

[ORIGINAL ARTICLE]**Knowledge of Rural Population about Low Back Pain and its Related Risk factors- A Cross Sectional Study****Dr. Swetanjali Bhagara (PT)¹, Dr. Deepak Anap(PT)², Dr. Priyanka Jadhav (PT)³**¹Assistant Professor, ²Professor & HOD, ³Assistant Professor, Department of Musculoskeletal Physiotherapy, D.V.V.P.F's, College of Physiotherapy, Ahmednagar**ABSTRACT :**

Background and Purpose: Low back pain (LBP) has been reported as a worldwide health problem, affecting individuals physically, socio-economically and psychologically⁽¹⁾. The global burden of low back pain is the highest ranked condition contributing to years of living with disability. The general public, including patients living with LBP, lack knowledge about the causes and contributing factors of LBP⁽²⁾. This implies that during management of LBP, patients' knowledge about their pain should be identified and followed by education regarding their pain. This study aims to find out knowledge of rural population about low back pain and its related risk factors

Methodology : This was a cross sectional study conducted on villagers visiting Vikhe Patil Hospital, Ahmednagar, in a duration of 6 months. The sampling method was convenient sampling with sample size of 100. A self-administered questionnaire consisting of 4 sections in Marathi language was designed. In the first three sections, participants were asked about definition of Low back pain. In the fourth section, participants have to answer a 15 question quiz, focusing on general facts, symptoms, risk factors, diagnosis and treatment options about low back pain. After approval of ethical committee consent form were collected from the subjects. The questionnaire was given to subjects according to the inclusion criteria.

Result: The study had 100 subjects. Approximately 58% were males, with 31% between 30-39 age. 66% samples identified the underlying mechanism of low back pain as there is some compression of nerve passing through vertebra, 57% believed cartilage on the ends of vertebra wears down over time. The majority 58% had their source of information about low back pain from other patients suffering from low back pain, 54% from internet and social media, 48% had personal experience and 82% sample knew a relative or a friend suffering with low back pain.

Conclusion : The result of the study concluded that the rural population visiting the Vikhe Patil Hospital exhibited good knowledge about Low back pain and its risk factors. Some misconception about the general facts and risk factors were identified.

Keywords: Low back pain, knowledge, self administered question

Introduction:

Low back pain (LBP) has been reported as a worldwide health problem, affecting individuals physically, socio-economically and psychologically⁽¹⁾. The global burden of low back pain is the highest ranked condition contributing to years of living with disability. Low back pain (LBP) ranks first for disability and sixth for overall burden on world health, with an annual approximate cost of

\$135 billion. Low back pain is usually nonspecific or mechanical. Mechanical low back pain arises intrinsically from the spine, intervertebral disks, or surrounding soft tissues⁽²⁾ Non-specific chronic low back pain is considered a major health problem in industrialized countries. It leads to disability, absenteeism and considerable annual health costs⁽³⁾. In India, most of the low-income group people are engaged in physically demanding jobs which may

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increase the risk of low back pain and disability⁽⁴⁾.

The frequency of low back pain increases as age advances, and its prevalence in the elderly population of age 40 and older is as high as 20 to 40%. On the other hand, the prevalence of low back pain is about 10 to 25% in the age group from the late teens to age 40, defined here as young and middle-aged people, and in this age group the incidence of low back pain itself is relatively low. People in this age group are highly active in daily life and are exposed to various stresses. Unlike in the elderly, however, the aging-related changes are minimal in this age group. Due to these circumstances, therefore, low back pain in this age group is characterized by high incidence of “so-called low back pain”, or nonspecific low back pain without any clear-cut diagnosis being specified.⁽⁵⁾

The cause of the vast majority of LBP is unknown; current tests cannot identify a pathological cause for the pain in at least 85% of cases⁽⁶⁾. That is, in 85% of cases, even when the most extensive testing is conducted, no apparent cause can be established. For this reason, such LBP is now usually termed non-specific low back pain. Our inability to reliably identify pathology has given rise to numerous hypotheses concerning the cause of LBP, including reduced trunk extensor endurance⁽⁷⁾, psychological distress⁽⁸⁾ hamstring inflexibility^[9], poor muscle control of the trunk⁽¹⁰⁾, poor posture⁽¹¹⁾ and low body mass.⁽¹¹⁾ However, at best, there is only preliminary evidence to support an association between such impairments and the presence of LBP, and most of the causal hypotheses lack convincing evidence. Given our poor ability to identify the cause of most cases of LBP, invasive and expensive investigations should only be used when findings from the clinical examination indicate the likely existence of serious pathology. It should be noted, however, that the clinical signs and symptoms of LBP can be treated successfully without a pathological diagnosis.

Because nonspecific LBP currently cannot be further classified, it is often referred to according to its duration: acute LBP (duration less than six weeks); subacute LBP (duration more than six weeks and less than three months); and chronic LBP (duration more than three months). Although probably simplistic, this classification makes some sense because evidence to date suggests that different treatments are effective in different phases of LBP⁽¹²⁾ and different factors, such as psychosocial factors,

appear to take on greater importance with increasing chronicity⁽¹³⁾ Non-specific LBP does not benefit from extensive investigations, and in some cases, further examinations have been shown to be harmful⁽¹⁴⁾

The exact causes of LBP are often difficult to identify, and both clinicians and patients are left with uncertainties, leading to varied broad practices in the choice of management of LBP⁽¹⁵⁾. The most common forms of treatment are medication, physiotherapy, surgery and educational interventions such as “back schools”, where patients practice exercises, learn basic information about the vertebral column and low back pain and receive orientations regarding the conservation of energy and joint protection.⁽¹⁶⁾ Plain radiography of the lumbar spine is appropriate to assess for fracture and bony abnormality, whereas magnetic resonance imaging is better for identifying the source of neurologic or soft tissue abnormalities. There are multiple treatment modalities for mechanical low back pain, but strong evidence of benefit is often lacking. Moderate evidence supports the use of nonsteroidal anti-inflammatory drugs and opioids in the short-term treatment of mechanical low back pain. There is strong evidence for short-term effectiveness and moderate-quality evidence for long-term effectiveness of yoga in the treatment of chronic low back pain. Various spinal manipulative techniques (osteopathic manipulative treatment, spinal manipulative therapy) have shown mixed benefits in the acute and chronic setting. Physical therapy modalities such as the McKenzie method may decrease the recurrence of low back pain and health care expenditures. Physical therapy modalities such as the McKenzie method may decrease the recurrence of low back pain and use of health care. Educating patients on prognosis and incorporating psychosocial components of care such as identifying comorbid psychological problems and barriers to treatment are essential components of long-term management.⁽¹⁷⁾

Most patients living with LBP lack knowledge regarding causes and contributing factors of LBP⁽¹⁸⁾. This is despite various treatment guidelines for LBP proposing that besides physical treatment and exercises, advice and health education should be part of the treatment plan⁽¹⁹⁾. Health education will not only enhance peoples’ knowledge about pain, but might also change their negative attitudes and beliefs regarding their pain, and thereby promote the

achievement of the desired clinical outcomes⁽²⁰⁾. This in turn may decrease the number of patients living with acute LBP and transitioning to living with chronic LBP⁽²¹⁾.

The general public, including patients living with LBP, lack knowledge about the causes and contributing factors of LBP⁽²²⁾. This implies that during management of LBP, patients' knowledge about their pain should be identified and followed by education regarding their pain. LBP is one of the leading musculoskeletal conditions in rural population treated at hospital physiotherapy outpatients' departments. In rural population employment and workplace factors, both physical and psychological, such as heavy lifting, pushing, pulling, vehicle driving, and prolonged walking or standing were found to be predictors of LBP and there are similar associations with stressful and monotonous work and dissatisfaction with work. Body mass index has been found to be linked to LBP in obese people⁽²⁵⁾. However, no information is available regarding patients' knowledge, regarding their LBP. This study thus aimed to establish the knowledge regarding contributing factors, Risk factors, Diagnosis and treatment about low back pain among rural population visiting Vikhe Patil Hospital, Ahmednagar.

Material & Methodology:

The study design was a cross sectional study for a duration of 6 months and sample was taken from patients visiting Dr. Vithalrao Vikhe Patil hospital. Patients were chosen by convenient sampling of age 18 years and above. Both males and females have been recruited for the study, individuals who were able to read and write and must have had at least one episode of backache. Any individual with infectious diseases of the spine or who have never experienced back ache have been excluded from the study.

Procedure:

This study was conducted in Dr. Vithalrao Vikhe Patil Hospital in Ahmednagar, Maharashtra. The study used a cross-sectional design. Convenience sampling was used as the recruitment method with a self-administered questionnaire for data collection. A self-administered questionnaire consisting of 4 sections in Marathi language was designed. Participant's demographic data such as age, gender

and level of education was asked. They had a liberty to choose on their own option. In the first and second sections samples could choose multiple options according to their knowledge. In the first section, consists of the knowledge of underlying mechanism of Low back pain. The Second section, deals with the source of information about Low back pain. In the third and fourth sections samples had options to choose between yes and no. The third section was about whether the participant know someone who is suffering from Low back pain. The fourth section was about participants knowledge about Low back pain; focusing on the general facts, symptoms, risk factors, diagnosis & treatment options about Low back pain. To ensure the content validity 3 Physiotherapist were asked to revise the questionnaire to determine if the topic was covered adequately and if there are any irrelevant questions. The developed questionnaire was tested in a pilot study to determine the user-friendliness, the clarity of the instrument as well as time to complete the questionnaire. 25 patients with low back pain participated in the pilot study and they were excluded from the main study. The pilot study revealed that a few questions were slightly unclear to the participants, because of the use of medical terminologies. The questions were revised and the modifications to those medical terms were made by replacing them with simple terms. Ethical Committee Approval was obtained from IEC prior to beginning the study. Screening was done as per inclusion and exclusion criteria. The data collection sheet and consent form was filled by patients. Inclusion criteria included the patients who were willing to participate in the study. Questionnaire was distributed and analysis of result was done.

Result:

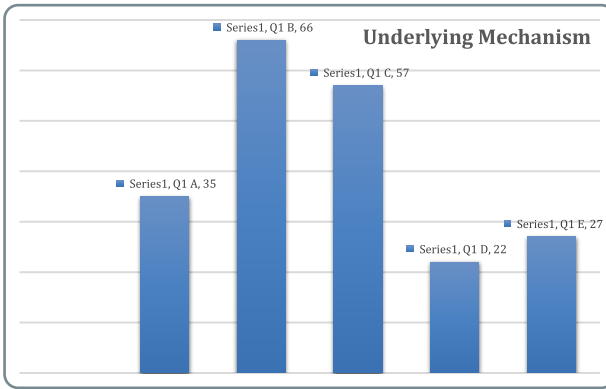
Table 1. Demographic Variables of The Participants (N = 100)

Demographic Variables		Frequency	Percentage (%)
Age groups	18-29	22	22%
	30-39	31	31%
	40-49	29	29%
	50-59	14	14%
	≥60	4	4%
Gender	Females	42	42%
	Males	58	58%

Table 1- In this study the percentage of males to females was (58%) & (44 %). The sample population consisted of age group above 18 years, which is divided into five sub groups, 18-29 (22%), 30-39 (31%), 40-49 (29%), 50-59 (14%) and 60 & above (4%).

Table 1: LBP Causes

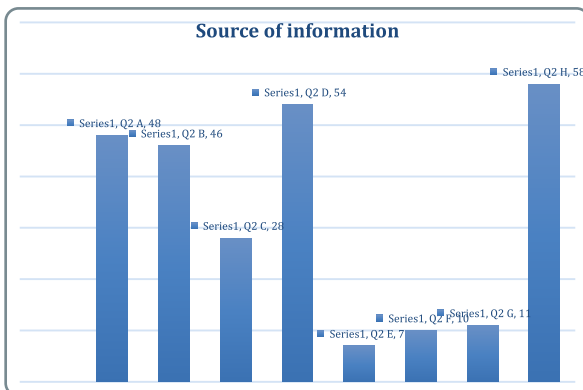
1) ?) कंबर दुखी होण्याचे कारण	(n=100)
A. मनक्यापर्यंत पोहोचणारे रक्त वृद्धत्वाने कमी होते	35
B. मनक्याजवळून जाणाऱ्या नसवर दबाव येतो	66
C. हाडांच्या टोकावरील गादी कालांतराने झिझते	57
D. मनक्यामध्ये आम्ल जमा होते	22
E. मनक्यातील वंगण कमी होते	27



Graph 1: Underlying mechanism.

Table 2: Sources of Information

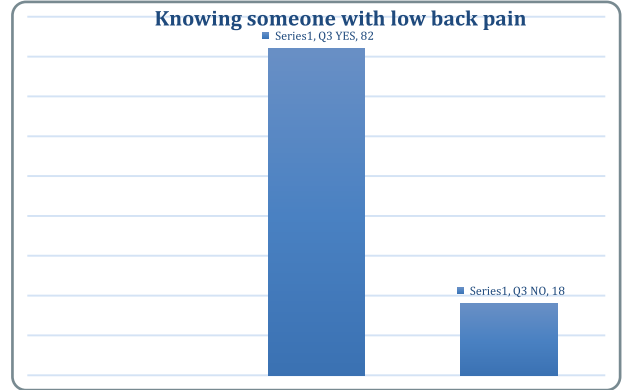
2) कंबर दुखी विषयी माहितीचा स्रोत.	(n=100)
A. वैयक्तिक अनुभव	48
B. नातेवाईक आणि मित्रांकडून.	46
C. दूरदर्शन	28
D. इंटरनेट आणि सामाजिक माध्यम.	54
E. शाळा किंवा विद्यापीठ	7
F. मासिके, वर्तमानपत्र आणि पुस्तके	10
G. चिकित्सक	11
H. कंबर दुखीच्या इतर रुग्णांकडून.	58



Graph 2 : Source of information

Table 3: Knowing someone with LBP

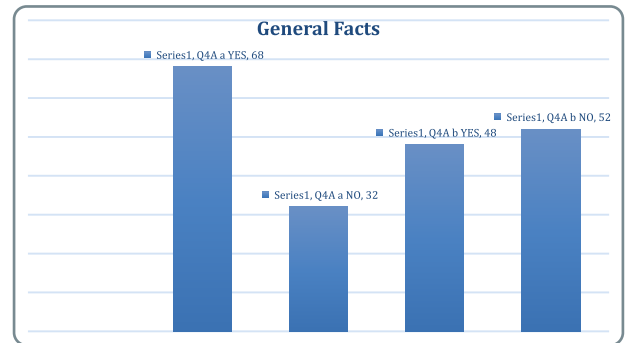
	Yes	No
Q.3) तुम्ही कंबर दुखी असलेल्या इतर रुग्णाला ओळखता का?	82	18



Graph 3 :Knowing someone who is suffering from Low back pain (n=100)

Table 4: General Facts

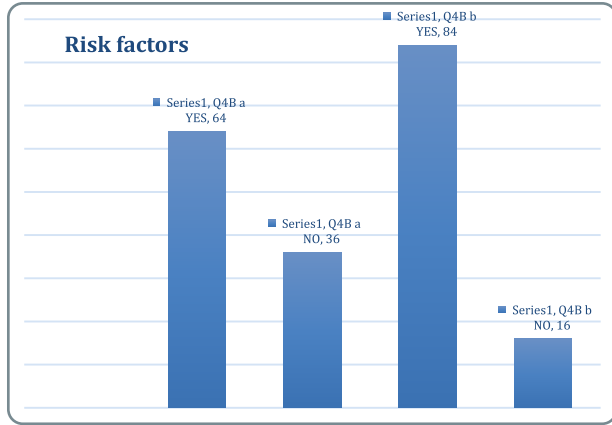
4a) कंबर दुखीचे सामान्य तथ्ये	Yes	No
a) तुम्हाला असे वाटते का, की कंबर दुखीही दिर्घकालीन समस्या आहे?	68	32
b) तुम्हाला असे वाटते का, की कंबर दुखी एक दुर्मिळ आजार आहे?	48	52



Graph 4 : General facts (n=100)

Table 5: LBP Risk Factors

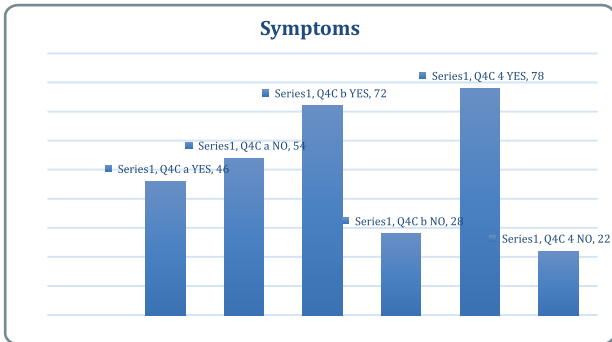
4b) कंबरदुखीचे जोखीम घटक	Yes	No
a) कंबर दुखीचा त्रास पुरुष आणि स्त्रीमध्ये समान प्रमाणात होते असे तुम्हाला वाटते का?	64	36
b) तुम्हाला असे वाटते का, की कंबर दुखीमुळे पायांवर काही परिणाम होऊ शकतो?	84	16



Graph 5 : Risk factors (n=100)

Table 6: LBP Symptoms

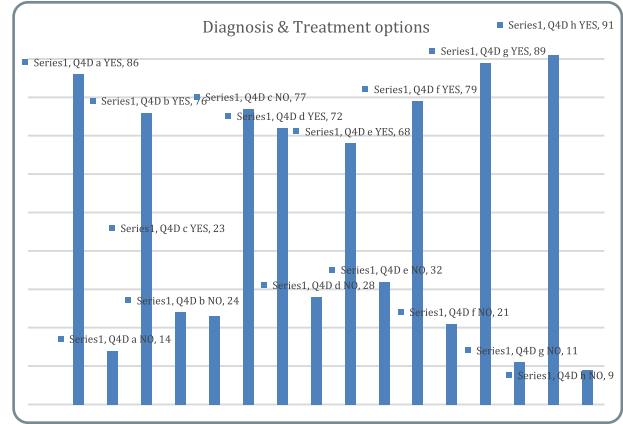
4C कंबर दुखीचे मुख्य लक्षण	Yes	No
a तुम्हाला असे वाटते का, की वेदना हे एकमेव कंबर दुखीचे लक्षण आहे?	46	54
b तुम्हाला असे वाटते का, की कंबरत कडक पणा येणे हे कंबर दुखीचे एक लक्षण आहे?	72	28
c तुम्हाला असे वाटते का, की कंबर दुखीमुळे कंबरच्या हालचाली कमी होऊ शकतात?	78	22



Graph 6: Symptoms (n=100)

Table 7: Diagnosis & Treatment

4D कंबर दुखीचे निदान आणि उपचार.	Yes	No
a तुम्हाला असे वाटते का, की शारीरिक तपासणी आणि एक्स-रेचा वापर करून आपण कंबर दुखीचे निदान करू शकतो?	86	14
b) तुम्हाला असे वाटते का, की वेदनाशामक औषध घेतल्याने कंबर दुखीचा त्रास कमी होईल?	76	24
c) तुम्हाला असे वाटते का, की व्यायाम केल्याने त्रास वाढू शकतो?	23	77
d कंबरदुखीसाठी व्यायाम हा उत्तम उपचार आहे असे तुम्हाला वाटते का?	72	28
e तुम्हाला असे वाटते का, की व्यायामामुळे तुम्ही पूर्णपणे बरे होऊ शकता?	68	32
f तुम्हाला असे वाटते का, की तुमच्याकडे व्यायाम करण्यासाठी पुरेसा वेळ आहे?	79	21
g तुम्हाला असे वाटते का, की पोहणे, चालणे व योगा अशा व्यायामामुळे कंबर दुखी कमी होऊ शकते?	89	11
h तुम्हाला असे वाटते का, की भौतिकोपचार (फिजिओथेरापी) मुळे कंबर दुखी कमी होऊ शकते?	91	9



Graph 7: Diagnosis and treatment options.(n=100)

Discussion:

Low back pain is the most common and important clinical, social, economic, and public health problem affecting the population indiscriminately across the world⁽²³⁾. Low back pain is known to be of multi-factorial causes⁽²⁴⁾. In rural population employment and workplace factors, both physical and psychological, such as heavy lifting, pushing, pulling, vehicle driving, and prolonged walking or standing were found to be predictors of low back pain and there are similar associations with stressful and monotonous work and dissatisfaction with work. Body mass index has been found to be linked to low back pain in obese people⁽²⁵⁾. Associations between low back pain and social class, low levels of educational and low income have been reported. Persons with greater education are more likely to be in professional, managerial, or other skilled occupations where there is more flexibility to eliminate pain-provoking job situations and physical demand⁽²⁷⁾. Compared with a lower or a higher frequency of exercise, a moderate frequency of exercise from one to five times a week was associated with a lower low back pain risk level⁽²⁶⁾. Low back pain has been reported consistently in a higher proportion of females than males⁽²⁸⁾.

This study explored the knowledge related to Low back pain and its risk factors of a segment of rural population. The self-structured questionnaire consisting of 4 sections in Marathi language was given to the samples and they had a liberty to choose on their own option. In the first and second sections samples could choose multiple options according to their knowledge. In the first section, consists of the knowledge of underlying mechanism of Low back pain. The Second section, deals with the source of information about Low back pain. In the third and fourth sections samples had options to choose

between yes and no. The third section was about whether the participant know someone who is suffering from Low back pain. The fourth section was about participants knowledge about Low back pain; focusing on the general facts, symptoms, risk factors, diagnosis & treatment options about Low back pain. In this study the percentage of males to females was (58%) & (44 %) (Table 1). The sample population consisted of age group above 18 years, which is divided into five sub groups, 18-29 (22%), 30-39 (31%), 40-49 (29%), 50-59 (14%) and 60 & above (4%).

In the first section, (Graph 1)-66% samples identified the underlying mechanism of Low back pain as there is some compression of nerve passing through the vertebra, 57% believed that the cartilage on the ends of vertebra wears down over time while 35% believed that there was decrease in the blood supply in the area, followed by 27% who believed that there was decrease in the joint lubrication, 22% also believed that there is collection of acid between the vertebrae (Graph 1) In the second section (Graph 2) explains the source of information about Low back pain was asked, about more than half of the population (58%) got information from other patients suffering with low back pain, (54%) from internet and social media, (48%) had personal experience, (46%) got to know about low back pain from their friend and relatives, (28%) got information from TV, (11%) had known from physician, (10%) from books, news paper & magazine, and only (7%) got to know from their school & college.

In the third sections (Graph 3) participants were asked whether they knew any patient of Low back pain, and surprisingly 82% samples knew a relative or friend diagnosed with Low back pain.

Graph 4 represents the General facts about Low back pain:- The majority of sample (68%) knew that Low back pain is a chronic disease with only 48% knowing that it is not rare disease.

Graph 5 represents Risk factors for low back pain :- The majority (84%) knew that Low back pain can also cause symptoms in lower limbs. In addition, (64%) believed that both male and female are equally affected with low back pain.

Graph 6 represents Symptoms of low back pain :- The predominant symptom of low back pain is pain which is usually the complaint of patient. About (54%) knew that pain is not the only symptom of low back pain and (72%) identifies stiffness in the low back as

a symptom of low back pain. (69%) also believed that low back pain can restrict range of motion spine.

Graph 7 represents Diagnosis and treatment of Low back pain:- 86% samples knew about Plain x ray films and physical examination are sufficient to diagnose low back pain. Regarding the management of low back pain NSAIDs play an important role in controlling pain which was known by 76% samples. 91% knew that Physiotherapy is considered one option treatment for low back pain, as it reduces pain and improves joint function, 89% sample knew that activity like swimming, walking & yoga will help to relieve their symptoms. 79% also agreed that they have time to do exercise on daily basis, 78% knew that exercise is one of the best treatment option for low back pain. 68% believed that with exercise they can fully recover from low back pain. About 23% sample believed that exercise can aggravate the low back pain symptoms.

In a study conducted by Ibrahim Alburaidi, Khaled Alravie, Al Qahtanin "Knowledge of lower back pain by selected demographic variables among clinical students in Abha, Saudi Arabia". A cross-sectional study was conducted from December 2018 to February 2019, among both male and female students of different departments in the College of Medical Sciences of King Khalid University, Abha, Saudi Arabia, with a mean age of 20-30 years. Information about knowledge of low back pain was collected by using a self-administered questionnaire distributed among all medical students through electronic media. The study was conducted among 310 participants, and majority of the participants (98%) had good knowledge of low back pain, while only 2% had bad knowledge. When the association of the levels of low back pain knowledge was assessed with regard to age, gender, marital status, and monthly income of the study participants, it was found that there were statistically insignificant relationships among these and the level of knowledge about low back pain, except marital status (p -value = 0.000)

In a study conducted by Nesto Tarimo, Ina Diener on "Knowledge, attitudes and beliefs on contributing factors among low back pain patients attending outpatient physiotherapy treatment in Malawi. The survey was conducted, using a six-part self administered questionnaire with questions on demographic information, participants' attitudes and beliefs regarding their low back pain, knowledge

about the course and causes of low back pain, beliefs regarding nine contributing factors to low back pain (identified in a Delphi study) and the sources of the participants' knowledge. The study concluded that most participants (91.2%) did not manage to answer all six questions regarding knowledge correctly and were regarded as 'partially knowledgeable' about the course and causes of low back pain. More than half (67%) portrayed negative attitudes and beliefs about low back pain in general. The findings also showed a statistically significant relationship between knowledge, attitudes and beliefs ($p = 0.04$)⁽³⁰⁾.

Low back pain could occur as a result of many contributing factors and the debate in the literature regarding the exact causes or contributing factors to the occurrence of low back pain is still inconclusive. However, both physical and psychosocial factors have been indicated as contributing factors to low back pain (31,34,35). The majority of our participants strongly believed that all nine factors (identified in the Delphi study) could contribute to the development or maintenance of their low back pain⁽³⁰⁾. Our participants strongly believed that factors including repetitive heavy lifting, physically demanding jobs, frequent twisting and bending of the spine and flexion combined with compressive forces to the lumbar spine, fear avoidance beliefs, injury to the back and previous history of low back pain could contribute to the occurrence of low back pain. In a study conducted by Samad et al in 2010 found that factors such as repetitive heavy lifting, prolonged sitting and prolonged flexing of the spine were also indicated as potentially contributing to the occurrence of low back pain⁽²⁹⁾. Fear avoidance beliefs and somatisation (feeling sick without an actual disease) may also increase the risk of pain chronicity, disability and abstinence from physical activities⁽³¹⁾. Because the causes or contributing factors of low back pain are several and seldom caused by a single factor⁽³²⁾, patients may hold different perceptions regarding the causes of their low back pain⁽³³⁾. Therefore, it is important for healthcare providers to identify patients' perceptions regarding the causes of their low back pain because this could help to clear the misconceptions they may hold regarding their pain and could also positively influence their choice of taking up a particular type of treatment⁽³⁶⁾.

According to my study most of the population was aware about the various criteria of symptoms and

methods of diagnosis through other patients suffering from low back pain or through social media and internet. Most of them were also aware about the role of physiotherapy for the same. Very little sample got to knowledge about low back pain from doctor or physiotherapist, so Health education regarding patient's low back pain should be included in the management programme of low back pain. Although patients are the experts of their experience of their own illness, they still need to be educated about their illness and its possible causes to enable them to make their own decisions regarding their heal.

Study limitation:

The result of the study is not generalizable as it is conducted in one geographic location with less samples.

Conclusion:

The rural population visiting the VikhePatil hospital exhibited good knowledge about Low back pain and its risk factors. Some misconception about the general facts and risk factors were identified.

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