Journal of Cardiovascular Disease Research

ISSN: 0975-3583, 0976-2833 VOL14, ISSUE7, 2023

UTILITY OF A QUESTIONNAIRE IN ASSESSMENT OF LOW BACK PAIN AND DISABILITY

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ABSTRACT

Introduction: Low back pain has been a major public health burden for many years. **Aim:** To evaluate the utility of a questionnaire in assessment of low back pain and disability and evaluate the correlation between disability score, clinical features and imaging findings in patients with low back pain. **Methods:** a observational study conducted on 25 patients aged between 11-70 yrs old suffering from low back pain for 1 month at Orthopaedic department of P.B.M. Hospital attached to S.P. Medical College, Bikaner**. Results:** 60% of patients belong to age group 31-40 and 40-50 yrs . 24% of patients had lumbar scoliosis, in which majority (5) had concavity towards right side. Majority of patients 56% had reduced lumbar lordosis. Average disability score among patients with mild to moderate disability was 16.38 and among patients with moderate to severe disability and severe to extreme disability was 24.36 and 30 respectively. 13 patients had grade 1 disability, 11 patients had grade 2 disability & only 4% had grade 3 disability. Out of these 13 patients, 7 (53%) also had grade 1 X-ray changes. Similarly out of 11 patient (44%) with grade 2 disability, 9 patients (82%) had grade 2 X-ray changes. **Conclusion:** A questionnaire is a valid method of assessment of disability. Questionnaire should be designed according to patient's lifestyle & requirements.

Keywords: Low back pain, questionnaire, disability.

INTRODUCTION

Low back pain has been a major public health burden for many years, Among adults 70 to 85 % are believed to experience at least one episode of low back pain at some time during their life[1] while approximately 14 % experience serious low back pain and nearly 8% reporting at least one episode of severe acute low back pain[2]. Although low back pain usually resolves spontaneously within 1 to 4 weeks, approximately 33 % of individuals with low back pain continue to have moderate to severe pain 1 year later and approximately 20 % of patients with low back pain have pain that is severe enough to cause substantial limitations of normal activities[3]**.** Timely assessment and treatment of back pain is essential to relieve the patients pain and distress to decrease the likelihood of long term disability. Low back pain is the pain that relates to problems of the lumbar spine, the discs between the vertebrae, the ligaments around the spine and discs, the spinal cord and nerves and muscles of the back. There are three common groups of low back

ISSN: 0975-3583, 0976-2833 VOL14, ISSUE7, 2023

pain[3] namely Mechanical or non specific low back pain, Back pain potentially associated with radiculopathy or spinal stenosis and Back pain potentially associated with another specific spinal cause. Classification which has gained international acceptance, is to divide low back pain into 3 categories, the so called "diagnostic triage''[4] namely Low back pain with specific spinal pathology, Nerve root pain/ radicular pain and Non specific low back pain. Spondylosis and spondylolisthesis are often considered as non specific low back pain.[5] Psychosocial "yellow flags'' are factors that increase the risk of developing or perpetuating chronic pain and long term disability, including work loss associated with low back pain.[6] In India, occurrence of low back pain is also alarming. Nearly 60 % of the people in India have significant low back pain at some time or other in their lives.[7]

AIM :

To evaluate the utility of a questionnaire in assessment of low back pain and disability and evaluate the correlation between disability score, clinical features and imaging findings in patients with low back pain.

METHOD:

This study was a observational study conducted on 25 patients aged between 11-70 yrs old suffering from low back pain for 1 month at Orthopaedic department of P.B.M. Hospital attached to S.P. Medical College, Bikaner. Patients of either sex with non specific low back pain of one month duration and who were aged between 11-70 yrs were included. Patients suffering from Any organic musculoskeletal disorder neurological disorder or manifest spinal deformity were ruled out.Each patient was analyzed on the basis of history and physical examination and a base line X-ray was taken. Based upon various factors, a questionnaire was drafted to include patient's symptoms and activities. Grading was done from 0 to 4, with 0 meaning no problem and 4 meaning extreme disability. Clinical examination was conducted. Besides Passive SLR test other tests like bilateral SLR, Lasegue's test,Femoral nerve traction test, Hamstring tightness test and Active sit up test was also conducted. Tests like One Leg standing test and Patrick Faber test were done to assess any deviation in normal joint function and interpreted as present or absent. For radiological assessment, standard radiographic positioning was maintained in all the radiographs.

RESULT:

Table 1: sociodemography

Age group	**No. of patients**	**%**
11-20	1	4
21-30	4	16
31-40	8	32
41-50	7	28
51-60	4	16
61-70	1	4
Sex		
Male	12	48
Female	13	52

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Religion		
Hindu	16	64
Muslim	9	36
Occupation		
Labourer	7	28
Housewife	9	36
Nonworking	2	8
Sedentary worker	3	12
Farmer	4	16

60% of patients belong to age group 31-40 and 40-50 yrs . average age is 39.8 yr. minimum and maximum ages are 18 yr and 65 yr respectively. Number of males and females were almost equal. There were more hindu patients attending the hospital. Majority of patients were housewives(36%)followed by labourers (28%).

As per Q score 44 % patients had moderate to severe disability, while only 4 % patients had extreme degree of disability.

Table 2: showing incidence of lumbar curvature- scoliosis and lordosis

Scoliosis	**No. of patients**	**%**
Absent	19	76
Present	6	24
Lordosis		
Normal	11	44
Reduced	14	56
Exaggerated	0	0

24% of patients had lumbar scoliosis, in which majority (5) had concavity towards right side. Majority of patients 56% had reduced lumbar lordosis**.** Majority of patients 72 % showed mild to moderate grade of tenderness

Table 3: showing incidence of Flexion ROM, Extension ROM and Side Bending ROM

Grade of Flexion ROM	**No. of Patients**	**%**
0	5	20
1	6	24
2	14	56
Grade of Extension ROM		
0	5	20
1	9	36
2	11	44
Grade of Bending ROM		
0	7	28
1	13	52
2	5	20

Majority of patients 56 % had moderate restriction of flexion. 44 % patients had moderate to severe degree of restriction of extension. Majority of patients (52 %) had mild degree of restriction restrictions of bending ROM.

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24 % of patients showed significantly positive SLR test. Only 8 % of patients had positive Lasegue's test. 24 % of patients had lumbar scoliosis, in which majority (5) had concavity towards right side. 56 % patients had reduced lumbar lordosis while 44% patients had normal lumbar lordosis. 15 patients (60%) had both osteophyte formation and disc space narrowing on X ray while 2 patients had neither osteophyte formation and disc space narrowing.

Average disability score among patients with mild to moderate disability was 16.38 and among patients with moderate to severe disability and severe to extreme disability was 24.36 and 30 respectively.

Table 4: Q score in study group

Q grade	Score range	No. of patients	%	Average score	% average score
None –Mild	0-9	0	0	0	0
Mild -Moderate	10-19	13	52	16.38	43%
Moderate- severe	20-29	11	44	24.36	64%
Severe -Extreme	>30	1	4	30	78%

13 patients had grade 1 disability, 11 patients had grade 2 disability & only 4% had grade 3 disability. Out of these 13 patients, 7 (53%) also had grade 1 X-ray changes. Similarly out of 11 patient (44%) with grade 2 disability, 9 patients (82%) had grade 2 X-ray changes.

Table 5. Q. grades according to lane grades

	Q. Grade				
Lane Grades	**0**	**1**	**2**	**3**	**Total**
0	0	2	0	0	2
1	0	7	2	1	10
2	0	4	9	0	13
	0	13 (52%)	11 (44%)	1 (4%)	25 (100%)

DISCUSSION:

In our study, the majority of patients were in the to 3rd and 4th decade i.e. 32 % in the 3rd and 28% in the 4th decade. The average age was 39.8 years, minimum age was 18 years and maximum age was 65 years. Similar findings were seen in the study done by **Julie M Fritz et al[8] (39.2 yr)**. There were equal numbers of male and female patients affected with back pain and the ratio of male and female patients was 1:1.08. Similar finding were seen in study done by **M. Abdus Shakoor[9] (1:1.43).**

The majority of patients were house wives (36 %) followed by labourers (28 %) in our study. Similar findings were seen in the study conducted by **V. Bihari et al (2011)[10].**

Regarding pain and disability score, we found that the average disability score was 20 and average disability index was 52.64 %. In a study done by **Horwath G et al[11]** the Oswestry disability index was 35.1 % and radiological disc degeneration was 57.5%**, Marine de Goes**

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Salvetti et al[12] had ODI mean disability score 33.1 % and 80.7% participants revealed scores compatible with moderate to severe disability, **Julie M Fritz et al**[8] (42.9 %), **Omidi Kashani F et al**[13] (56.7%).

Regarding disc degeneration, we found grade 0 – 8 %, grade 1 -40 % and grade 2- 52%. Similar findings were seen in a study done by **Osamu Nemoto et al**[33] found (52 %).

Spondylolisthesis is not as common as osteophytosis in patients with LBP. It was demonstrable in 12% of our cases. The isthmic type is the commonest below 50 years while degenerative type is the commonest above 50 years and has a predilection for females[86].

In our study we found a significant correlation (p value = 0.0001) that those patients who had a high grade of disc degeneration on X ray, also showed proportionate degree of pain and level of disability.

CONCLUSION:

A questionnaire is a valid method of assessment of disability. Questionnaire should be designed according to patient's lifestyle & requirements. Clinical examination is an important tool for assessment of patient's disability, especially to support and exclude organic lesions. X-rays are an essential and cost effective screening tool and changes co-relate with patients disability.

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