


Patients' Experiences About Exercise Prescription and Education in the Physiotherapy Management of Nonspecific Low-Back Pain

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Abstract

Low-back pain (LBP) is highly prevalent in the society, and its socioeconomic consequences are quite evident. Physiotherapists play a prominent role in the management of individuals with this condition, and it is, therefore, of utmost importance that physiotherapists engage in the most efficient and effective management practices available. For perceptions of good performance and quality health care, patient experience is an important indicator of effective care and management. A mixed-methods research design—a cross-sectional survey (quantitative research) and a focus group discussion (FGD; qualitative research)—was employed in this study, investigating patients' experience in physiotherapy management of nonspecific LBP. An adapted questionnaire was used for data collection from purposively selected participants recruited from 3 hospitals in Kubwa, Abuja, from April to August 2018. The FGD involved 6 patients recruited by simple random sampling using the fishbowl technique. Descriptive and thematic analyses were done on data collected. A total of 126 patients (male = 41, female = 85) were included, with a mean age of 51.0 ± 14.6 years, while the modal age-group was 60 to 69 years. Of these, 41 (32.5%) had nonspecific LBP for less than a year, and the 2 most applied interventions were exercise and heat therapy, followed by education/advice. In all, 110 (87.3%) reported positive experience about education, while 119 (94.4%) reported positive experience about exercise prescription. The result from the qualitative research is in conformity with that of the quantitative analysis. Patients with nonspecific LBP received adequate education regarding their condition and had good experience in the course of their physiotherapy management.

Keywords

patient education, exercise prescription, physiotherapy management, nonspecific low-back pain

Introduction

Low-back pain (LBP) is a condition of pain, aches, muscle tension, or stiffness, which is localized to the lumbosacral region of the spine (1). Nonspecific LBP is believed to stem from benign musculoskeletal problems such as muscle or soft tissue sprain or strains. This is particularly true when the pain arises suddenly during the physical loading of the back (2).

Low-back pain is considered a major health problem due to its high prevalence, high probability of recurrence, and associated disability (3). It poses an economic and social burden to the society and incurs billions of dollars in medical expenditure each year (4). Low-back pain occurs in similar proportions in all cultures, interfering with the quality of life and work performance (5). It has been estimated that about

80% of the general population will report LBP at one point or the other in their life (3). In Nigeria, Omokhodion (6) found from a study of an urban population that 12-month prevalence of LBP was 44%, while the point prevalence was

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39%. Sanya and Ogwumike (7) in a survey of industrial workers in the private sector reported the point and 12-month prevalence of LBP as 59.7% and 59.5%, respectively. Ayanniyi et al (8) reported lifetime and point prevalence of back pain among Nigerian adolescents as 59% and 17%, respectively. Adegoke et al (9) found from a study on secondary school students that the lifetime, 12-month, 1-month, and point prevalence rates of adolescent LBP were 58.0%, 43.8%, 25.6%, and 14.7%, respectively.

Physiotherapists are the leading providers of care for patients with LBP, and in fact, LBP may account for over 50% of referrals to outpatient physiotherapy departments (10). It, therefore, goes without saying that due to its high prevalence and socioeconomic consequences, it is important that physiotherapists engage in the most efficient and effective management practices available for individuals with LBP. In addition, the recurrent and self-limiting nature of LBP underscores the importance of effective management and a patient-centered approach in order to appropriately enhance patient experience (11). It is particularly noteworthy that there is an increasing acknowledgment that patient experience is now a top priority for health care leaders (12).

According to Bowling et al (13), patients' experience is defined as their direct, personal observations of their health care. It is the sum of all interactions, shaped by an organization's culture, that influence patient perceptions across the continuum of care (12). Patient experience is strongly related to patients' expectations and whether they are positively realized or not. It moves beyond concepts such as patient satisfaction because patient experience is more than satisfaction alone. Jenkinson et al (14) describe experience as a report of what occurred in a patient's health care encounter and satisfaction as their evaluation of that encounter. Thus, patient experience may be more helpful in pinpointing areas for improvement (14).

Guidelines for the treatment of LBP are widely available and are being used to improve patient care (15). According to these guidelines, treatment should consist of an active approach comprising reassurance, adequate information (education), and exercise prescription. These 2 are a hallmark of effective patient care in the management of LBP, especially the nonspecific (15).

Education has been defined as a planned experience aimed at influencing patients' behavior and knowledge using counseling, teaching, and behavior modification methods (16). The primary goals for education are enhancing both patient compliance with treatment and behavioral change, and adherence to prescribed treatment increases the likelihood that treatment will be effective (17). Patient education increases patients' knowledge on their condition and can reduce the consequences of pain, anxiety, fear avoidance, and kinesiophobia (18). Additionally, it reduces the risk of pain chronicity and promotes positive patient beliefs and related behavior regarding LBP (18).

Exercise prescription is the successful integration of exercise principles and behavioral techniques which motivates

the participant to achieve their goals (19). The major roles of exercise are reduction in the number of recurrences of LBP and decline in the number of sick leaves consequent to LBP (20). Exercise programs have been successful when focusing on the prevention of pain and disability by involving the patient's participation.

In recent years, perceptions of performance and quality of health care organizations have begun to move from examining the provision of excellent clinical care alone to considering and embracing patient experience as an important indicator of effective care and management (12). Given the place of prevention in physiotherapy practice and education as the primary preventive strategy, with exercise as one of the most frequently recommended intervention in guidelines for LBP management, feedback from patients' experience regarding whether these interventions were included in their treatment and the overall effect on the outcome of intervention requires investigation.

Patient satisfaction surveys have remained the most common type of feedback in physiotherapy. However, health service research has recently criticized the concept of patient satisfaction because of its lack of sensitivity to problems with the specific processes that affect the quality of health care delivery (21). Although patient satisfaction surveys elicit information on patients' evaluation of what occurred during care, feedback from patients' experience indicates whether or not certain processes or events occurred during care (22). In essence, studies on patients' experience across the continuum of care of LBP are scarce; therefore, this study attempted to investigate patients' experiences about education and exercise prescription in the physiotherapy management of nonspecific LBP.

Methodology

Participants and Setting

Participants were individuals being managed for nonspecific LBP and were recruited from physiotherapy departments of selected 3 hospitals in the Abuja metropolis: National Hospital, University of Abuja Teaching Hospital, and General Hospital Kubwa, Abuja. These hospitals form part of major referral centers for the management of patients with LBP and they are composed of 25 to 60 hospital bed spaces. Ethical approval was obtained from the University of Ibadan/University College Hospital joint health research ethics committee and the heads of departments of the hospitals where participants were recruited in order to seek approval for the study before the commencement of data collection. The purpose and procedure for the study were explained to would-be participants, and their informed consent was obtained before participation in this study. The study employed a mixed-methods research design.

Quantitative research design. This involved a cross-sectional survey of participants in which a 46-item questionnaire was

used for the assessment of patients' experience on education and exercise prescription. The questionnaire was adapted from existing instruments, such as Patients' Experiences in Post-Acute Outpatient Physical Therapy Questionnaire by Medina-Mirapeix et al (21), the Generic Short Patient Experiences Questionnaire by Sjetne et al (23), and the Picker Patient Experience Questionnaire by Jenkinson et al (14). The adapted questionnaire was assessed for content validity at a departmental postgraduate seminar and by 6 physiotherapy lecturers after which it was translated to Hausa language by a linguistic expert at the Bayero University, Kano. The resulting questionnaire consisted of 2 parts. Part A consists of 14 items on the sociodemographic and clinical characteristics of the participants. Part B comprises 2 sections: section 1 has 11-item close-ended questions on information about participants' LBP condition, whereas section 2 has 18-item close-ended questions on the mode of treatment received and 3-item open-ended questions to confirm the patient's present impression of LBP status. Copies of the questionnaires were distributed to each participant for self-administration, and completed copies of the questionnaires were collected by the researcher.

Qualitative research design. This employed a focus group discussion (FGD) that was conducted among participants from the General Hospital-Kubwa, Abuja. Six participants with LBP were involved in the FGD, including members of the research team comprising such as the moderator, the notetaker, and the transcriptionist, all trained and knowledgeable about FGD. A focus guide was developed to guide the discussion. The FGD was guided by the moderator and participants were encouraged to talk freely and spontaneously as the discussions were held to the point of saturation. There were 2 FGDs, each lasting for a period of about 1 hour 15 minutes and 1 hour, respectively. Each session was recorded, and the notetaker took notes during the discussion. The audio-taped information from the FGDs was transcribed verbatim, and content analysis of the transcripts was carried out by the transcriptionist who is knowledgeable in qualitative analysis.

Statistical Analysis

Descriptive statistics of mean and standard deviation were used to analyze continuous variables, while categorical variables were calculated as frequencies and percentages in order to summarize sociodemographic and other variables of the participants. The level of significance was set as .05. Content thematic analysis was used to analyze the qualitative study.

Results

Quantitative Analysis

A total of 141 participants were recruited for this study. Fifteen of them did not fill their questionnaires properly and

Table 1. Characteristics of Participants in the Study (N = 126).^a

Characteristics	n	%
Age group		
20-29	16	12.7
30-39	16	12.7
40-49	21	16.7
50-59	28	22.2
60-69	38	30.2
70-79	7	5.6
Gender		
Male	41	32.5
Female	85	67.5
Marital status		
Single	29	23.0
Married	63	50.0
Widowed	34	27.0
Level of education		
Primary	13	10.3
Secondary	20	15.9
Tertiary	93	73.8
Employment status		
Unemployed	47	37.3
Employed	79	62.7
Personal income		
Low	65	51.6
Average	17	13.5
High	44	34.9
Social support		
Yes	30	23.8
No	96	76.2

^aN = total number of participants in the study; n = frequency of variables in each group; % = percentage occurrence.

had to be exempted from the study. Only 126 had their questionnaires correctly filled. This gave a response rate of 89.4%.

Characteristics of Participants

This study included 126 patients with nonspecific LBP. The mean age of the participants was 51.0 ± 14.6 years, ranging from 22 to 74 years. Most of the participants were females (85 [67.5%]). Sixty-three (50%) of the participants were married, the majority of them (93 [73.8%]) had tertiary education, and 79 (62.7%) were employed. Forty-six (36.5%) of the participants had very low income, while 17 (13.5%) had average income. However, a majority of 96 (76.2%) participants were not on any social support. Fifty-three (40.5%) have their LBP radiating to the right lower limb, and 66 (52.4%) of the participants have been receiving physiotherapy treatment for over a year. These data are presented in Table 1. When classified according to the duration of nonspecific LBP, 113 (89.7%) had chronic nonspecific LBP, with 77 (61.1%) reporting their health status as fair and 64 (50.8%) indicated some specific additional health problems such as musculoskeletal pain (osteoarthritis, rheumatoid

Table 2. Health Profile of Participants in the Study (N = 126).^a

Variables	Duration of Low-Back Pain			
	Acute, n (%)	Subacute, n (%)	Chronic, n (%)	Total, n (%)
Perceived health status				
Good	0 (0)	2 (1.6)	37 (29.4)	39 (31.0)
Fair	2 (1.6)	8 (6.3)	67 (53.2)	77 (61.1)
Poor	1 (0.8)	0 (0)	9 (7.1)	10 (7.9)
Total	3 (2.4)	10 (7.9)	113 (89.7)	126 (100)
Health problems				
None	2 (1.6)	9 (7.1)	51 (40.5)	62 (49.2)
Musculoskeletal pain	0 (0)	1 (0.8)	28 (22.2)	29 (23.0)
Hypertension	0 (0)	0 (0)	29 (23.0)	29 (23.0)
Diabetes	1 (0.8)	0 (0)	5 (4.0)	6 (4.8)
Total	3 (2.4)	10 (7.9)	113 (89.7)	126 (100)

^aN = total number of participants in the study; n = frequency of variables in each group; % = percentage occurrence.

Table 3. Experience About Education and Exercise Prescription Among Participants in the Study (N = 126).^a

Experience	Duration of Low-Back Pain			
	Acute, n (%)	Subacute, n (%)	Chronic, n (%)	Total, n (%)
Education				
Positive	3 (2.4)	10 (7.9)	97 (77.0)	110 (87.3)
Negative	0 (0)	0	16 (12.7)	16 (12.7)
Total	3 (2.4)	10 (7.9)	113 (89.7)	126 (100)
Exercise prescription				
Positive	3 (2.4)	10 (7.9)	106 (84.1)	119 (94.4)
Negative	0 (0)	0	7 (5.6)	7 (5.6)
Total	3 (2.4)	10 (7.9)	113 (89.7)	126 (100)

^aN = total number of participants in the study; n = frequency of variables in each group; % = percentage occurrence.

arthritis, and shoulder pain), hypertension, and diabetes, as summarized in Table 2.

Experience of Participants Concerning LBP Education and Exercise Prescription

Of the 126 participants of this study, 110 (87.3%) had positive experience about education. Three (2.4%) participants with acute and 10 (7.9%) with subacute nonspecific LBP had positive experience about education, while 97 (77.0%) chronic nonspecific LBP participants had positive experience about education. In all, 119 (94.4%) had a positive experience about exercise prescription. Of these, 3 (2.4%) had acute, 10 (7.9%) had subacute, and 106 (84.1%) had chronic nonspecific LBP (Table 3).

Participants' Responses on Their LBP Symptoms

Participants reported varied interventions that helped to improve their LBP symptoms. Exercise (n = 66, 52.4%) was

Table 4. Participants' Responses on Their Low-Back Pain Symptoms (N = 126).^a

Responses	n	%
What they feel helped their LBP symptoms		
Exercise	66	52.4
Advice/education	26	20.6
Exercise and advice/education	20	15.9
Regular physiotherapy	7	5.6
Heat therapy	4	3.2
Massage	3	2.4
Total	126	100
What they feel can help their LBP symptoms		
Exercise	76	60.3
Continuous physiotherapy	29	23.0
Advice/education	21	16.7
Total	126	100
Why they feel their LBP problem has not improved		
Inconsistency with exercise	26	20.6
Late commencement of physiotherapy treatment	24	19.0
Inconsistency with home programs	14	11.1
Break in physiotherapy treatment	10	7.9
Improved	52	41.3
Total	126	100

Abbreviation: LBP indicates low back pain.

^aN = total number of participants in the study; n = frequency of variables in each group; % = percentage occurrence.

the most frequently reported and was what 76 (60.3%) of the participants felt helped improve their LBP symptoms. While 52 (41.3%) of the participants reported improvement in their LBP problem, others reported varied reasons for lack of improvement of their LBP symptoms, with inconsistency of exercise being the most frequently reported by 26 (20.6%) of participants. This is presented in Table 4.

Qualitative Data Analysis

Qualitative aspect of this study was done to further explore the experiences of the participants about education and exercise prescription in the physiotherapy management of nonspecific LBP that may not be captured in the questionnaires. Focus guide was developed using themes from the questionnaire. Responses from the participants were used to identify whether education and exercise were included in the course of their management. Measures such as ensuring clarity, accuracy, and trustworthiness through triangulation were taken to enhance the credibility of the qualitative data collected from the FGD. The discussion was set to encourage naturalistic data that were cross-checked through note-taking, identifying themes through recordings and transcription by a transcriptionist. Prolonged engagement with the participants was ensured, and data were collected to the point of saturation. Trustworthiness was ensured during qualitative data collection and analysis by utilizing detailed transcription, systematic plan and coding, and triangulation.

Table 5. Themes, Subthemes, and Descriptions of Patients' Experiences Regarding Education and Exercise Prescription in Management of Nonspecific LBP.

Themes	Subthemes	Description
Patient education	Cause of LBP	They were informed about the cause of their LBP
	Back care education	They were informed about modifying their activities
Mode of treatment	Rx since initial visit	Exercise was included in their treatment
	Rx on average session	Five participants reported that exercise was included on average session
	Effect of Rx	All participants reported to have great improvement with Rx received

Abbreviations: LBP, low-back pain; Rx, treatment.

Context on Patient Education

The theme was brought in with the purpose of exploring the participants' experiences about patient education in the physiotherapy management of nonspecific LBP since education has been reported to be essential in the effective management of patients with nonspecific LBP. The question asked was, "What is your understanding about your LBP condition." In an attempt to explore the participants' views about the question, they were allowed to express their views and further probed on the following subthemes: (1) cause of LBP and (2) back care education (Table 5).

Cause of LBP. Participants did not know the cause of their LBP prior to commencing treatment. Participant 01, male, 2 years of receiving physiotherapy treatment, said,

I used to think I dislocated my back and was told by my pastor that it is from spiritual attack, so I began prayer sessions but there was no improvement. I was enlightened about my condition and its cause from the physiotherapist in this hospital.

Participant 02, female, 1 year of receiving physiotherapy treatment, said, "I didn't know about the cause of my condition initially, but I now understand that the pain is due to constant bending and lifting of heavy objects. I got this information from my physiotherapist." Participant 04, male, 2 years of receiving physiotherapy treatment, said,

I didn't know about the cause of the severe pain on my back until I came to the hospital where the doctor told me to take an X-ray of the back and subsequently referred me for physiotherapy. The physiotherapist explained to me that the low-back pain is from lumbar spondylosis.

Participant 05, female, 2 years of receiving physiotherapy treatment, said,

I wasn't sure what the cause of my low-back pain was initially. I was told by relatives that it is due to piles. However, I was enlightened by my physiotherapist that the cause of my low-back pain is lumbar spondylosis.

Participant 06, male, 2 years of receiving physiotherapy treatment, said, "Initially, I thought I had spinal cord injury.

But after being referred for physiotherapy, the physiotherapist explained why I have low-back pain."

Back care education. All the participants admitted that "their activities were modified by physiotherapists." Participant 02, female, 1 year of receiving physiotherapy treatment, said "I now use long broom when sweeping and avoid bending my back. I was advised by the physiotherapist to bend through the knees when picking objects from the floor." Participant 03, male, 9 months of receiving physiotherapy treatment, said, "I now sit on chairs with back support; bending through the knees rather than bending the back when lifting objects; and avoid lifting heavy objects." Participant 06, male, 2 years of receiving physiotherapy treatment, said, "I now bend with my knees instead of bending the back when lifting objects."

Context on Mode of Treatment

This theme was brought in with the purpose of exploring whether exercise was included in the participants' course of physiotherapy management of nonspecific LBP. The question asked was, "Can you describe the treatment you received for your LBP at the physiotherapy department." In attempt to explore the participants' views about the question, they were allowed to express their views and further probed on the following subthemes: (1) treatment since initial visit, (2) treatment on average session, and (3) effect of treatment (Table 5). All participants stated that "treatments were modified, changed, and progressed depending on the intensity of pain and level of improvement. The type of treatment (especially exercise) prescribed at the early stages of commencing physiotherapy is different from the ones currently prescribed."

Treatment since initial visit. All the participants listed "exercise" as part of the treatment received since initial visit. Participant 02, female, 1 year of receiving physiotherapy treatment, said, "The treatments include heat therapy, massage, TENS, exercise, and home programs." Participant 04, male, 2 years of receiving physiotherapy treatment, said, "The treatments I received include advice/education, heat therapy, TENS, massage, exercise, and home programs." Participant 05, female, 2 years of receiving physiotherapy

treatment, said, "The treatments include advice/education, heat therapy, massage, exercise, and home programs."

Treatment on average session. Five of the participants listed "exercise" as part of treatment received on an average session. Participant 01, male, 2 years of receiving physiotherapy treatment, said, "On an average session, I received heat therapy and exercise." Participant 02, female, 1 year of receiving physiotherapy treatment, said, "I was treated using heat therapy, massage, TENS, and exercise on an average session." Participant 06, male, 2 years of receiving physiotherapy treatment, said, "On an average session, treatment received were heat therapy, massage, and exercise."

Effect of treatment. All participants admitted having "great improvement in low-back pain symptoms with the treatment received." Participant 02, female, 1 year of receiving physiotherapy treatment said, "I used to find it very difficult to walk long distance, but since the time of commencing physiotherapy treatment, I am now able to walk a considerable distance." Participant 03, male, 9 months of receiving physiotherapy treatment, said, "I could not sit for a long period of time prior to commencing physiotherapy treatment, but I can now sit for a long period of time." Participant 04, male, 2 years of receiving physiotherapy treatment, said, "The intensity of pain has decreased." Participant 05, female, 2 years of receiving physiotherapy treatment, said, "The pain on my back has reduced."

Discussion

Characteristics of Participants

Thirty-seven (30.2%) of the participants in this study were within the age range of 60 to 69 years. This observation is in line with that of Hoy et al (24) who reported that the overall prevalence of LBP increases until age 60 to 65 years. The results of this study showed that the majority of the participants were females. This is similar to the report by Schneider et al (25) and Wáng et al (26) that more females than males are likely to have LBP complaints. Most of the participants had tertiary education, a finding which is in contrast to that of Hoy et al (24) with an observation that an increased prevalence of LBP is associated with patients of low educational status. Most of the participants (113 [89.7%]) had chronic nonspecific LBP. According to Murray et al (27), chronic nonspecific LBP has been ranked first in terms of disability-adjusted life years in Australia and Western Europe from the Global Burden of Disease study. Despite the economic burden of this condition in an environment of rising health care costs and limited state funding, the findings from this study revealed that 96 (76.2%) of the participants were not on any social support. It was also observed that more than half have been receiving physiotherapy treatment for over a year and that majority rated their health status as fair, indicating that the LBP symptoms were still

persistent. Henschke et al (28) similarly reported that even after 1 year, more than one-third of patients with nonspecific LBP have persistent symptoms.

Participants' Experience About Education and Exercise Prescription

The result of this study showed that most of the participants had positive experience about education and exercise prescription. In keeping with the drive to involve patients in the design and evaluation of health care services (29,30), this study explored the views of the participants regarding the physiotherapy treatment received. The majority of the participants responded that they feel exercise and education helped improve their LBP symptoms. This further indicates that the physiotherapist educated and prescribed exercise to the participants. However, despite the participants' positive experience confirming that physiotherapists educate and prescribe exercise, it was observed that most of them have been receiving treatment for more than a year. The reason for this could probably be due to factors such as late commencement of physiotherapy, inconsistency with exercise and home programs, and break in physiotherapy treatment sessions as highlighted by the participants. Break in physiotherapy treatment sessions is probably due to the inability of some of the patients to consistently pay for physiotherapy services due to the lack of effective social support.

The result from the FGD is in conformity with that of the quantitative analysis. The 2 most applied interventions for the participants were exercise and heat therapy followed by education/advice. This is consistent with the recommendation by guidelines that treatment should consist of an active approach comprising reassurance, adequate information (education), and exercise prescription (15). It was observed from the FGD that most of the participants did not know the cause of their LBP until they were informed and educated by the physiotherapists. Some erroneously attributed it to spiritual attack, fracture, dislocation, pile, or spinal cord injury. It was also observed from the FGD that there was follow-up in exercise prescription.

Strengths and Limitations of the Study

This study appears to be the first to explore patients' experiences about education and exercise prescription in the physiotherapy management of nonspecific LBP in Nigeria. This situation limits the extent to which findings from this study can be compared to similar/related studies. Also, the lack of previous research in this area makes this study unique while making a comparison with similar studies in Nigeria impossible. The result from this study may not be extrapolated to other conditions since the study focused only on nonspecific LBP. The authors agree that moderating and analysis of the qualitative component by authors could introduce bias.

Conclusion

In this study, most patients with nonspecific LBP reported having a positive experience on education and exercise prescription, indicating that physiotherapists educated and prescribed exercises to the participants. Improved social support for individuals with LBP is of paramount importance to reduce economic burden and enable early commencement and sustained management of LBP until full recovery.

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