

Research Article

Quality of Life among Chronic Low Back Pain Patients Due to Prolapsed Intervertebral Disc at SKIMS Soura Srinagar

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A B S T R A C T

Background: Intervertebral disc disease is a common condition characterized by the breakdown (degeneration) of one or more of the discs that separate the bones of the spine (vertebrae), causing pain in the back or neck and frequently in the legs and arms.¹

Objectives: To assess the quality of life among patients with chronic low back pain due to prolapsed inter vertebral disc and to find the association between the Quality of life among patients with chronic low back pain due to prolapsed inter vertebral disc and their selected socio demographic/clinical variables.

Methodology: A descriptive Retrospective design was used to carry out the study. A total of 100 chronic low back pain patients due to prolapsed inter vertebral disc admitted at SKIMS were selected for the study by purposive convenience sampling technique by fulfilling the inclusion criteria.

Results: Majority of study subjects (84%) had average quality of life, 14% had good quality of life and only 1% had poor quality of life. The (mean $\pm$ S.D) of overall quality of life among chronic low back pain patients due to prolapsed inter vertebral disc was 53.48 ± 10.672 . Significant association was found between the quality of life and sociodemographic variable/ clinical variables such as occupation and operative status ($P < 0.05$). While, as no significant association was found with other socio demographic variables/ clinical variables.

Conclusion: The quality of life was found to be average among chronic low back pain patients due to prolapsed intervertebral disc and get affected by many stressors related to their socio demographic variables which act as determinants and disrupt their physical, psychological, social and environmental wellbeing, thereby deteriorating their quality of life.

Keywords: Quality of Life, Socio Demographic Variables, Clinical Variables, Prolapsed Intervertebral Disc Patients, Chronic Low Back Pain

Introduction

Prolapsed inter vertebral disc is one of the common and costly medical problems.² Lumbar disc herniation may occur at any level, in 95% of cases, it occurs at L4 or L5 levels.² Low back pain can incorporate a wide variety of symptoms. It can be mild and merely annoying or it can be severe and debilitating. Low back pain may start suddenly, or it could start slowly-possibly coming and going-and gradually get worse over time. Depending on the underlying cause of the pain, symptoms can be experienced in a variety of ways⁴ that include; pain (dull or achy), contained to the low back, stinging, burning pain that moves from the low back to the backs of the thighs, sometimes into the lower legs or feet; numbness or tingling (sciatica), muscle spasms and tightness in the low back, pelvis, and hips, pain that worsens after prolonged sitting or standing and difficulty in standing up straight, walking, or going from standing to sitting.⁵

The point prevalence of chronic low back pain globally was 8.20% (95%: 7.31–9.10%) in 2017 and decreased slightly to 7.50% (95%: 6.75–8.27%) in 2019. The prevalent numbers of people globally with chronic low back pain at any one point in time in 2017 was 377.5 million, and this increased to 577.0 million in 2019 globally.³

According to Mayson, Louw⁷ 2017 in India, prevalence of chronic low back pain was 19-43% and point prevalence was 15-30%. The estimated prevalence of low back pain in India varied from 50% to 84%³ in 2019. The occurrence of low back pain in India is alarming with nearly 60% of the people in India having suffered from low back pain at some time during their lifespan.²

The condition can also be associated with complications that may be related to the physical, psychological or social aspects of patient's day to day life. The term Quality of life (quality of life) is used to evaluate the general wellbeing of individuals and societies. According to the World Health Organization (WHO), quality of life is defined as individual perception of life, values, objectives, standards and interests in the framework of culture.² A number of illness related factors exist that can affect quality of life. The amount of symptoms and distress experienced by an individual has been related to quality of life in patients with prolapsed inter vertebral disc.⁴

Chronic low back pain is one of the most prevalent chronic pain disorders associated with a high burden on individuals and the society (Grabovac, Dorner, 2019),⁶ that can have a huge influence on the individual's quality of life. Some cross-sectional studies have pointed out that low back pain has an inverse relationship with health related quality of life (Suka, Yoshida 2018).⁶ Literature states that chronic low back pain has a strong association with high intensity

of pain and disability, less prognosis rate, poorer health related quality of life and significant physical limitations (Mutubuki 2020).⁶ It was also revealed that the individuals affected with chronic low back pain report a low quality of life that is comparable to people diagnosed with life-threatening diseases.⁶

Majority of studies mention the factors that are associated or not associated with chronic low back pain but do not mention the possible reasons why these factors are associated with affecting quality of life in patient with chronic low back pain. Both acute and chronic low back pain have important societal consequences in terms of health costs, productivity loss due to sick leave and working in capacity, pain and disability thus affecting quality of life due to low back pain in prolapsed inter vertebral disc patients.⁴

Choi, Soo, Jun, Yeol 16 2014 conducted a cross sectional study to explore the impact of Chronic Low Back Pain (CLBP) due to prolapsed inter vertebral disc on individual's quality of life at Belgium Health Care Centre on 3,121 subjects. Results revealed that 67.3% had moderate to severe pain; 43.5% presented prolonged chronic low back pain of more than two years; and 32.4% had suffered from sleep disturbance due to pain. 22.8% of the patients were not satisfied with current pain management. The mean pain score was 37.63; and it was positively correlated with the mean pain intensity (0.001). Result was negatively correlated with mean pain intensity (0.001) and also negatively correlated with the pain score (0.001). Thus back pain affected daily activities of these patients and thus affect overall quality of life.

The investigator felt the need for a study that could explore the quality of life among chronic low back pain patients due to prolapsed inter vertebral disc and their determinants in terms of socio demographic variables like age, gender, educational qualification, residence, type of family, marital status, occupation, availability of social support, family history, presence of pain, operative status, receiving physiotherapy, disability. This can in turn help to enhance the quality of life in these patients considering their socio demographic predictors

Ethical Consideration

Ethical approval for the current study was obtained from ethical committee of SKIMS Deemed University. Participants were told that they have the right to not participate in the study or to withdraw from the study if they wish at any time. The study subject's privacy was respected, and data were kept confidentially and utilized for study purposes only. Study subjects were asked to read and sign a consent form.

Methodology

The setting of the present study was Neurosurgery

Department including Neurosurgery ward and OPD of Sheri Kashmir Institute of Medical Sciences Soura Srinagar Kashmir. The sample for the present study comprised of 100 prolapsed intervertebral disc patients who were admitted in neurosurgery department of (SKIMS) Soura Srinagar Kashmir from 11/05/2022 to 9/06/2022. The tool used in the study was interview schedule with 15 items to assess sociodemographic/clinical variables, 24 items of standardized tool (WHOQOLBREF scale) was used to assess quality of life and Oswestry low back pain and disability scale with 09 item was used to assess pain and disability among chronic low back pain patients due to prolapsed inter vertebral disc. Scores were scaled in a positive direction i.e. 1-5 (i.e. higher scores denote higher quality of life). The mean score of items within each domain was used to calculate the domain score. Mean scores were then multiplied by 4 in order to make domain scores comparable with the scores used in the WHOQOL-100, and subsequently transformed to a 0-100 scale respectively. Scores between these values represent the percentage of the total possible score achieved. In oswestry disability

scale, the total possible score was 5: if the first statement is marked the section score = 0; if the last statement is marked, it=5.

The quality of life score was categorized into various levels based on the criterion (33 percentile) developed by Abdollahzadeh (2009) and Robin (2018) in their study^{8,9}. If the score was (67-100), it was considered as good QOL; if the score was (34-66), it was considered as average QOL and if the score was (0-33), it was considered as poor QOL.

Results and Discussion

The Statistical Package for Social Sciences (SPSS) software program was used for data analysis. Frequency distributions were obtained and descriptive statistics were calculated. The distribution of chronic low back pain patients due to prolapsed inter vertebral disc according to their socio demographic variables is given in Table 1, Description of QOL scores according to quality of life, physical domain, psychological domain, social domain, and environmental domain is given in Table 3 and the association of QOL with socio demographic variables is given in Table 2.

Table 1. Distribution of Subjects According to their Sociodemographic Variables

(N=100)			
Variable	Opts	Frequency	Percentage
Age	15-30 years	24	24.0%
	31-45 years	31	31.0%
	46-60 years	29	29.0%
	≥61 years	16	16.0%
Gender	Male	45	45.0%
	Female	55	55.0%
Educational Qualification	Graduation and Above	14	14.0%
	Higher secondary	36	36.0%
	Primary	21	21.0%
	Illiterate	29	29.0%
Residence	Urban	27	27.0%
	Rural	73	73.0%
Type of Family	Nuclear family	39	39.0%
	Joint family	61	61.0%
Marital Status	Married	43	43.0%
	Unmarried	36	36.0%
	Divorced	9	9.0%
	Widow/Widower	12	12.0%
Occupation	Employed	24	24.0%
	Householder	42	42.0%
	Student	10	10.0%
	Business	13	13.0%
	Labour	11	11.0%

Social Support	Available	83	83.0%
	Not Available	17	17.0%
Family History with Low Back Pain due to Prolapsed Intervertebral Disc	Yes	36	36.0%
	No	64	64.0%
Presence of Pain in Low back Due to Prolapsed Intervertebral Disc	Severe	72	72.0%
	Moderate	28	28.0%
Operative Status	Preoperative	71	71.0%
	Postoperative	29	29.0%
If Operated Since how Long	Years	7	7.0%
	Months	18	18.0%
	Days	6	6.0%
	Nil	69	69.0%
Receiving Physiotherapy	Yes	52	52.0%
	No	48	48.0%
Disability related to Prolapsed Intervertebral Disc	Yes	26	26.0%
	No	74	74.0%
If yes specify	Weakness	15	15.0%
	Paralysis	11	11.0%
	Nil	74	74.0%

Almost equal number of subjects were in the age group of 31-45 years (31%), 55% of subjects were females, most of the subjects were having higher secondary education (36%), most of the subjects were from rural areas (75%), maximum subjects were living in joint family (61%) and married (43%), maximum subjects (64%) were having low

back pain due to prolapsed intervertebral disc, majority of the subjects (83%) were having availability of social support. Regarding occupation (42%) were householder, majority of subjects (71%) were preoperative, most of the subjects (52) were receiving physiotherapy and most of the subjects (74%) were having disability Table 1.

Table 2. Association of Quality of Life with Sociodemographic Variables

Demographic Variables		Level of Quality of Life							
Variable	Opts	Poor	Average	Good	Chi-test	P-value	df	Table value	Result
Age	15-30years	0	18	6	9.023	0.172	6	12.592	Not Significant
	31-45years	1	28	2					
	46-60years	1	26	2					
	≥61 years	0	12	4					
Gender	Male	1	35	9	3.828	0.147	2	5.991	Not Significant
	Female	1	50	4					
Educational Qualification	Graduation and above	0	13	1	2.625	0.854	6	12.592	Not Significant
	Higher secondary	1	29	6					
	Primary	0	18	3					
	Illiterate	0	25	4					

Residence	Urban	0	24	3	0.656	0.720	2	5.991	Not Significant
	Rural	1	61	11					
Type of Family	Nuclear family	1	34	4	2.240	0.326	2	5.991	Not Significant
	Joint family	1	50	10					
Marital Status	Married	1	37	5	4.472	0.613	6	12.592	Not Significant
	Unmarried	1	30	5					
	Divorced	0	9	0					
	Widow/ Widower	0	9	3					
Family History with Low Back Pain due to Prolapsed Intervertebral Disc	Yes	1	31	4	2.121	0.346	2	5.991	Not Significant
	No	1	53	10					
Social Support	Available	1	70	1	5.872	0.053	2	5.991	Not Significant
	Not Available	1	15	1					
Occupation	Employed	1	19	4	19.379	0.004	6	15.507	Significant
	Householder	1	38	3					
	Student	0	8	2					
	Business	0	9	4					
	Labour	0	10	1					
Presence of Pain in Low Back Due to Prolapsed Intervertebral Disc	Severe	1	59	12	1.977	0.372	2	5.991	Not Significant
	Moderate	0	26	2					
Operative Status	Preoperative	1	60	10	16.139	0.013	6	12.592	Significant
	Postoperative	1	24	4					
If Operated Since how Long	Years	1	4	2	2.474	0.290	2	5.991	Not Significant
	Months	0	17	1					
	Days	0	5	1					
	Nil	1	58	10					
Receiving Physio-Therapy	Yes	1	42	9	1.998	0.368	2	5.991	Not Significant
	No	0	43	5					
Disability related to Prolapsed Intervertebral Disc	Yes	1	21	4	2.968	0.227	2	5.991	Not Significant
	No	1	63	10					
If Yes Specify	Weakness	0	12	3	8.755	0.068	4	9.488	Not Significant
	Paralysis	1	9	1					
	Nil	1	63	10					

Significant ($p \leq 0.05$), Not Significant ($p \geq 0.05$)

There is a significant association between the quality of life and socio demographic variables/clinical variables such as occupation and operative status ($p<0.05$). While as no significant association was found with age, gender, educational qualification, residence, type of family, marital status, family history with low back pain due prolapsed intervertebral disc, social support, presence of pain in low back due to prolapsed intervertebral disc, receiving physiotherapy and disability related to prolapsed intervertebral disc ($p>0.05$) Table 2.

Association of Different Domains of QOL with Socio Demographic Variables is as follows:

Association of Physical Domain of QOL with Sociodemographic Variables

A significant association between the physical domain of quality of life and selected socio demographic variables/ clinical variables such as gender, residence and occupation ($p<0.05$). While as no significant association was found with age, educational qualification, type of family, marital status, family history with low back pain due prolapsed intervertebral disc, social support, presence of pain in low back due to prolapsed intervertebral disc, operative status, receiving physiotherapy, disability related to prolapsed intervertebral disc ($p>0.05$).

Association of Psychological Domain with Sociodemographic Variables

A significant association between the psychological domain of quality of life and selected sociodemographic variables/ clinical variables such as educational qualification, marital status, Presence of pain in low back due to prolapsed

intervertebral disc and disability related to prolapsed intervertebral disc ($p<0.05$). While as no significant association was found with age, gender, residence, type of family, family history with low back pain due prolapsed intervertebral disc, social support, occupation, operative status and receiving physiotherapy ($p>0.05$).

Association of Social Domain with Sociodemographic Variables

A significant association between the social domain of quality of life and selected sociodemographic variables/ clinical variables such as age, social support, operative status, receiving physiotherapy ($p<0.05$). While as no significant association was found with gender, educational qualification, residence, type of family, marital status, family history with low back pain due prolapsed intervertebral disc, occupation, presence of pain in low back due to prolapsed intervertebral disc and disability related to prolapsed intervertebral disc ($p>0.05$).

Association of Environmental Domain with Sociodemographic Variables

A significant association between the environmental domain of quality of life and selected socio demographic variables/ clinical variables such as residence, marital status, social support, operative status and disability related to prolapsed intervertebral disc ($p<0.05$). While as no significant association was found with age, gender, educational qualification, type of family, family history with low back pain due prolapsed intervertebral disc, occupation, presence of pain in low back due to prolapsed intervertebral disc and receiving physiotherapy ($p>0.05$).

Table 3. Description of QOL Scores According to Quality of Life, Physical Domain, Psychological Domain, Social Domain, and Environmental Domain

N=100

Descriptive Statistics	Total score for QOL	Physical Domain (%)	Psychological Domain (%)	Social Domain (%)	Environmental Domain (%)
Mean	53.48	46.19	43.77	68.97	54.99
S.D.	10.67	11.24	13.35	18.63	10.84
Median	53.25	44.00	44.00	75.00	56.00

The findings of the study revealed that the quality of life among chronic low back pain patients due to prolapsed intervertebral disc was found to be average and a significant association was found between the quality of life and socio demographic variables i.e. occupation ($p=0.004$) and operative status ($p=0.013$). Also different domains of QOL showed significance with different socio demographic variables. The present study demonstrates that occupation and operative status have significant impact on quality of life among chronic low back pain patients due to prolapsed intervertebral disc.

In a cross-sectional descriptive study by Wettstein, Eich, Bieber, Jonas Tesarz¹⁰ 2018 (N=228) to determine determinants of quality of life among prolapsed intervertebral disc patients at the University Hospital Heidelberg. Their mean age was 48 years with a range of 41 to 60 years.

A quasi experimental study conducted by Diana, Padhi¹¹ 2017 (N=800) to assess the quality of life in prolapsed intervertebral disc patients. Out of 800 patients, 63% patients were living in joint families, while, as only 37 % were living in nuclear families, 80% patients were married, while, as only 20% were unmarried, 60% were having family

history of low back pain and 40 % were not having family history of low back pain due to prolapsed intervertebral disc ($p=0.007$).

A descriptive cross sectional study conducted by Javid, Velayat, Ajaz, Hamid¹² 2019, (N=100) to study the quality of life in disc patients in SKIMS Soura, Srinagar. Out of 100 patients, 80% had pain of intermittent character while 20% had pain of continuous character in lower back.

These findings provide a scientific basis to develop a comprehensive program that incorporates these factors, especially social support, to improve the QOL among Prolapsed Inter Vertebral Disc patients. Families caring for chronic low back pain patients due to Prolapsed Inter Vertebral Disc, recently diagnosed, singly living, less educated and not formally employed patients need educational support, counseling and awareness programs on physiotherapy aspects to cope up with and support to enhance psychosocial and physical aspects of patients. The findings emphasize the importance for improving care for chronic low back pain programs about quality of life of patients in Kashmir. Future research should focus on the improvement of quality of life among chronic low back pain due to prolapsed inter vertebral disc patients considering different socio demographic variables.

Conclusion

The study concluded that the chronic low back pain subjects due to prolapsed intervertebral disc were found to have an average quality of life and get affected by many stressors related to their socio demographic variables which act as determinants and disrupt their physical, psychological, social and environmental wellbeing, thereby deteriorating their quality of life. Nurses must understand that socio demographic factors play a significant role in influencing quality of life among chronic low back pain patients due to prolapsed intervertebral disc patients, such as age, gender, educational qualification, social support etc. Nurses must assess needs of patients and their caregivers and plan and implement need-based care such as to develop strategies for pain relief, sleep disturbances, distress, disability and prevent other side effects. In addition, interventions need to be developed and implemented such as educational, counseling and psychosocial therapy, interaction therapy, imagery, mindfulness based stress reduction therapy, support group, exercise and telemedicine, for effective management of symptoms that will empower the patients to have a greater sense of control over their illness and treatment to improve their quality of life. The nurse researcher may effectively use the results of various studies and recommend for the importance of routine use of quality of life instruments as part of clinical practice to improve quality of life patients with chronic low back pain due to prolapsed intervertebral disc.

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