

Association Between Social Impact and Gender of Patients Presenting With Chronic Low Back Pain at Kakamega County General and Referral Hospital

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DOI: <https://doi.org/10.46382/MJBAS.2024.8213>

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Article Received: 23 March 2024

Article Accepted: 27 May 2024

Article Published: 31 May 2024

ABSTRACT

Background: Chronic low back pain is referred to as pain and discomfort around the lumbar region lasting > twelve weeks. It is the commonest musculoskeletal symptom that affects lumbar spine. Pain can be axial or radicular affecting the patients' daily activities. The severity of chronic low back pain has resulted into social, psychosocial and economic problems and the common reason for seeking medical treatment in primary health care settings. **Aims and objectives:** The aim of study was to assess the **Association between social impact and gender** of patients presenting with chronic low back pain at Kakamega County General and referral hospital. **Study design:** This was a cross-sectional quantitative descriptive study where patients' data was collected during patients' presentation at orthopedic outpatient clinic. **Methodology:** The Oswestry modified questionnaires were hand delivered by the researcher to the participants purposively sampling. Each questionnaire was accompanied by a cover letter to explain the purpose and significance of study and gave assurance to confidentiality. A total of 144 patients were selected using Yamane Taro formula. Psychosocial and disability score sheet derived from Oswestry modified questionnaire was used to assess the social impact of chronic low back pain, specifically addressing the emotional well-being. Descriptive statistics was used to evaluate data while chi square test analyzed level of significance with gender of study participants. **Results:** In terms of personal care, individuals who needed help but were able to manage most of their personal care had significantly higher odds of being female compared to those who did not require assistance (OR = 13.50, 95% CI = 2.62 - 69.46, p = 0.002). In regards to traveling, individuals whose pain prevented all travel except for visits to healthcare providers had significantly lower odds of being male compared to those who could travel anywhere with increased pain (OR = 0.08, 95% CI = 0.01 - 0.90, p = 0.040). For social activities, individuals whose pain prevented them from going out very often had significantly higher odds of being female compared to those whose pain did not restrict their social activities (OR = 47.00, 95% CI = 5.25 - 420.82, p = 0.001). **Conclusion:** These findings highlight the gender-specific differences in how chronic low back pain affects individuals' daily activities and social participation. Therefore, this study recommends interventions that address the specific social needs of individuals with chronic low back pain.

Keywords: Chronic low back pain; Gender; Social impact; Lumbar; Musculoskeletal; Intervertebral disc; Spinal cord; Neurovascular; Orthopedics.

1. Introduction

Chronic low back pain (CLBP) is one of the common musculoskeletal symptoms that affects lower part of the spine (El-Tallawy et al., 2021). It is described as pain and discomfort around lumbar region lasting for more than twelve weeks (Traeger et al., 2019). Generally pain in lower back can be associated with skin covering the lower back, muscles, lumbar vertebrae, intervertebral discs, spinal cord, neurovascular structures as well as internal organs of pelvis and abdomen (Nelson et al., 2014).

The symptoms of chronic low back pain might range from dull ache to a stabbing or shooting sensation. This nature of pain may be localized around the axial region or radiate to lower limbs affecting the patients' daily activities (Seminowicz et al., 2011). The severity of pain is dependent on anatomical structure of the low back affected or injured (Cedraschi et al., 2016).

Chronic low back pain (CLBP) is the commonest disabling condition and its emotional, physical and social impact as well as burden on patients has been misunderstood and underestimated too. This pain has been estimated to increase in prevalence and still is the leading cause of years lived with disability (Global burden of disease studies, 2017). Studies of (Damian et al., 2017) on global low back pain prevalence and disability indicated the need to mitigate global burden of pain because of its associated years lived with disability by patients and increased impact

on health care and social systems. The international association for study of pain (IASP, 2021) also alludes that an understanding bio psychosocial framework greatly improves management of chronic low back pain. This management should incorporate integration of best available radiological evidence, elaborate clinical expertise, patient involvement as well as community resources. The social impact and burden affect the individual, family, society and employers both directly and indirectly (Dutmer et al., 2019).

Patients with CLBP have poor quality of life and reduced work ability and their health care costs are twice as high compared to patients seeking primary health care services with other conditions (Wu et al., 2020). There is a considerable concern that most patients could not participate in various social activities e.g., wedding and in several occasions, pain has restrained them from attending certain settings and activities, therefore causing them to miss out on very important social functions. This has resulted in emotional concerns such as lack of support, stigma and discrimination, hopelessness and sadness.

This study therefore sought to assess the effect of CLBP on social activities. The knowledge obtained from the study shall be disseminated to the medical training institutions and all health care providers.

1.1. Study objective

The aim of study was to assess the Association between social impact and gender of patients presenting with chronic low back pain at Kakamega County General and referral hospital.

2. Materials and Methods

This was a cross sectional quantitative descriptive study where 144 study participants were purposively selected during their visit at orthopedic outpatient clinic and MRI department at Kakamega County General and Referral Hospital, Western Kenya. The study included 99 female and 45 male patients who presented with history of chronic low back pain for more than 12 weeks, had consented to the study and were referred for lumbar spine MRI scans. The Oswestry modified questionnaires were hand delivered by the researcher to participants by purposive sampling. Autonomy and confidentiality of study participants was ensured. Psychosocial and disability score sheet was used to assess the social impact of chronic low back pain, specifically addressing its effects on overall quality of life and social activities. An observational descriptive statistic was used to assess the effect of CLBP on social activities while a chi square test was used to find out the association between the effect of chronic low back pain on social activities. Research license was obtained from National Commission for Science, Technology & Innovation (NACOSTI) license No: NACOSTI/P/23/2. Authorization to collect data was granted by Kakamega County General Hospital Ethics Review committee under license No. ERC/196-04/2023.

3. Results

3.1. Association between Social impact of chronic low back pain and gender

Psychosocial and disability score sheet derived from Oswestry modified questionnaire was used to assess the social impact of chronic low back pain, specifically addressing its effects on emotional well-being. The purpose of this study was to assess the association social impact and gender of patients presenting with chronic low back pain.

Table 1 presents the results of this analysis, including odds ratios (OR), Cramer's V, and p-values.

The association between patients' social impact and gender was examined in Table 1. The results revealed several significant associations between gender and social activities. In terms of feeling sad, 12.5% of females and 27.1% of males reported this emotion. The odds ratio (OR) of 5.40 (95% CI: 1.36 - 21.48) indicated a significant association, with males being more likely to feel sad compared to females. Feeling frustrated was reported by 41.7% of females and 29.2% of males. Although the OR of 2.45 (95% CI: 0.77 - 7.83) suggested a higher likelihood of frustration among females, the association did not reach statistical significance.

Regarding feeling stigmatized, 33.3% of females and 2.1% of males reported this emotion. The OR of 0.57 (95% CI: 0.21 - 1.55) indicated no significant association between gender and feeling stigmatized. Feeling calm was reported by 56.3% of females and 4.2% of males. The OR of 8.92 (95% CI: 1.97 - 40.37) indicated a significant association, with females being more likely to feel calm compared to males. In terms of feeling happy, 4.2% of females and 27.1% of males reported this emotion. The OR of 21.00 (95% CI: 2.31 - 191.32) indicated a significant association, with males being more likely to feel happy compared to females.

Feeling anxious was reported by 12.5% of females and 27.1% of males. The OR of 5.40 (95% CI: 1.36 - 21.48) indicated a significant association, with males being more likely to feel anxious compared to females. Feeling desperate was reported by 25.0% of females and none of the males. The OR of 0.19 (95% CI: 0.06 - 0.64) indicated a significant association, with males being less likely to feel desperate compared to females. No significant associations were found for feeling hopeless, hopeful, determined, ashamed, supported, misunderstood, embarrassed, and ignored.

In summary, the results indicated that gender was associated with specific emotional states among patients with chronic low back pain. Males were more likely to report feeling sad, happy, anxious, and calm compared to females. Additionally, females were more likely to report feeling desperate compared to males. However, no significant associations were found for several other emotional states. These findings suggest that gender may play a role in shaping emotional experiences related to chronic low back pain, but further research is needed to better understand the underlying factors contributing to these associations. In terms of personal care, females significantly had higher odds (OR = 13.50, 95% CI = 2.62 - 69.46, $p = 0.002$).

In regards to traveling, individuals whose pain prevented all travel except for visits to healthcare providers had significantly lower odds of being male compared to those who could travel anywhere with increased pain (OR = 0.08, 95% CI = 0.01 - 0.90, $p = 0.040$). This finding indicates that men are more likely to have limitations in their ability to travel due to their chronic low back pain.

For social activities, individuals whose pain prevented them from going out very often had significantly higher odds of being female compared to those whose pain did not restrict their social activities (OR = 47.00, 95% CI = 5.25 - 420.82, $p = 0.001$). This suggests that women are more likely to experience limitations in their social activities due to their chronic low back pain.

Table 1. Association between Social impact of chronic low back pain and gender

Social impact of chronic low back		Total		Gender				OR (95% CI)	Cramer's V	P-value
				Female		Male				
		n	%	n	%	n	%			
Personal care	I can take care of myself normally but it increases my pain	1	2.1%	1	2.1%	0	0.0%	ref	ref	ref
	I do not get dressed, wash with difficulty and stay in bed	16	33.3%	3	6.3%	13	27.1%	0.20 (0.03 - 1.69)	0.26	0.152
	I need help but I'm able to manage most of my personal care	31	64.6%	29	60.4%	2	4.2%	13.50 (2.62 - 69.46)	0.70	0.002
Social activities	Pain has restricted my social life to my home	18	37.5%	5	10.4%	13	27.1%	0.28 (0.07 - 1.15)	0.29	0.083
	Pain prevents from going out very often	23	47.9%	22	45.8%	1	2.1%	47.00 (5.25 - 420.82)	0.82	0.001
	Pain prevents me from participating in more energetic activities e.g., sports dancing etc.	7	14.6%	6	12.5%	1	2.1%	ref	ref	ref

Travelling	I can travel anywhere but it increases my pain	14	29.2%	13	27.1%	1	2.1%	14.00 (1.42 - 137.91)	0.63	0.019
	Pain prevents all travel except for visits to the doctor/therapists or hospital	16	33.3%	3	6.3%	13	27.1%	0.08 (0.01 - 0.90)	0.25	0.040
	Pain restricts my travel to short necessary journeys under 1/2 hours	1	2.1%	1	2.1%	0	0.0%	ref	ref	ref
	Pain restricts travel over 2 hours	17	35.4%	16	33.3%	1	2.1%	18.00 (1.84 - 176.49)	0.76	0.014

4. Discussion

4.1. Social impact of chronic low back pain

Chronic low back pain is pain is described as pain and discomfort around the lumbar region lasting for more than twelve (WHO). Generally pain in the lower back can be associated with skin covering the lower back, muscles, lumbar vertebrae, intervertebral discs, spinal cord, neurovascular structures as well as internal organs of the pelvis and abdomen (Goode et al., 2014). This nature of pain may be localized around the axial region or radiate to the lower limbs affecting the patients' daily activities (Seminowicz et al., 2011). There has been a drastic impact of chronic low back pain to male and female individuals, family, and society as well as employment sectors in general. This study found significant associations between the social impact of chronic low back pain and gender. In terms of personal care, individuals who needed help but were able to manage most of their personal care had significantly higher odds of being female compared to those who did not require assistance (OR = 13.50, 95% CI = 2.62 - 69.46, p = 0.002). This finding indicates that women are more likely to require help with personal care tasks while managing their chronic low back pain. Other studies (Watiti, 2015 & Mwawingwa, 2017) in Kenya also reported that more females suffered chronic low back pain than males while cross examining the magnetic resonance imaging and radiographic findings. These findings are similar to a study (Fehrmann et al., 2019) whereby majority of women reported to have more restriction in "housework" than men. However, this study is in contrast with (Palacios-Ceña et al., 2017) in Japan suggesting that both genders with chronic low back pain require assistance in their personal care.

In regards to traveling, individuals whose pain prevented all travel except for visits to healthcare providers had significantly lower odds of being male compared to those who could travel anywhere with increased pain (OR = 0.08, 95% CI = 0.01 - 0.90, $p = 0.040$). This finding indicates that men are more likely to have limitations in their ability to travel due to their chronic low back pain. These findings are similar (Irurhe & Adekola, 2012) which showed that males were mostly restricted to travelling at (65.5%) in comparison to female gender (34.5%). In contrast to another study finding. However a study in Kenya (Mwawingwa, 2017) showed mobility of women was more affected as compared to men.

For social activities, individuals whose pain prevented them from going out very often had significantly higher odds of being female compared to those whose pain did not restrict their social activities (OR = 47.00, 95% CI = 5.25 - 420.82, $p = 0.001$). This suggests that women are more likely to experience limitations in their social activities due to their chronic low back pain. This study findings are similar (Zavarize & Wechsler, 2016) postulating that social activities were greatly affected in women than in men. Although a study (Palacios-Ceña et al., 2017) found out that both male and female individuals with chronic low back pain required assistance in their personal care, however most social activities were affected in female as compared to men. In contrast, (Elisabeth et al., 2018) in Austria found out that that men had the highest impairment than females in relation to social activities and recreation. Another hospital-based study (Bailly et al., 2015) in Paris, highlighted negative self-perception in social interaction for both genders. Participants also alluded having shame and frustration in regards to difficulties in performing daily living activities.

5. Conclusion

This study found significant associations between the social impact of chronic low back pain and gender. Women were more likely to require assistance with personal care tasks and experience limitations in their social activities and ability to perform physically demanding activities. These findings highlight the gender-specific differences in how chronic low back pain affects individuals' daily activities and social participation. Specifically, women significantly suffered loss of social identity with perception of not being able to perform their daily activities.

Declarations

Source of Funding

The study has not received any funds from any organization.

Competing Interests Statement

The authors have declared no competing interests.

Consent for Publication

The authors declare that they consented to the publication of this study.

Acknowledgement

Authors wish to appreciate each individual who played a role in the development of this research paper.

Ethical Approval

Research license was obtained from National Commission for Science, Technology & Innovation (NACOSTI) license No: NACOSTI/P/23/2. Authorization to collect data was granted by Kakamega County General Hospital Ethics Review committee under license No. ERC/196-04/2023.

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