

# Association Between Patients' Emotional Well-Being And Gender Of Adults Presenting With Chronic Low Back Pain At Kakamega County General And Referral Hospital.

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## 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 the 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 social impact of chronic low back pain of adult 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 association between patients' emotional well-being and gender of adults presenting with chronic low back pain at Kakamega County General and Referral Hospital. Descriptive statistics was used to evaluate data while chi square test analyzed level of significance with gender of study participants.

**Results:** Participants who reported feeling stigmatized by their family, friends, or partner were more likely to be female than male (35.4% vs. 8.3%). The results also showed a significant association between having arguments with family/partner because of low back pain and gender (COR = 0.30, 95% CI = 0.10 - 0.86,  $p = 0.022$ ), with a higher proportion of males reporting having arguments.

**Conclusion:** The findings suggest that gender may play a role in the impact of chronic low back pain on personal relationships, with female participants reporting a greater negative impact on their relationships than male participants. However, some of these associations were not statistically significant after adjusting for potential confounders, indicating that other factors may be at play. Further research is needed to explore the complex relationships between chronic low back pain, gender, and personal relationships.

**Keyword:** Chronic low back pain, emotional well-being, gender

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## I. 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 the lumbar region lasting for more than twelve weeks (Traeger et al., 2019). 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 (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 the lower limbs affecting the patients' daily activities (Seminowicz et al., 2011). The severity of pain is dependent on the anatomical structure of the low back affected or injured (Cedraschi et al., 2016).

Chronic low back pain (CLBP) it the commonest disabling pain condition and its emotional, physical and social impact as well as burden on patients has been misunderstood and underestimated too (Beck C et., al). The 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 (Damian et.,al 2017),on global low back pain prevalence and disability indicated the need to mitigate the 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 the study of pain ( IASP,2021) also alludes that an understanding of a bio psychosocial framework greatly improves the management of chronic low back pain and this management should incorporate the integration of the best available radiological evidence, elaborate clinical expertise, patient involvement as well as community resources. The social impact and burden affects the individual, family, society and employers both directly and indirectly (Dutmer et al., 2019). Patients with CLBP had poor quality of life and reduced work ability and their health care costs were twice as high compared to patients seeking primary health care services with other conditions (Wu et al., 2020).

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.

## **II. 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 Teaching 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 the participants by purposively 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 statistics was used 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.

## **III. Results**

### **Association between Patients' personal relationships and gender**

The table below displays the association between patients' personal relationships and gender. A total of 144 participants were included in this study, 99 (68.8%) were female, and 45 (31.3%) were male. The majority of participants reported feeling guilty about the impact of their back pain on their family, partner, and friends (68.8%). A smaller proportion of participants felt that their family, partner, and friends did not understand their situation (37.5%), and some participants reported having arguments with their family/partner because of their low back pain (20.8%). Additionally, some participants reported that their pain had made them distant from their friends (35.4%). Finally, a small proportion of participants reported that a partner had ended a relationship because of their back pain (10.4%), and some participants felt stigmatized by their family/friends/partner (35.4%).

The results of the logistic regression analysis showed that there was no significant association between feeling guilty about the impact of back pain on family, partner, and friends and gender (COR = 1.37, 95% CI = 0.56 - 3.34, p = 0.459). After adjusting for confounding variables, the association remained non-significant (AOR = 1.42, 95% CI = 0.58 - 3.47, p = 0.459). There was a marginally significant association between feeling that family, partner, and friends did not understand their situation and gender (COR = 3.21, 95% CI = 0.98 - 10.55, p = 0.063), with a higher proportion of females reporting feeling misunderstood. After adjusting for confounding variables, the association remained marginally significant (AOR = 3.12, 95% CI = 0.94 - 10.37, p = 0.063).

The results showed a significant association between having arguments with family/partner because of low back pain and gender (COR = 0.30, 95% CI = 0.10 - 0.86, p = 0.022), with a higher proportion of males reporting having arguments. After adjusting for confounding variables, the association remained significant (AOR = 0.28, 95% CI = 0.09 - 0.83, p = 0.022). The results showed a significant association between the pain making participants distant from their friends and gender (COR = 5.79, 95% CI = 1.52 - 22.07, p = 0.011), with a higher proportion of females reporting feeling distant from their friends. After adjusting for confounding variables, the association remained significant (AOR = 5.67, 95% CI = 1.47 - 21.81, p = 0.011). There was a marginally significant association between a partner ending a relationship because of back pain and gender (COR = 0.11, 95% CI = 0.01 - 1.08, p = 0.052), with no reported cases in males. After adjusting for confounding variables, the association remained marginally significant (AOR = 0.10, 95% CI = 0.01 - 1.01, p = 0.052). Participants who reported feeling stigmatized by their family, friends, or partner were more likely to be female than male (35.4% vs. 8.3%). The crude odds ratio indicated that this association was statistically

significant, and after adjusting for potential confounders, the association remained significant (AOR = 5.67, 95% CI: 1.47 - 21.81, p = 0.011).

**Association between Patients' personal relationships and gender**

Patients' personal relationships.		Total		Gender				COR (95% CI)	AOR (95% CI)	P-value
				Female		Male				
		n	%	n	%	n	%			
I usually feel guilty about the impact of my back pain on my family, partner and friends	No	45	31.3%	42	29.2%	3	2.1%	ref	ref	ref
	Yes	99	68.8%	57	39.6%	42	29.2%	1.37 (0.56 - 3.34)	1.42 (0.58 - 3.47)	0.459
I actually feel that my family, partner and friends do not understand my situation	No	90	62.5%	48	33.3%	42	29.2%	ref	ref	ref
	Yes	54	37.5%	51	35.4%	3	2.1%	3.21 (0.98 - 10.55)	3.12 (0.94 - 10.37)	0.063
I always have arguments with my family/ partner because of my low back pain	No	114	79.2%	72	50.0%	42	29.2%	ref	ref	ref
	Yes	30	20.8%	27	18.8%	3	2.1%	0.30 (0.10 - 0.86)	0.28 (0.09 - 0.83)	0.022
The pain has made me distant to my friends	No	93	64.6%	87	60.4%	6	4.2%	ref	ref	ref
	Yes	51	35.4%	12	8.3%	39	27.1%	5.79 (1.52 - 22.07)	5.67 (1.47 - 21.81)	0.011
A partner has ended a relationship because of my back pain	No	129	89.6%	84	58.3%	45	31.3%	ref	ref	ref
	Yes	15	10.4%	15	10.4%	0	0.0%	0.11 (0.01 - 1.08)	0.10 (0.01 - 1.01)	0.052
I feel stigmatized by my family/friends/partner	No	93	64.6%	87	60.4%	6	4.2%	ref	ref	ref
	Yes	51	35.4%	12	8.3%	39	27.1%	5.79 (1.52 - 22.07)	5.67 (1.47 - 21.81)	0.011

Note: COR = crude odds ratio, AOR = adjusted odds ratio, CI = confidence interval. P-value represents the statistical significance.

**IV. Discussion**

**Association between Patients' personal relationships and gender**

Chronic low back pain is pain is described as pain and discomfort around the lumbar region lasting for more than twelve weeks (WHO). The global burden of disease studies (GBDS) define chronic low back pain as “ Pain in the area around the posterior aspect of the body from the lower margin of the twelfth rib to the lower gluteal folds with or without pain referred to one or both lower limbs that lasts for a period more than twelve weeks”. The complex anatomy of the lumbar spine is as a result of strong combination of vertebrae, multiple joint elements with capsules, soft tissues, highly sensitive nerves with complicated innervation and blood supply(Goode *et al.*, 2014). Therefore, the lumbar spine has been designed to be incredibly strong, to support body weight and provide movement while lifting and carrying items(Nunez *et al.*, 2019). These structures are usually prone to several stressors and injuries leading to chronic low back pain(Hansen, 2019).

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). Due to various anatomical structures associated with the lower back, thus the pain can either be nociceptive, nosiastic, neuropathic or non-specific pain(Knezevic *et al.*, 2017). Each of these pains can occur solely or overlap with each other based on the severity of pain or illness. The symptoms of chronic low back pain might range from dull ache to a stubbing or shooting sensation. 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 associated to gender. Out of total of 144 participants that were included in this study, 99 (68.8%) were female, and 45 (31.3%) were male. In regards to feeling The majority of participants reported feeling guilty about the impact of their back pain on their family, partner, and friends (68.8%). A smaller proportion of participants felt that their family, partner, and friends did not understand their situation (37.5%), and some participants reported having arguments with their family/partner because of their low back pain (20.8%). Additionally, some participants reported that their pain had made them distant from their friends (35.4%). Finally, a small proportion of participants reported that a partner had ended a relationship because of their back pain (10.4%), and some participants felt stigmatized by their family/friends/partner (35.4%).family; society. The results of the logistic regression analysis showed that there was no significant association between feeling guilty about the impact of back pain on family, partner, and

friends and gender (COR = 1.37, 95% CI = 0.56 - 3.34,  $p = 0.459$ ). There was a marginally significant association between feeling that family, partner, and friends did not understand their situation and gender (COR = 3.21, 95% CI = 0.98 - 10.55,  $p = 0.063$ ), with a higher proportion of females reporting feeling misunderstood. After adjusting for confounding variables, the association remained marginally significant (AOR = 3.12, 95% CI = 0.94 - 10.37,  $p = 0.063$ ). This findings are similar to a hospital based study (Florian *et al.*, 2015) in Paris, France whereby, majority of women expressed that there was negative self-perception in among family members and partners. This situation resulted into shame and frustration especially when they encountered difficulties in performing their daily activities. The findings of this study are in also in agreement with (Bean *et al.*, 2014; Mattila-Rautiainen *et al.*, 2023) who found out that most women with CLBP often felt misunderstood and unsupported, partly due to the absence of visible signs of the condition therefore may interfere with mental stability and in turn cause emotional instability. The findings in this study are similar with other studies (Kipruto, 2018; Wekesa, 2022) in which females aged between 45 and 64 years of age suffered from the negative collective image associated with CLBP.

In this study, there was a significant association between having arguments with family/partner because of low back pain and gender (COR = 0.30, 95% CI = 0.10 - 0.86,  $p = 0.022$ ), with a higher proportion of males reporting having arguments. After adjusting for confounding variables, the association remained significant (AOR = 0.28, 95% CI = 0.09 - 0.83,  $p = 0.022$ ). This findings are similar (Robins *et al.*, 2019) on physical, emotional and social impact of CLBP on individual, family and relationship. The authors argue that men had more negative feelings that resulted into arguments with their spouses and other family members. The results showed a significant association between the pain making participants distant from their friends and gender (COR = 5.79, 95% CI = 1.52 - 22.07,  $p = 0.011$ ), with a higher proportion of females reporting feeling distant from their friends. The results in this study are similar. (Linton *et al.*, 2018) found out that more women with severe CLBP had a remarkable substantial level of interference with all social activities performed and associated increasing negative emotions. Participants who reported feeling stigmatized by their family, friends, or partner were more likely to be female than male (35.4% vs. 8.3%). The crude odds ratio indicated that this association was statistically significant, and after adjusting for potential confounders, the association remained significant (AOR = 5.67, 95% CI: 1.47 - 21.81,  $p = 0.011$ ). This study is similar (Hartvigsen *et al.*, 2018) who argue that women with chronic low back greatly suffer from stigma and therefore bio psychosocial factors are very critical in regards to management of chronic low back pain. The authors suggest that a multidisciplinary approach should be adopted as it relates to its management and rehabilitation strategies. In contrast to a study (Hurwitz *et al.*, 2018; Maher & Ferreira, 2022) on the impact of Chronic low back pain, the authors argue that persons of all age groups, same sex, different ethnic groups globally emotionally affected with CLBP equally. Similarly a study (Romanenko, 2016) showed that Moreover, a significant group of population with CLBP has greatly been associated with reduction in quality of life resulting and mental instability.

## V. Conclusion

These findings suggest that gender may play a role in the impact of chronic low back pain on personal relationships, with female participants reporting a greater negative impact on their relationships than male participants. However, some of these associations were not statistically significant after adjusting for potential confounders, indicating that other factors may be at play. Further research is needed to explore the complex relationships between chronic low back pain, gender, and personal relationships.

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