

Research Article

Belief, Knowledge and Perception of Causes of Low Back Pain among Rural and Urban Dwellers in a Nigerian City

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Received: November 26, 2021; **Accepted:** December 23, 2021; **Published:** December 30, 2021**Abstract**

The study examined the belief, knowledge and perception of causes of low back pain among rural and urban dwellers in Nigeria. One hundred and ninety-two (192) participants (99 from rural and 93 from urban community) were recruited for this study. A modified questionnaire from a previous similar study from India was administered to each of the participants to complete. The completed questionnaire was collected immediately. Data was analyzed using descriptive and inferential statistics, alpha level, was set at 0.05.

Result showed that one hundred and thirty-three (71 urban and 62 rural) participants (133, 69.3%) perceived that pile was very important as a cause of low back pain. Considering the fear avoidance belief, 149 (69 urban and 80 rural) 77.6% agreed that low back pain get progressively worse in life. With regard to the knowledge of participants, 72 (45%) participants were able to answer two or three questions correctly and so were termed partially knowledgeable. Nature of work has significant association with each of the following perception, pile ($X^2=203.38$) and poor mattresses ($X^2=237.830$) as major cause of low back pain.

This study concluded that many residents in Ile-Ife are not adequately knowledgeable about LBP and had negative perception and beliefs regarding low back pain (LBP).

Keywords: Nigeria; Rural; Urban; Low back pain; Knowledge

Introduction

The Health seeking behavior of people who are suffering from musculoskeletal pain varies from one culture to another and cultural factors have been reported to have influence on attitude and perception to illnesses, such as defining what is regarded as “normal” and “abnormal”; determining the cause of the illness, decision making control in healthcare settings and impacting on health setting behavior [1]. The general public, including patients living with LBP, lack knowledge about the causes and contributing factors of LBP [2]. The biopsychosocial model of LBP acknowledges that cognitive, emotional, psychosocial, behavioral physical and social factors interact to perpetuate pain and should be addressed in integrated multimodal interventions [3]. In high-income countries, treatments have targeted the biopsychosocial factors associated with pain persistence and chronic low back pain (CLBP) disability in those contexts [4]. Psychological distress, fear avoidance beliefs, catastrophizing and illness perceptions have been associated with functional disability among LBP patients in such countries [4].

Most patients living with LBP lack knowledge and have negative perceptions regarding causes and contributing factors of LBP [5]. 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 [6]. 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 and the desired clinical outcomes [7]. This in turn may decrease the number of patients living with acute LBP

and transitioning to living with chronic LBP [8].

In the rural African contexts where beliefs, culture and common activities such as fetch water, farming and carrying heavy objects prevail, combined with high levels of poverty these may increase the consequences of living with LBP [9]. The choice of management of LBP has been observed to be of broad mainly because of inadequate knowledge about the causes of LBP which has led to some uncertainties [10]. Most patients living with LBP lack knowledge and have negative perceptions regarding causes and contributing factors of LBP [5]. 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 [6].

The study was designed to examine the attitude, knowledge and perception of both urban and rural community dwellers in Ile Ife about the causes of low back pain.

Methodology

Respondents

The respondents for this study were recruited among residents in Iyanfoworogi and Odo-Ogbe, Osun State.

Inclusion criteria

The respondents that participated in this study met the following criteria:

- Be a resident of Iyanfoworogi or Odo-Ogbe community
- Respondents must be thirty (30) years old and above.

Exclusion criteria

- Residents with medical challenges e.g. loss of eyesight.
- Residents who did not give their consent.
- Non-literacy in English or Yoruba.

Research design

The study was a cross-sectional survey.

Sampling technique

Respondents were selected using purposive sampling technique.

Sample size determination

The sample size was determined by using the formula for calculating sample size to estimate a proportion at a given precision level posited by Lwamga and Lemeshow [11].

$$N = \frac{Z(1-a)^2 p(1-p)}{D^2}$$

Where,

N=The minimum sample size

Z₀=Standard normal deviate of 0 at 95% confidence level (i.e. probability of making a type 1 error)=1.96.

100(1-a)%=Confidence level

P=Anticipated population proportion.

d=Absolute precision required on either side of the proportion (in percentage points).

Using this proportion;

Anticipated population proportion 10%, Confidence level 95%, Absolute precision (5%).

P=0.50

d=0.05

$$N = \frac{(1.96)^2 \times 0.15(1-0.15)}{0.05^2}$$

N=99.8

Hence, $99.8 * 2 = 199.6$ [12]

Therefore, a total number of 192 respondents were enrolled in this study (99 respondents in Iyanfoworogi and 93 respondents in Odo-Ogbe.

Site of study

The study was conducted in Iyanfoworogi, and Odo-Ogbe, Osun State.

Instruments

The instrument used for this study was a modified questionnaire (back belief questionnaire by Symonds et al (1996) and Pain Attitude Questionnaire [13] used in a previous study by Tarimo and Diener [14].

The questionnaire was divided into four sections:

Section A: Examined personal information such as age gender occupation; Section B: Assessed information on history of back pain; Section C: Collated information on knowledge beliefs and attitudes

towards low back pain; Section D: Evaluated response about expected recovery period following low back pain.

Procedure

Ethical approval was obtained from Health Research and Ethics Committee (HREC) of the Institute of Public Health, Obafemi Awolowo University, Ile-Ife. The purpose and procedures of the research work was explained to each of the respondents before they took part in the research and their consent was obtained prior to data collection. Each participant was given a copy of questionnaire to complete, the copy was collected as soon as it was completed.

Data analysis

Data was analyzed using descriptive statistics of mean, standard deviation, percentage and frequency. Chi Square was used to test the association of the variables.

Result

See Table 1-2c.

General beliefs about low back pain

Majority of the participants 71.4% have fear of avoidance beliefs about low back pain and belief they should avoid movement when they have LBP. One hundred and fourteen participants (59.4%) recorded that low back pain will not stop them from working, sixty-two (32.3%) agree that low back pain will stop them from working while three (1.6%) don't know. One hundred and forty-nine (77.6%) recorded that low back pain gets progressively worse later in life (Table 3).

Knowledge about cause and course of low back pain

Regarding the first question; forty-two participants (21.9%) were able to answer one question correctly and so were termed partially knowledgeable, one hundred and thirty-seven (71.4%) were not able to answer correctly or chose don't know and so termed not knowledgeable while none of the participants chose the two correct answers.

Table 1: Sociodemographic characteristics and occupational distribution of Respondents N=192.

Variables	Urban		Rural		Total	
	Frequency	%	Frequency	%	Frequency	%
Sex						
Male	48	51.8	52	52.1	100	51.6
Female	45	48.2	47	47.9	92	48.4
Marital Status						
Single	7	8.4	13	13.5	20	10.4
Married	64	77.1	73	76	137	71.4
Widow	9	10.8	8	8.3	17	8.9
Divorced	3	3.6	2	2.1	5	2.6
Nature of work						
Artisan	10	12	39	40.6	49	25.5
Civil Service	30	36.1	16	16.7	46	23.9
Trading	43	51.8	4	38.5	79	41.7
Farming	0	0	4	4.2	4	2.1

Table 2a: Perception of participants about the cause of low back pain N=192.

Variable	Moderately Import			Not Import			Slightly Import			Very Import		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Smoking	20	23	43	19	36	55	31	22	53	13	15	28
Food	18	32	50	8	8	16	15	12	27	40	44	84
Anxiety	9	0	9	58	91	149	13	5	18	3	0	3
Pile	10	21	31	1	0	1	1	13	14	71	62	133
Poor mattress quality	14	27	41	2	4	6	4	6	10	63	59	122
Witches	0	29	29	80	12	92	3	14	17	0	41	41
Herbalist	4	32	36	76	8	84	2	8	10	1	48	49
Sexual Intercourse	27	33	60	12	4	16	10	10	20	34	49	83
Co-morbid disease	10	11	21	49	58	107	24	27	51	0	0	0
Compensation situ	9	5	14	69	34	103	5	49	54	0	8	8
Birth defect	13	16	29	17	16	33	22	33	55	30	31	61
Degenerative joint	12	20	32	14	25	39	23	28	51	33	23	56
Depression	0	5	5	82	80	162	1	10	11	0	0	0
Fear avoidance beliefs	0	0	0	83	85	168	0	11	11	0	0	0
Bending	15	26	41	4	4	8	11	5	16	52	61	113

Table 2b: Perception of participants about the cause of low back pain N=192.

Variable	Moderately Import			Not Import			Slightly Import			Very Import		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Twisting and bending	18	34	52	23	10	33	12	8	20	30	44	74
Gender	4	9	13	78	61	139	1	22	23	0	4	4
Leg length discrepancy	12	9	21	42	46	88	10	22	32	19	19	38
Obesity	0	5	5	83	78	161	0	13	13	0	0	0
Age	26	6	32	45	63	108	4	14	18	8	13	21
Lack of understanding of pathology	6	7	13	59	67	126	12	14	26	3	4	7
Perception on work	17	27	44	8	27	35	10	18	28	48	24	72
Future problems	22	31	53	34	28	62	7	9	16	19	28	47
Physically demand wk	20	26	46	7	0	7	9	28	37	47	42	89
Posture	31	10	41	0	63	63	12	17	29	0	6	6
Pregnancy	19	46	65	1	1	2	13	13	26	50	36	86
History of back pain	35	24	55	9	38	47	19	34	53	20	0	20
Prolonged sitting	14	25	39	4	12	16	7	55	62	58	4	62
Repetitive heavy lifting	24	38	62	2	13	15	13	23	36	44	22	66

Table 2c: A perception of participants about the cause of low back pain N=192.

Variable	Moderately Import			Not Import			Slightly Import			Very Import		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Self-efficacy beliefs	23	0	23	3	91	94	11	5	16	46	0	46
Psychological stress	8	10	18	59	69	128	16	17	33	0	0	0
Some sports activity	21	24	45	43	63	106	15	9	24	3	0	3
Spouse relations	8	10	18	58	63	121	17	23	40	0	0	0
Stressful life events	10	37	47	57	15	72	16	40	56	0	44	44
Trauma or injury	24	37	61	8	0	8	18	5	23	33	54	87
Types of the chair use at home or work	28	59	87	12	24	36	12	5	17	30	8	38

Table 3: General beliefs about low back pain N=192.

Variables	Agree			Disagree			Don't Know		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Avoid movement because of LBP	64	73	137	16	19	35	3	4	7
Pain acceptance facilitate recovery	36	43	79	47	53	100	0	0	0
Only health personnel cure LBP	12	10	22	71	86	157	0	0	0
Self-management on LBP has no effect on recovery	12	9	21	71	87	158	0	0	0
LBP eventually stop you from working.	39	33	72	44	63	107	0	0	0
LBP will last you for the rest of your life.	56	2	58	26	94	120	1	0	1
LBP will never stop you from doing what you want To do	52	62	114	30	32	62	1	2	3
Abstain from your duties and avoid physical activity	52	68	120	30	28	58	1	0	1
Having LBP may mean you will end up with disability	44	52	96	39	44	83	0	0	0
You can control the amount of pain you feel by Changing your thoughts.	47	54	101	36	42	78	0	0	0
To know about your pain, best is go to health care Facility	51	61	112	32	35	67	0	0	0
LBP gets progressively worse later in life	69	80	149	14	16	30	0	0	0

Table 4: Knowledge about cause and course of low back pain N=192.

Variables	Full Knowledgeable			Partial Knowledgeable			Not Knowledgeable		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
With regards to acute LBP: Mark two most correct statements	0	0	0	24	18	42	59	78	137
These could cause LBP: Mark two most Correct.	40	0	40	43	74	117	0	22	22
These factors could contribute to development of LBP	11	38	49	38	34	72	34	24	58
To protect your spine: Mark the two most correct Statements	29	0	29	10	80	90	44	16	60
In relation to spinal protection: Mark one Statement which is wrong.	35	26	61	0	0	0	48	70	118
The following could be reason for LBP	47	28	75	36	43	97	0	0	0

Regarding the third question; seventy-two (45%) participants were able to answer two or three question correctly and so were termed partially knowledgeable, fifty-eight (30.7%) answered just one correct answer or chose don't know and so termed not knowledgeable while 49 (24.3%) chose the four correct answers and so termed fully knowledgeable (Table 4).

Association between perception of causes of low back pain and some sociodemographic variables of respondent

Table 5 shows the association between perception of the causes of low back pain and each of sex, marital status and nature of work. Chi square result showed that there was a significant association between perception of causes of low back pain as regard pile and each of sex $\chi^2=194.793$ ($p<0.001$), marital status (205.973, $p<0.001$) and nature of work $\chi^2=(230.383$ $p<0.001$) (Table 5).

Discussion

This study determined the perception, beliefs and knowledge of causes of low back pain among rural and urban dwellers. Literature reported that Nigeria appears to have one of the greatest burdens of LBP in the world, possibly accounted for by people living in rural areas [15]. The results of this study showed that there were more males respondents in the study than females. According to the National population Estimate [16] there were slightly increase in number of males compare to the female population in Nigeria including Ile Ife where the study was carried out. This may be one of the reasons why males were more than females among the study population. Traders were found to be more in the study because one of the study sites

is situated close to a well-known trading and commercial center in the city of the study. On the perceived cause of low back pain, close to seventy percent respondents believed that pile was an important cause of low back pain while more than sixty percent demonstrated poor mattresses and close to sixty percent reported bending as being very important factors. There are many contributing physical and psychosocial factors to causes of LBP with an inconclusive evidences form literature on which exactly the most important factors [14,17-19]. The perception of pile being the most important by some respondents as a cause of low back pain was wrong. Pile is also known as hemorrhoids, which are swellings of large blood vessels inside and around the bottom [20]. However, there was no link between hemorrhoid and low back pain from literature. On the other hand the perception about each of poor mattresses and bending as causes of low back pain were in line with literatures. Different authors reported poor mattresses and bending as factors that can cause and contribute to low back pain [21,22]. It could then be observed that a sizeable number of respondents in this study have relatively good perception on the causes of low back pain. Back injuries that occur in the workplace are majorly from ligaments, tendons, muscles and disc of the spine. They resulted from long duration repeated movement of which cumulated to tear of the muscle. Such repeated movement includes pulling, straining, reaching, twisting and bending which invariably put stress on the spinal structure and cause weakness there by increase the injury risk [Mazanec 2021]. Literature reported that an individual sleeping on a bad mattress may have back pain or back pain become worse, the spine will not be properly supported by the mattress which will lead to poor sleeping posture, muscle strain and

Table 5: Association between perception of causes of low back pain and some sociodemographic variables.

Variable	MI	NI	SI	VI	X ²	P Value
Pile is major cause of Low back pain						
Female	19	1	6	67		
Male	12	0	6	66	194.793	0
Marital Status						
Divorced	1	0	0	4		
Married	26	0	10	101	205.973	0
Single	3	1	3	13		
Widow	0	0	1	17		
Nature of work						
Artisan	11	0	4	34		
Civil servant	5	0	7	34	230.383	0
Farmer	2	0	0	2		
Trader	9	1	3	63		
Poor Mattresses						
Female	16	3	7	60	195.582	0
Male	25	3	3	62		
Marital status						
Divorced	0	0	0	4		
Married	26	5	7	11	204.3	0
Single	3	1	0	17		
Widow	1	0	3	10		
Nature of work						
Artisan	15	1	4	29		
Civil servant	5	2	1	38		
Farmer	2	2	0	0	237.83	0
Trader	19	1	5	55		

Key: MI: Moderately Important; NI: Not Important; SI: Slightly Important; VI: Very Important; cserv: Civil Servant.

poor alignment of the spine [21].

Some of the rural and urban dwellers also ascribe some other factors to causes of low back pain because cultural beliefs manifest in the way people interpret illnesses, especially when they do not have an adequate explanation for the symptoms which may in turn affect treatment outcome as stated by Igwesi-Chidobe et al. [23]. Some other causes according to the report were herbalist, witches, sexual intercourse and many others, these are some of the reasons why some individuals with low back pain will not approach orthodox medicine for intervention. A higher percentage of the participants believed that activities at the work place such as heavy physical work, poor posture and prolonged sitting or standing were responsible for their LBP, which is in agreement with the study of Omokhodion et al. [24]; but on the contrary, most participants, close to sixty percent felt that comorbidity diseases were not important in causing low back pain [25].

Concerning general beliefs of low back pain, more than seventy percent believes they should avoid movement due to their low back pain and that people with LBP should avoid physical activities and abstain from their regular duties for fear of causing more injury to

their back. The believe is relatively right in the sense that movement of an injured tissues can result in to further damage of such a tissues and invariable complicate the signs and symptoms of the problems. One of the reasons while there is recurrent and prolonged low back pain is altered spinal motor control [26,27].

Furthermore, close to eighty percent held a belief that their LBP will get progressively worse, this is in agreement with previous study by Tarimo and Diener [14]. The findings from this study serves as evidence while low back pain is one of the major reasons why workers are absent from work [28,29]. Based on the answer supplied by participants about cause and course of low back pain only a small percentage was termed fully knowledgeable, but most were termed partially knowledgeable. These results are in agreement with the results of the previous study by Tarimo and Diener [14]. Also, the urban dwellers were seen to be more knowledgeable compared with the rural dwellers. The reason for this could be because urban dwellers have a higher level of exposure and most residents are learned. They have access to the internet facility, radio and television information and many other sources of information that can enrich their knowledge base. It was observed from the results that a significant association was found between perception of cause of low back pain especially pile, and nature of work. Although this perception was wrong but the informs that there area lot of wrong information and advices that people usually get from the work place. The major reason while many low back pain patients consult herbs and self medication as means of treatment for low back pain. On the other hands, there were significant associations between poor mattresses and bending even with nature of work. The inference from this is that as patient learnt what is wrong, they also learnt what is right from the work places. The work place is station from social interaction where there can be dissemination of information both the right and wrong ones. Various factors (Age, poor mattress, workplace and psychosocial) were shown to be associated with each of gender and marital status.

Conclusion

It can be concluded from the study there are both right and wrong perception about the causes of low back pain, the fear avoidance belief was good there was inadequately knowledge about LBP among the study population.

Limitation

This study did not differentiate between perception, beliefs and knowledge between participants without low back pain and participants with low back pain and so future studies may address this.

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