questionnaire) and for age group 21-30 it was 17% , for 31-40 (23%), for 41-50 (30%) and 51-60 (30%) which is more in this last two groups, their score is shown in table and graph no. 4 (score is shown by age wise distribution).

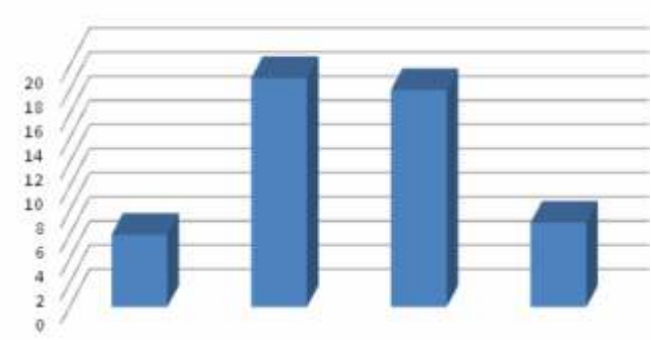
For assessing the severity or frequently affected activity we distributed them into mild, moderate and severe. In mild there were 7 components (1,4,8,9,14,15,19), in moderate 8 components (2,3,5,10,13,17,20,24) and in severe 9 components were affected (6,7,11,12,16,18,21,22,23).

According to data collection the prevalence of Low Back Pain were more in the age group of 41-50 and 51-60, and there is more disability were found in these group by Rolando and Morris Questionnaire.

DATA ANALYSIS AND PRESENTATION

Table & Graph no. 1

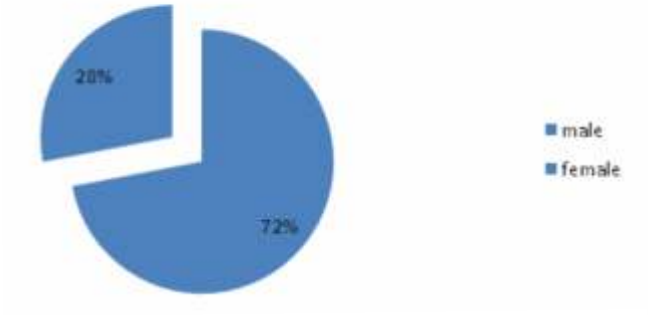
Age vise distribution of participants				
Age groups	20-30	31-40	41-50	51-60
No. of participants	6	19	18	7



Graph no.1

Table & Graph no. 2

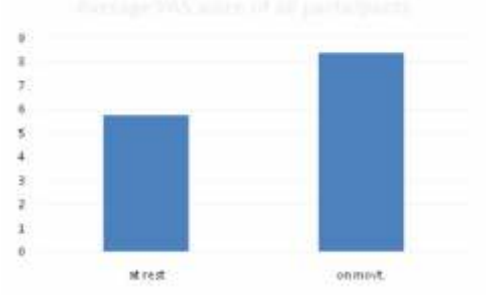
Distribution of Patient according to gender	
MALE	FEMALE
36	14



Graph no. 2

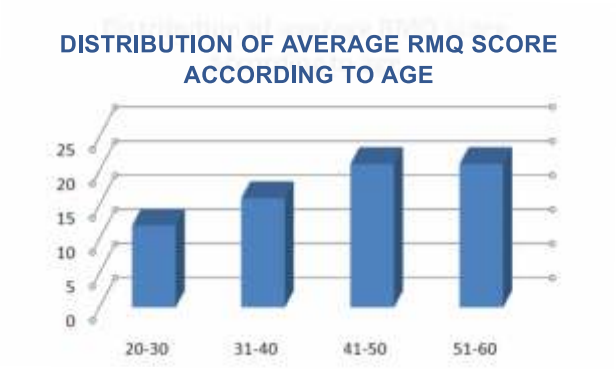
Table & Graph no. 3

VAS SCORE of all participants		
Condition	at rest	on movt.
VAS score	5.76	8.36



Graph no. 3

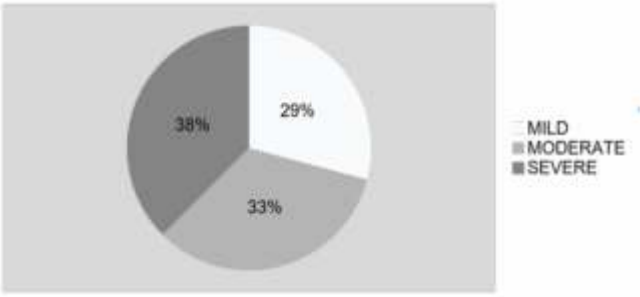
Table & Graph no. 4				
Distribution of average RMQ score according to age				
Age Group	20-30	31-40	41-50	51-60
RMQ Score	12	16	21	21



Graph no. 4

Table & Graph no. 5

Distribution of RMQ components according To severity			
SEVERITY	MILD	MODERATE	SEVERE
Affected components	7	8	9



Graph no.5

Discussion : Pain due to musculoskeletal discomfort is a multi-factorial phenomenon. It can affect almost all parts of body depending upon the physical movement characteristics and work setup.

India has traditionally been an agricultural country. It is been the main occupation, providing employment to about 58 per cent of working population[18]. There are many researches which document the prevalence of various musculoskeletal discomforts in occupation like mine workers, stone cutters, sanitary workers, military personnel, aircrew workers, shoe factory workers, goldsmiths, and etc. [19,20,21,22,23] But much less has been documented about musculoskeletal discomfort in farmers of India.

As the occupational exposure in farming is quite different from other physically demanding occupations,

the results of those studies could not be generalized to the farmers, as evident from findings in this study.

While working farmers are exposed to various potentially dangerous situations like excessive bending, twisting, kneeling, carrying load, squatting, extremes of temperature, vibration from transport and equipments, exposure to dust, static and awkward stoop postures ,repetitive and monotonous work, etc. All these are the predisposing risk factors associated with various musculoskeletal disorders but commonly associated with low back pain. The risk of slipping, tripping and fall on uneven fields is also associated with farming and these could also lead to development of musculoskeletal discomfort, most commonly low back pain in farmers [15,16,17].

From our data collection in Ahmednagar villages which shows there was 60% of low back pain disability in farmers. According to Gupta et al, he done survey in Kanpur in which he identified four of the most common musculoskeletal disorders affecting the farmers of the study area - lower back pain (60%), knee pain (39%), shoulder pain (22%), and neck pain (10%). And he concluded that low back pain is most prevalent musculoskeletal disorder in farmers.

Hence our study also showed the more prevalence of low back pain with the help of visual analogue scale and Rolando and Morris questionnaire.

Conclusion : From our study it is concluded that there is 60% of prevalence of low back pain in farmers. From this study we concluded that there is 60% of individuals are having disabilities like bending forward, squatting, standing for long time, walking for long distance, twisting and kneeling etc.

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