A Study of the Clinical Characteristics of Patients with Low Back Pain at a Single Center in Baghdad

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ABSTRACT
Background: Low back pain is a prevalent and consequential problem in contemporary culture. In the early phases of their careers, many athletes who train particularly hard have considerable low back difficulties **Aims of study** is to enhance understanding and guide best management practices for those with or at risk of low back pain and to identify diverse aspects of clinical and epidemiological factors in Iraqis for low back pain. **Patients and methods**: A cohort of 440 individuals diagnosed with Low back pain (LBP) from the rheumatology department at Baghdad Teaching Hospital-Medical City in Baghdad province were involved in the current cross-sectional investigation. The sample consisted of 180 men and 260 women, with an average age of 45.7±14.8 years. The research was carried out from 12/October/2023 to 12 /March/2024. **Results:** All individuals in this study had LBP. The means age was 45 for the group of patients under consideration. 7 ± 14. 8 years. LBP had the highest incidence in the middle-aged (40-59 years 23%) and the lowest was recorded for the aged above 70 years (7. 5%). Females accounted for 59. 1% of the participants. Most of them; a percentage equivalent to 75. 5% were married. Approximately a third or 30% were employed while, 70.9% of the respondents were jobless. 6 % were overweight people and 77 % were non smokers in the study group. The mean age at the first complaint, visit and diagnosis of the disease were 43. 0 ± 14. 0 years (range: 11–75), 43. 3 ± 14. 2 years (range: McGregor observed that 11% to 78% of patients had some degree of in Continuation of Disturbances: Symptoms, defective vision, and 43. 5 ± 14. 2 years (range: 14–78),respectively. Intervertebral disc prolapse was the most frequent diagnosis among the patients with LBP (49. 8%), while infections were the least frequent (0. 2%). In the following aspects of the Oswestry Low Back Pain Disability Scores, majority participated as follows; 44. 3% with fairly severe pain intensity, 42% who require some help with personal care but mostly manage with it, 39. 5% who lift heavy weights but manage light to medium weights, 34. 1% who are prevented from walking more than 100 yards by their pain, 37. 5 The Analyzed Oswestry Low Back Pain Disability Score mean was 22. 22 ± 7. 26. **Conclusion:** LPB has a higher frequency among the female population.

1. Introduction

Lumbago is a common problem internationally and subjects from the low and middle income depending on the country grouping. The disease commonly referred to as LBP can be categorized as either acute or chronic depending on its causes. The acute cases can be as a result of exhibition of mechanical when like sprains while chronic LBP is most associated mostly with sciatica results from pressure, inflammation or injury to spinal nerve roots (Professor & Chaudhry, 2020). LBP is classified as either non-specific, which account for more than 90% of cases in which the etiology is indeterminable, or specific, which can be related to herniated disc, fractures, osteoporosis, rheumatic diseases, spondyloarthropathy, infections or malignancy. Regarding warning signs suggesting an underlying pathology, only the referring pain to the legs or feet, paresthesia, aggravated pain during the horizontal straight leg raising test, and localized neurological abnormalities consistent with the nerve root complaints are considered valuable. Prolonged LBP can be categorised as acute, if it lasts for less than 6 weeks, subacute, if between 6 weeks to 3 months and chronic if it lasts for more than 3 months as proposed by Mattiuzzi et al. , (2020). LBP is present in patients of all age and is considered one of the biggest contributors to disability as it alone accounts for 59.4 million DALYs in 2015. It is described by discomfort within the area defined by the lower rib margin and the buttock crease and leg pain or other neuropathic signs in the lower limbs. In particular, acute attacks usually last for not more than one year; however, some can remain at low-to-moderate level and progress to chronic LBP (CLBP). Namely, CLBP is not only a sign, but it implies a biopsychosocial disorder, which hinders physical and mental functioning as well as work productivity in affected populations

(Xu et al. , 2023).

2. Patients and methods

The study adopted a cross-sectional design to recruit 440 subjects with LBP in the Baghdad governorate based on the updated classification set by the ACR and EULAR in 2010. Sampled data were collected during the patients' visits to the clinics of rheumatology during their stay in Baghdad Teaching Hospital of Medical City; variables included socio-demographic, clinical, serological, and epidemiological. The sites' exclusion criteria included hepatitis, tuberculosis, endocrine disorders, cancer, rheumatoid diseases, and a few other illnesses.

2.1. Statistical analysis

The coding of the responses was done, entered into IBM SPSS-29 and data presentation and analysis conducted. The descriptive analysis used frequency, percentage, added mean standard deviation, and range which is the difference in the minimum and maximum values. The differences in categorical data were determined by Pearson Chi-square test with Yates' correction or Fischer's exact test where appropriate, at a significance level of $P \leq 0.05$.

2.2. Ethics

The participants in this study signed informed consent form and ethical clearance was sought from the medical department in Baghdad Teaching Hospital as well as the College of Health and Medical Techniques in Baghdad. The subjects' consent was sought and obtained prior to the study as per the standards recommended in the Declaration of Helsinki on use of human subjects for research in 1964.

3. Results

This cross-sectional study comprised 440 patients with LPB, with a mean age of 45.7±14.8 and a standard deviation (SD). Individuals aged 40–59 had the highest proportion of LBP, with a rate of 23%. Conversely, the age group with the lowest frequency, at 7.5%, was people aged =>70 years 59.1% of the participants were female, while 40.9% were men. The majority, 75.9%, live in urban regions, while the remaining 24.1% live in rural areas .The majority of patients had 87.5% marital status, with only 11.4% being single and 1.1% being divorced. The According to the statistics in the table, 70.9% of the participants were not working, 43.6% were overweight, and 77% did not smoke . Mean±SD (Range) for Age at onset of disease 43.0±14.0 (11-75) ,and for age of first visit Mean±SD (Range) 43.3±14.2 (11-78) ,and for age of diagnosis Mean±SD (Range) 43.5±14.2 (14-78) .

Table 1: demographic and epidemiological characteristic

Demographic and epidemiological characteristic		No	%
Age (years)	<30years	67	15.2
	30-39	90	20.5
	40-49	100	22.7
	50-59	101	23.0
	60-69	49	11.1
	=>70years	33	7.5
	Mean±SD (Range)	45.7±14.8 (18-88)	
Sex	Male	180	40.9
	Female	260	59.1
BMI (Kg/m2)	Normal (18.5-24.9)	116	26.4
	Overweight (25-69.9)	190	43.2
	Obese (30-34.9)	99	22.5
	Obese II (35-39,9)	30	6.8
	Obese III (=>40)	5	1.1
	Mean±SD (Range)	27.94±4.79 (18.1-51.4)	

Residency	Urban	334	75.9
	Rural	106	24.1
Current marital status	Married	385	87.5
	Unmarried	50	11.4
	Divorced	5	1.1
Occupation	Employed	128	29.1
	Unemployed	312	70.9
Smoking	Non-smoker	339	77.0
	Ex-smoker	6	1.4
	Occasional smoker	6	1.4
	Current smoker	89	20.2
Alcohol intake	Yes	5	1.1
	No	435	98.9
Age at onset of disease (years)	<30years	99	22.5
	30-39	84	19.1
	40-49	101	23.0
	50-59	87	19.8
	60-69	53	12.0
	≥70years	16	3.6
	Mean±SD (Range)	43.0±14.0 (11-75)	
Age at first visit (years)	<30years	99	22.5
	30-39	82	18.6
	40-49	102	23.2
	50-59	87	19.8
	60-69	51	11.6
	≥70years	19	4.3
	Mean±SD (Range)	43.3±14.2 (11-78)	
Age at diagnosis (years)	<30years	97	22.0
	30-39	84	19.1
	40-49	99	22.5
	50-59	88	20.0
	60-69	53	12.0
	≥70years	19	4.3
	Mean±SD (Range)	43.5±14.2 (14-78)	

The distribution of LBP diagnoses is presented for intervertebral disc prolapse (49.8%), muscle spasm (16.1%), ankylosing spondylitis (8.9%), degenerative disc disease (6.8%), spinal stenosis (5.9%), ligament sprain (8.4%), inflammatory disorder (2.0%), osteoporosis (16.6%), trauma (0.7%), facet joint injury 0.2% and infection (0.2%).

Table 2: Diagnosis of studies sample

Diagnosis	**No.**	**%**
Intervertebral disc prolapse	219	49.8
Muscle spasm	71	16.1
Ankylosing spondylitis	39	8.9
Osteoporosis	73	16.6
Degenerative disc disease	30	6.8
Spinal stenosis	26	5.9
Ligament sprain	37	8.4
Inflammatory disorder	9	2.0

Trauma	3	0.7
Facet joint injury	1	0.2
Infection	1	0.2

Table 3 offers an insight to the frequencies and percentage proposing body of the obtained Oswestry Low Back Pain Disability Scores in the sample. This table gives important information on the extent of the impairment and the further degree to which LBP interferes with the subjects' lives. The examination of the data sample also shows high levels of fairly severe pain reported by the patients (44.3%). A significant proportion also stated that they needed some help with accomplishing ADLs (42 %) as well as lifting loads heavier than 25 pounds but not heavier than 10 pounds for some (39. 5%) and being able to walk only short distances due to the pain for (34. 1%). Besides, a significant proportion also felt they were restricted in sitting (37. 5%), standing (40. 2%), and having less than six hours of sleep because of pain. Watching sexual activity had impact on their sexual lives to a certain extent (31. 4%), their social lives (37. 3%) and their travelling (36. 4%). Regarding disability level distribution, the maximum number of subjects were found to have severe disability (44. 3%) followed by moderate disability (34. 5%). A very few pointed out that they had moderate impairment (5. 2%). san disability score is 22 based on the mean of the given list of disabilities. 22 years old with ± 7 years.

Table 3: shows the high level of disability experienced with LBP on numerous realms of functioning in this study's sample.

Oswestry low back pain disability questionnaire		No	%
Pain intensity (at this moment)	No pain	2	0.5
	Very mild	11	2.5
	Moderate	102	23.2
	Fairly severe	195	44.3
	Very severe	130	29.5
	The worst imaginable	-	-
	Mean±SD (Range)	3±0.818 (0-5)	
Personal care	Maintaining the ability to perform personal care without increasing the level of pain.	20	4.5
	They are able to manage personal care on their own; yet they have more pain.	77	17.5
	Perceive pain when doing personal care activities and move gently and carefully.	97	22
	Needs moderate level of help, but could successfully complete many personal care tasks.	185	42
	Require assistance with most tasks of personal care on a daily basis.	60	13.6
	Lacks the ability to put on clothes, bathe: is bedridden for a major fraction of the day.	1	0.2
	Mean±SD (Range)	2.43±1.076 (0-5)	
Lifting	Can lift heavy weights without extra pain	1	0.2
	Can lift heavy weights but it gives extra pain	44	10
	Pain prevents from lifting heavy weights off the floor, but	105	23

	can manage if they are conveniently placed		.9
	Pain prevents from lifting heavy weights, but can manage light to medium weights	174	39.5
	Can lift very light weights	94	21.4
	Cannot lift or carry anything at all	22	5
	Mean±SD (Range)	2.87±1.076 (0-5)	
Walking	Pain does not prevent me walking any distance	12	2.7
	Pain prevents me from walking more than 1 mile	117	26.6
	Pain prevents me from walking more than 1/2 mile	113	25.7
	Pain prevents me from walking more than 100 yards	150	34.1
	Can only walk using a stick or crutches	44	10
	In bed most of the time	4	0.9
	Mean±SD (Range)	2.25±1.067 (0-5)	
Sitting	Can sit in any chair as long as I like	9	2
	Can only sit in my favorite chair as long as I like	66	15
	Pain prevents me sitting more than one hour	165	37.5
	Pain prevents me from sitting more than 30 minutes	131	29.8
	Pain prevents me from sitting more than 10 minutes	69	15.7
	Pain prevents me from sitting at all	-	-
	Mean±SD (Range)	2.42±0.991 (0-5)	
Standing	Can stand as long as I want without extra pain	2	0.5
	Can stand as long as I want but it gives me extra pain	59	13.4
	Pain prevents me from standing for more than 1 hour	177	40.2
	Pain prevents me from standing for more than 30 minutes	135	30.7
	Pain prevents me from standing for more than 10 minutes	67	15.2
	Pain prevents me from standing at all	-	-
	Mean±SD (Range)	2.47±0.992 (0-5)	
Sleeping	Sleep is never disturbed by pain	10	2.3
	Sleep is occasionally disturbed by pain	84	19.1
	Sleep <6 hours because of pain	198	45
	Sleep <4 hours because of pain	99	22.5
	Sleep <2 hours because of pain	47	10.7

	Pain prevents him from sleeping at all	2	0.5
	Mean±SD (Range)	2.22±0.965 (0-5)	
Sex life (for married only=385)	Normal and causes no extra pain	19	4.3
	Normal but causes some extra pain	138	31.4
	Nearly normal but is very painful	94	21.4
	Severely restricted by pain	97	22
	Nearly absent because of pain	31	7
	Pain prevents any sex life at all	6	1.4
	Mean±SD (Range)	1.75±1.246 (1-5)	
Social life	Normal and gives me no extra pain	38	8.6
	Normal but increases the degree of pain	164	37.3
	No significant effect on social life apart from limiting my more energetic interests e.g., sport	94	21.4
	Pain restricted social life and do not go out as often	130	29.5
	Pain restricted social life to home and have no social life	13	3
	Have no social life because of pain	1	0.2
	Mean±SD (Range)	2.81±1.053 (0-5)	
Travelling	Can travel anywhere without pain	10	2.3
	Can travel anywhere but it gives me extra pain	87	19.8
	Pain is bad but can manage journeys over two hours	84	19.1
	Pain restricts me to journeys of less than one hour	160	36.4
	Pain restricts short necessary journeys under 30 minutes	93	21.1
	Pain prevents travelling except to receive treatment	6	1.4

In Table 4; Oswestry Low Back Pain Disability Scores specified that the majority of participants had severe (44.3%) disability, moderate(34.5%), (with only a small percentage (5.2%) having minimal disability ,the mean and SD (22.22±7.26).

4. Discussion

Indeed, this research forms the baseline study aiming at describing how patients with LBP present clinically in Iraq. This papers find out that worldwide, LBP is experienced by a considerable number of people, particularly those in the lower and middle income earner bracket. LBP can be either acute or chronic in its nature depending on the nature of serious disease. In acute LBP, most of the Mechanical injuries include sprains and strains. On the other hand, sciatica which is another type of radiculopathy characterized by the compression, inflammation, and injury of the spinal

Oswestry low back pain disability score		No	%
Oswestry low back pain disability score	Minimal disability (0-20%)	20	4.5
	Moderate disability (21-40%)	152	34.5
	Severe disability (41-60%)	195	44.3
	Crippled (61-80%)	73	16.6
	Bed ridden or exaggerated their symptoms (>80%)	-	-
	Mean±SD (Range)	22.22±7.26 (3-39)	

nerve root is the leading cause for chronic LBP (Hassan et al. , 2020).

Looking at the results of this study where 440 of the participants reported LBP; more females than males were affected. Notably, females constituted 59. One percent of the total, with a female to male proportion of 1. 4:1, and males taking up 40 percent of the total number in the current CBOS poll. 1%. It is in line with research findings established by other scholars. For example, Lu et al. (2013) from Taiwan clinical trial stated that 35% of the sample was males. And its 5 % and the female percentage of the students is 64 % respectively. For Alali (202), in Iraq, 40 % of its bitcoin consumer base would prefer striking gold instead of using virtual currency. 6% males and 31. 9% females. However, it differs from the study conducted from the Iranian population (Ibrahim et al. , 2020) with significantly older participants, where 2 percent were male. 8% and females 97. 2% of the participants. In various countries, findings have presented a clear indication that low back pain is most likely to happen to persons within their middle ages of forty years. This trend is evident in Taiwan (Lee et al. , 2017) and the average age was 40. 7 (± 11. 4) years Ghanbari et al. (2017a) Iran Baradaran et al. (2016) Iraq Assistant nurses had a mean working experience of 2 (± 6. 58) years while the qualified nurses had a mean working experience of 4 (±13.

This study departs from one that presents older patient age, in comparison to age values obtained from other countries, for instance Saudi Arabia (26. 9 ± 7. 69 years) Turkey (76. 03 ± 5. 89 years) (Bayar et al. , 2003), Penang, Malaysia (72 ± 50. 7 years) (Ibrahim et al. , 2020b). The mean BMI in this case was 27, among the patients involved in this study. 94 ± 4. 79. In contrast, mean BMI in the studies conducted in Iraq was reported to be 25, which could be regarded as relatively higher. 87 ± 3. 65(Hassan et al. , 2020) of them were in Saudi Arabia 24. 94 ± 4. 3, 4, 5 (Albasseet et al. , 2023) and in Indonesia there is 25. 26 ± 3. 8 (Novy et al. , 2023). Pertaining to smoking status, majority of participants to this study were non-smokers (77%) and 20% of the participants were smokers. 2% reported smoking. The same was the case in Iraq as shared by Alali (2022) where 87% of the participants did not smoke. As to specific conditions, the present investigation revealed that 16 fulfilled the inclusion criteria for the present sample of patients with schizophrenia. 1% experienced muscle spasms. Similar incidences were noted in studies carried out in Negeri (Emorinken et al. , 2023) with 12. Using agreement as a percentage of the proposal, the agreement for this topic was at 2%, for the topic of ankylosing spondylitis, the agreement was at 8, Classified. 9%, compared to 0. Nearest to 9% in Negeri (Emorinken et al., 2023). Though, disagreement was observed in inter

vertebral disc prolapse, where 49. compared to 19% in this study identified 8% to have ever been admitted to a health facility due to an injury. 4% in Negeri (Emorinken et al. , 2023). The mean ODI (Oswestry low back pain disability) in this study was 22. 22 ± 7. 26. This finding is in congruence with scores reported in other studies from Turkey; the scores being approximately 30. 30 ± 13. 86 (Gamage & Ranasinghe, 2020) and 29. 5 ± 16. 2 (Maras et al. , 2019), and from Colombo Sri Lanka whose mean score attained a 30. 61 ± 13. 78 (Gamage & Ranasinghe, 198) In Iran, again the mean odd of involvement in suicides was 30. 1 ± 12. In Iran, frequency ranged from 4 (Mousavi et al. , 2006) up to 30 in Switzerland. 5 ± 17. 0. On the other hand, the present study disagree with the studies by Pellekooren et al. (2022) established a higher mean ODI of 41. 23 ± 15. 4 and the Egyptian study with a mean score of 49/50 on the self-care assessment of readmission indicator. 14 ± 17. 4 (El-Hady et al. , 2023), and in Canada, a mean score of 43 among the student (Poder & Carrier, 2020).

4. Conclusions

Low back pain is more common in females in our group, and the chronic type of the illness is somewhat more common overall. In addition, demographic profile provides a comprehensive overview of the characteristics of individuals affected by the disease, highlighting potential risk factors and areas for further research. The findings underscore the importance of considering demographic variables in disease management and public health strategies. the data reflect a broad spectrum of spinal conditions, with degenerative and musculoskeletal disorders being most prevalent. These findings emphasize the need for comprehensive approaches to spinal health, including preventive measures, early diagnosis, and tailored treatment strategies to address the diverse needs of individuals affected by these conditions. Overall, the results suggest that low back pain significantly affects the daily activities and quality of life of the participants. It is important to address and manage low back pain to improve the participants' physical and social functioning.

Limitations

There are some limits that stand out. Even though the study only looked at one center ,the sample size is about the smiler as in a number of other studies.

Recommendations

It's possible that other important differences between the factors seen in this study would become clearer if multicenter study, the sample size was larger and the disease duration study was longer.

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