

Burden of Chronic Low Back Pain and Its Predictors of Health-Related Quality of Life among Adults in North-Central Nigeria: Evidence from a Family Medicine Clinic

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<p>Abstract: Chronic low back pain (CLBP) remains a major public health challenge, imposing a heavy burden on adults attending primary care clinics by increasing healthcare costs and reducing daily functioning. Despite its prevalence, few epidemiological studies have explored its impact on health-related quality of life (HRQoL) in North-Central Nigeria. This study investigated predictors of HRQoL among adults with CLBP through a descriptive cross-sectional design involving 264 participants aged 40 years and above at the General Outpatient Clinic of the Federal Medical Centre, Keffi. Data were obtained using structured interviewer-administered questionnaires, with pain intensity assessed by the Visual Analogue Scale, disability measured by the Oswestry Disability Index, and HRQoL evaluated using the Short-Form Health Survey (SF-12). Outcomes were dichotomized into poor and good HRQoL categories, and statistical analysis was conducted using Epi Info version 7.0 with significance set at $p < 0.05$. Findings revealed that most participants were between 40 and 60 years of age (mean 54.6 ± 6.38), with females accounting for 64.8% of the sample. CLBP was shown to significantly impair HRQoL, particularly in physical functioning and overall well-being. Independent predictors of poor physical health included female gender, smoking, pain duration less than 12 months, and severe pain intensity, while poor mental health was predicted by female gender, smoking, severe disability, and severe pain intensity. These results underscore the profound impact of CLBP on both physical and mental domains of HRQoL and highlight the need for multidisciplinary and biopsychosocial interventions to improve outcomes and enhance quality of life among affected patients.</p>	<p style="text-align: center;">Research Paper</p>
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INTRODUCTION

Low back pain (LBP) is a growing global health problem, affecting more than one-third of adults annually. It is the leading cause of disability worldwide, contributing substantially to years lived with disability (YLD). In Africa, prevalence rates are particularly high, with lifetime prevalence reaching 62%. Chronic low back pain (CLBP), defined as pain persisting beyond 12 weeks, is especially debilitating, often resulting from lumbar spondylosis and associated with reduced mobility, stiffness, and impaired daily functioning (Alfalogy E., *et al.*, (2023); Aminde J. A., *et al.*, (2020); Al-Mutairi, M.D. (2019). Health-related quality of life (HRQoL), encompassing physical, mental, and social

well-being, is a critical outcome measure in CLBP management. Factors such as age, gender, marital status, education, pain severity, and duration influence HRQoL. However, evidence from African settings remains limited, particularly in North-Central Nigeria. Duceac, M., *et al.*, (2025); Eromon, P. E., *et al.*, (2020); Fay, M., & Black, M. (2024). This study therefore investigated predictors of HRQoL among adults with CLBP in this region.

AIM AND OBJECTIVES

Aim:

The primary aim of this study was to assess the burden of chronic low back pain (CLBP) and identify

predictors of health-related quality of life (HRQoL) among adults attending a Family Medicine clinic in North-Central Nigeria.

Objectives

- To determine the sociodemographic and clinical characteristics of adults presenting with CLBP.
- To evaluate the impact of CLBP on physical and mental domains of HRQoL using the SF-12 Health Survey.
- To identify clinical and lifestyle factors (e.g., pain intensity, disability, smoking, duration of pain) associated with poor HRQoL.
- To establish independent predictors of poor HRQoL among adults with CLBP through multivariate analysis.

Practical Significance

Our study provides clinicians with clear predictors of poor health-related quality of life in chronic low back pain, including female gender, smoking, pain duration, disability, and pain intensity. By highlighting the dual impact of CLBP on both physical and mental health, it emphasizes the need for holistic care models that integrate physiotherapy, psychological support, lifestyle modification, and patient education. The findings also underscore the importance of community-based awareness programs targeting lifestyle risk factors such as smoking cessation and physical activity. For health systems, the evidence supports integrating HRQoL assessments into primary care workflows to monitor outcomes beyond pain relief and guide resource allocation. Policymakers are offered data-driven justification to prioritize CLBP in health budgets and design gender-sensitive interventions that improve patient outcomes and strengthen public health responses. Ibrahim, A.A., *et al.*, (2020); Ganesan, S., *et al.*, (2017); Jiman, A. C., *et al.*, (2014).

Scientific/Policy Contributions

This study advances scientific knowledge by identifying key predictors of poor health-related quality of life in chronic low back pain, including female gender, smoking, pain duration, disability, and pain intensity, thereby strengthening the evidence base for risk stratification in African populations. It demonstrates the dual impact of CLBP on both physical and mental health domains, supporting the biopsychosocial model of pain and encouraging multidisciplinary approaches in research and practice. From a policy perspective, the findings provide justification for integrating HRQoL assessments into primary care, prioritizing CLBP management in health budgets, and designing gender-sensitive interventions. They also highlight the importance of incorporating smoking cessation and lifestyle modification programs into national health strategies to reduce the burden of CLBP and improve

patient outcomes. Ultimately, the study bridges research with actionable policy insights that can guide healthcare planning and resource allocation in Nigeria and similar contexts. Li, Y., *et al.*, (2024); Hadi, M.A., *et al.*, (2019); Igwesi-Chidobe, C. N., *et al.*, (2017).

METHODS

This study employed a hospital-based descriptive cross-sectional design and was conducted at the General Outpatient Clinic of the Family Medicine Department, Federal Medical Centre, Keffi, Nasarawa State. The study population comprised adults aged 40 years and above who presented with chronic low back pain (CLBP). A total of 264 participants were recruited, with the sample size determined using the Leslie Kish formula for cross-sectional studies ($n = Z^2 pq/d^2$). We set the confidence level of 95%. An estimated proportion of the population with poor HRQoL (using the Physical Component Summary) due to CLBP was set at 78% derived from a similar study carried out in Calabar, South-southern Nigeria. A consecutive sampling method was used where eligible respondents with primary complaints of LBP attending the clinic were recruited into the study.

Data were collected using structured interviewer-administered questionnaires. Health-related quality of life (HRQoL) was assessed using the Short-Form Health Survey (SF-12) (Kudielka, B. M., *et al.*, (2005), pain intensity was measured with the Visual Analogue Scale (VAS), and functional disability was evaluated using the Oswestry Disability Index (ODI).

Data analysis was performed using Epi Info version 7.0. Logistic regression was applied to identify independent predictors of poor HRQoL, with statistical significance set at $p < 0.05$. Ethical approval for the study was obtained from the Health Research Ethics Committee of the Federal Medical Centre, Keffi, and informed consent was secured from all participants prior to enrolment.

RESULTS

A total of 1,693 adult patients aged ≥ 40 years presented with LBP between March and October 2025. Of these, 611 (36.1%) had CLBP and were approached for participation. Among 355 (58.1%) who consented, 297 (83.7%) met inclusion criteria, and 264 (74.4%) were consecutively enrolled. The study mean age was 54 ± 6.38 years (range 40–79). Most participants (64.8%) were aged 40–60 years. Females predominated (66.3%), yielding a male-to-female ratio of 1:2. Christianity was the most practiced religion (58.7%), and 58% were married. Over half (58.7%) had education \leq secondary level. Family monthly income was evenly distributed ($< \text{₦}50,000$ vs $\geq \text{₦}50,000$). The majority were

overweight/obese (63.6%), and 27.7% reported cigarette smoking as in Table 1 below.

Table 1: Socio-demographic and clinical characteristics of study participants

Characteristics	Frequency (n = 264)	Percentages (%)
Age (years)		
40 – 60	171	64.8
>60	93	35.2
Mean Age (SD)	54 ± 6.38	
Range	40 – 79	
Gender		
Male	89	33.7
Female	175	66.3
Religion		
Christianity	155	58.7
Islam	109	41.3
Marital status		
Married	153	58.0
Unmarried	111	42.0
Level of Education		
≤ Secondary	163	58.7
> Secondary	101	38.3
Employment status		
Employed	152	57.6
Not employed	112	42.4
Monthly Family income		
< ₦50,000	132	50.0
≥ ₦50,000	132	50.0
BMI		
Normal	96	36.4
Overweight/obese	168	63.6
Smoking		
Yes	73	27.7
No	191	72.3

Using a cut-off score of 50% for the Physical Component Summary (PCS) and 42% for the Mental Component Summary (MCS) of the HRQoL, the majority of participants (185; 70.1%) were found to have poor physical HRQoL, while only 79 (29.9%) demonstrated good physical HRQoL. The mean PCS score was 46.36 ± 7.11 . In contrast, 113 respondents

(42.8%) reported good mental HRQoL. With respect to participants' perceived general health-related quality of life (PGHRQoL), only 10.2% rated their health as excellent, while 31.1% described their overall quality of life as very good or good. More than half of the respondents (58.7%) perceived their HRQoL to be either fair or poor. These findings are summarized in **Table 2**.

Table 2: General health survey of respondents with chronic low back pain

Variables	Frequency (%)
General HRQoL	
Excellent	27 (10.2)
Very good	30 (11.4)
Good	52 (19.7)
Fair	104 (39.4)
Poor	51 (19.3)
Physical component summary (PCS)	
<50%	185 (70.1)
≥50%	79 (29.9)
Mean PCS (SD)	46.36 (± 7.11)

Mental component summary (MCS)	
<42	151 (57.2)
≥42	113 (42.8)
Mean MCS (SD)	44.08 (± 6.52)

Bivariate analysis revealed that certain socio-demographic and clinical variables were significantly associated with poor physical health-related quality of life (HRQoL), while others showed no meaningful relationship. Participant age, employment status, religion, and presence of co-morbidities were not significantly related to the physical component of HRQoL. In contrast, gender emerged as an important factor, with females significantly more likely to report poor physical HRQoL ($\chi^2 = 7.1$; 95% CI = 0.28–0.83; $p = 0.004$). Similarly, being unmarried was strongly associated with poorer outcomes ($\chi^2 = 27.4$; 95% CI = 0.10–0.37; $p = 0.001$).

Educational attainment also played a role, as participants with fewer than 12 years of education (not beyond secondary level) were more likely to experience poor physical HRQoL ($\chi^2 = 14.5$; 95% CI = 1.64–4.87; $p = 0.008$). Economic status was another determinant, with respondents from households earning below ₦50,000 monthly showing significantly poorer HRQoL ($\chi^2 = 9.5$;

95% CI = 1.35–4.35; $p = 0.001$). Overweight and obese participants were disproportionately affected, with a very strong association observed ($\chi^2 = 67.0$; 95% CI = 0.05–0.17; $p < 0.001$).

Lifestyle factors further influenced outcomes. Cigarette smoking was particularly detrimental, as 93.1% of smokers reported poor physical HRQoL, whereas non-smokers were significantly protected against poor outcomes ($\chi^2 = 25.6$; 95% CI = 3.49–24.98; $p < 0.001$). Clinical variables also contributed: pain lasting longer than 12 months ($\chi^2 = 18.3$; 95% CI = 0.17–0.53; $p = 0.009$) and sedentary lifestyle ($\chi^2 = 27.0$; 95% CI = 0.14–0.42; $p = 0.001$) were both significantly associated with poor physical HRQoL.

These findings, summarized in Table 3 below, highlight the interplay of gender, marital status, education, income, obesity, smoking, pain duration, and lifestyle in shaping physical health outcomes among adults with chronic low back pain.

Table 3: Association between PCS and socio-demographic and clinical variables

Characteristics	PCSPoor (<50) n = 185 (%)	Good (≥50) n = 79	Test statistics	95% CI	P value
Age (years)			1.2	0.68 – 2.05	0.27
40 - 60	122 (71.3)	49 (28.7)			
≥60	63 (64.5)	30 (35.5)			
Gender			7.1	0.28 – 0.83	0.004*
Male	61 (68.5)	28 (31.5)			
Female	124 (70.9)	51 (29.1)			
Religion			2.2	0.87 – 2.54	0.07
Christianity	114 (73.5)	41 (26.5)			
Islam	71 (65.1)	38 (34.9)			
Marital status			27.4	0.10 – 0.37	<0.001*
Married	88 (57.5)	65 (42.5)			
Unmarried	97 (87.4)	14 (21.6)			
Level of Education			14.5	1.64 – 4.87	0.008*
≤secondary	128 (78.5)	35 (21.5)			
>Secondary	57 (56.4)	44 (43.6)			
Employment status			0.2	0.65 – 1.90	0.34
Employed	108 (70.1)	44 (29.9)			
Not employed	77 (68.8)	35 (31.2)			
Monthly Family income			9.5	1.35 – 4.06	0.001*
<₦50,000	104 (78.8)	28 (21.2)			
≥ ₦50,000	81 (61.4)	51 (38.6)			
BMI			67.0	0.05 – 0.17	<0.001*
Normal	38 (39.6)	58 (60.4)			
Overweight/obese	147 (87.5)	21 (22.5)			
Smoking			25.6	3.49 – 24.98	<0.001*
Yes	68 (93.1)	5 (6.9)			

No	117 (61.3)	74 (38.7)			
Presence of comorbidity			0.9	0.43 – 1.63	0.17
Yes	94 (67.1))	46 (32.9)			
No	91 (73.4)	33 (26.6)			
Duration of pain			18.3	0.17 – 0.53	0.009*
3 – 12 months	78 (58.2)	56 (41.8)			
>12 months	107 (82.3))	23 (17.7)			
Physical exercise			27.0	0.14 – 0.42	0.001
Daily/often	52 (51.5)	49 (48.5)			
Rarely/not at all	133 (81.6)	30 (18.4)			

Majority of the participants experienced poor mental health related quality of life. Among the socio-demographic characteristics, only Age ($\chi^2 = 23.90$; 95% CI = 0.14 – 0.44; $p = 0.003$) and gender ($\chi^2 = 13.68$; 95% CI = 1.55 – 4.56; $p = 0.001$) were significantly associated with poor mental HRQoL during the bivariate analysis (table 4). Participants who were over-weight or obese (χ^2

=32.37; 95% CI = 0.13 – 0.38; $p < 0.001$) and who smoked cigarette ($\chi^2 = 38.65$; 95% CI = 2.93 – 11.62; $p < 0.001$) or who had CLBP extending more than 12 months ($\chi^2 = 31.24$; 95% CI = 0.13 – 0.38; $p = 0.001$) were among the clinical factors significantly associated with poor mental HRQoL (Table 4).

Table 4: Association between MCS and socio-demographic and clinical variables

Characteristics	MCS Poor (<42) n = 151 (%)	Good (≥ 42) n = 113	Test statistics	95% CI	P value
Age (years)			23.90	0.14 – 0.44	0.003*
40 - 60	79 (46.2)	92 (53.8)			
≥ 60	72 (76.3)	21 (23.7))			
Gender			13.68	1.56 – 4.56	0.001*
Male	31 (38.3)	58 (61.7)			
Female	121 (68.8)	55 (31.2)			
Religion			0.67	0.75 – 2.03	0.20
Christianity	92 (59.4)	63 (40.6)			
Islam	59 (54.1)	50 (45.9)			
Marital status			0.10	0.67 – 1.80	0.35
Married	89 (58.2)	64 (41.8)			
Unmarried	62 (55.9)	49 (44.1)			
Level of Education			0.10	0.56 – 1.53	0.37
\leq secondary	92 (57.9)	67 (42.1)			
>secondary	59 (56.2)	46 (43.8)			
Employment status			0.23	0.54 – 1.45	0.31
Employed	85 (65.9)	44 (34.1))			
Not employed	66 (65.3)	35 (34.7)			
Monthly Family income			0.39	0.52 – 1.40	0.27
< ₦50,000	73 (55.3)	59 (44.7)			
\geq ₦50,000	78 (59.1)	54 (30.9)			
BMI			32.97	0.13 – 0.38	<0.001*
Normal	38 (35.9)	68 (64.1)			
Overweight/obese	123 (73.2)	45 (26.8)			
Smoking			28.65	2.93 – 11.62	<0.001*
Yes	61 (83.6)	12 (16.4)			
No	90 (47.1)	101 (52.9)			
Presence of comorbidity			0.59	0.51 – 1.35	0.22
Yes	77 (55.0)	63 (45.0)			
No	74 (59.7)	50 (40.3)			
Duration of pain			31.74	0.13 – 0.38	0.001*
3 – 12 months	54 (40.3)	80 (59.7)			
>12 months	97 (74.6)	33 (25.4)			
Physical exercise			0.68	0.75 – 2.06	0.21
Daily/often	61 (60.4)	40 (39.6)			

Rarely/not at all	90 (55.2)	73 (44.8)			
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A significantly higher proportion of subjects with poor mental health status were more likely to suffer severe disability compared to those with good mental health status ($\chi^2 = 10.30$; 95% CI = 0.22 – 0.70; $p = 0.006$). Subjects with poor physical health status were also more likely to have the severe form of CLBP ($\chi^2 = 5.5$; 95% CI = 0.31 – 0.91; $p = 0.01$). The study interestingly revealed

that, severe CLBP was significantly related to poor mental health status ($\chi^2 = 35.55$; 95% CI = 0.12 – 0.35; $p < 0.001$); the level of disability on the other hand showed to relationship with the physical health status of participants ($\chi^2 = 1.6$; 95% CI = 0.81 – 2.53; $p = 0.10$; Table 5).

Table 5: Association between the level of disability, CLBP intensity and the HRQoL of respondents with CLBP

Characteristics	PCS Poor (<50) n = 185 (%)	Good (≥50) n = 79	Test statistics	95% CI	P value
Level of disability			1.6	0.81 – 2.53	0.10
Minimum/Moderate	134 (72.4)	51 (27.6)			
Severe/crippling	51 (64.6)	28 (35.4)			
CLBP intensity			5.5	0.31 – 0.91	0.01*
Mild/moderate (≤6)	63 (61.8)	39 (38.2)			
Severe (>6)	122 (75.3)	40 (24.7)			
	MCS Poor (<42) n = 151 (%)	Good (≥42) n = 113 (%)			
Level of disability			10.30	0.22 – 0.70	0.006*
Minimum/Moderate	94 (50.8)	91 (49.2)			
Severe/crippling	57 (72.2)	22 (27.8)			
CLBP intensity			35.55	0.12 – 0.35	<0.001*
Mild/moderate (≤6)	35 (34.3)	67 (65.7)			
Severe (>6)	116 (71.6)	46 (28.4)			

Socio-demographic and clinical variables that were statistically significant in the bivariate analysis were considered in the multivariate analysis to determine predictors of the poor physical HRQoL table 6). These variables were female gender, unmarried, secondary level of education, low income, over-weight/obese, smoking, duration of pain longer than 12 months, and sedentary lifestyle. Several variables were significantly predicted poor physical HRQoL. Being female ($\beta = 0.666$; 95% CI = 2.061 – 6.325; $p = 0.027$), smoking ($\beta = 0.733$; 95% CI = 2.880 – 7.177; $p < 0.001$), duration of pain less

than 12 months ($\beta = 0.739$; 95% CI = 2.991 – 6.080; $p < 0.001$) and severity of CLBP ($\beta = 0.839$; 95% CI = 3.791 – 6.088) were the independent predictors of worse HRQoL among patients with CLBP. Among the independent predictors of poor mental health status (table 6) of patients with CLBP were being female ($\beta = 0.703$; 95% CI = 1.667 – 5.614; $p = 0.007$); participants who smoked cigarette ($\beta = -0.479$; 95% CI = -4.752 – -1.885; $p = 0.032$); severe level of disability ($\beta = 0.721$; 95% CI = 1.924 – 6.800; $p < 0.001$) and severe CLBP intensity ($\beta = 0.854$; 95% CI = 4.916 – 7.070; $p < 0.001$).

Table 6: Step-wise regression analysis of variables predicting poor HRQoL

Dependent variable	Independent variable	Unstandardised co-efficient		Beta ^r	T	P value	95% CI	
		B	SE				Lower bound	Upper bound
	Gender	4.193	0.608	0.666	4.213	0.027*	2.061	6.325
	Level of education	-3.744	0.360	-0.246	-3.799	0.265	-6.561	-1.011
	Smoking	5.100	0.821	0.733	5.115	<0.001*	2.880	7.177
	Duration of pain	4.051	0.871	0.739	4.519	<0.001*	2.991	6.080
	BMI	-2789	0.557	-0.640	-2.780	0.097	-3769	-1.777
	Physical exercise	-1.920	0.417	-0.444	-1.633	0.228	-3.515	-1.710
	CLBP intensity	4.604	0.814	0.839	5.099	0.001*	3.791	7.088
	Family income	-4.011	0.671	-0.555	-2.94	0.331	-5.109	-0.148

MCS of HRQoL	Gender	3.641	0.703	0.703	3.947	0.007*	1.667	5.614
	Smoking	-3.319	0.594	-0.479	-3.933	0.032*	-4.752	-1.885
	Age	2.273	0.508	0.827	2.502	0.076	1.522	3.024
	BMI	-2.879	0.483	-0.359	-3.119	0.094	-4.638	-1.119
	Duration of pain	-3.634	0.505	-0.397	-2.788	0.077	-5.056	-1.106
	Level of disability	4.362	0.871	0.721	4.900	<0.001*	1.924	6.800
	CLBP intensity	5.993	0.837	0.864	6.109	<0.001*	4.916	7.070

(Beta[†], standardised co-efficient; CI, confidence interval; *p < 0.05; t, student-t test; B, unstandardised beta; HC, healthcare; BMI, Body Mass Index; PCS, Physical Component Summary; MCS, Mental Component Summary)

DISCUSSION

This study demonstrates that chronic low back pain (CLBP) significantly impairs health-related quality of life (HRQoL) in both physical and mental domains among adults in North-Central Nigeria. The findings are consistent with global evidence that CLBP reduces functional capacity, limits social participation, and increases psychological distress (Járomi, M., *et al.*, (2021); Husky, M. M., *et al.*, (2018).

Gender differences were notable, with females reporting poorer HRQoL. This aligns with epidemiological evidence that women tend to have lower pain thresholds, greater susceptibility to musculoskeletal disorders, and higher risk of disability. Biological, hormonal, and psychosocial factors may contribute to this disparity, underscoring the need for gender-sensitive approaches in CLBP management (Kahere, M., *et al.*, (2022); Khumalo, K., *et al.*, (2022); Jiman, A. C., *et al.*, (2014).

Smoking emerged as a strong predictor of poor HRQoL. Its detrimental effects on spinal disc health, blood flow, inflammation, and pain perception likely exacerbate CLBP outcomes. Although some studies have reported no association, the present findings reinforce the importance of smoking cessation as a critical component of CLBP management strategies (Lamini N'Soundhat, N. E., *et al.*, (2025). Mehendale, P., *et al.*, (2024).

Pain duration and severity were also critical determinants. Longer pain duration was associated with poorer physical HRQoL, while severe pain intensity and disability strongly predicted poor mental HRQoL. These findings highlight the cumulative burden of chronic pain on both physical functioning and psychological well-being, emphasizing the need for early intervention and comprehensive pain management (Li, Y., *et al.*, (2024); Mutubuki, E. N., *et al.*, (2020).

Interestingly, variables such as age, marital status, income, and comorbidities were not significant predictors in multivariate analysis, which contrasts with some prior studies. This suggests that in resource-limited settings, lifestyle and clinical factors may outweigh

socio-economic determinants in shaping HRQoL outcomes (Muoghallu, O. I., *et al.*, (2025).

Despite these important insights, several limitations should be acknowledged. First, the use of consecutive sampling may restrict the generalizability of the findings, as the sample may not fully represent the broader population of adults with CLBP in North-Central Nigeria. Second, reliance on self-reported measures introduces the possibility of recall bias, which could affect the accuracy of information provided by participants regarding pain intensity, duration, and lifestyle factors. Third, the relatively modest sample size limited the scope of advanced statistical modeling and may have constrained the ability to detect more subtle associations between variables. Finally, certain potentially relevant factors—such as posture, occupational exposures, and medication use—were not measured in this study, and their omission may have influenced the observed outcomes (Ogunsanya, G. I. (2020); Wettstein, M., (2019).

Taken together, these findings underscore the profound burden of CLBP on HRQoL and highlight the importance of multidisciplinary, biopsychosocial, and lifestyle-oriented interventions. Future studies with larger, more representative samples and broader variable inclusion are warranted to deepen understanding and guide more effective management strategies in similar resource-limited settings.

CONCLUSION

This study demonstrates that chronic low back pain (CLBP) significantly impairs health-related quality of life (HRQoL) among adults in North-Central Nigeria, affecting both physical and mental domains. Female gender, smoking, shorter pain duration, severe pain intensity, and disability emerged as major predictors of poor HRQoL, underscoring the multifactorial nature of the burden. These findings highlight the need for multidisciplinary management approaches that integrate medical care, physiotherapy, psychological support, and lifestyle interventions. Routine use of validated patient-reported outcome measures, such as the SF-12, will enhance monitoring and guide individualized care. At the policy level, strengthening primary care services to

provide comprehensive CLBP management is critical for improving patient outcomes and reducing the long-term burden of disability.

Recommendations

To address the challenges identified, several practical and policy-oriented measures are recommended. Routine screening for predictors such as gender, smoking, pain duration, and severity should be incorporated into primary care to enable early intervention. Multidisciplinary management strategies that combine medical treatment, physiotherapy, psychological support, and social interventions should be adopted to address the biopsychosocial nature of CLBP. Lifestyle modification programs—including smoking cessation, weight management, and promotion of physical activity—must be prioritized to reduce modifiable risks and improve patient outcomes. Validated HRQoL tools such as the SF-12 should be routinely employed to monitor progress and guide individualized care. Finally, policymakers should allocate adequate resources and strengthen primary care services to provide comprehensive CLBP management, thereby reducing disability and enhancing quality of life in resource-limited settings.

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