Knowledge around back pain and spinal disorders among Saudi patients: A cross-sectional study
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Abstract
Objective: To assess the knowledge of patients about low back pain and spinal disorders.
Methods: This cross-sectional study was conducted at King Saud University, Riyadh, Saudi Arabia, from December 2015 to February 2016, and comprised patients presenting with lower back pain. The low back pain knowledge questionnaire was translated to Arabic and distributed, after adding more questions, among patients. The scores were calculated as per the published guidelines. SPSS 21 was used for data analysis.
Results: There were 153 patients in the study. The reliability test revealed a Cronbach’s alpha score of 0.834 for all items. The overall mean age was 40.2±19.3 years (range: 15-76 years). Besides, 61(39.9%) participants were males and 92(60.1%) were females. The overall median score was 9 (interquartile range: 0-19) out of 24 points. Both educational level and monthly income were found to be dependent variables (p<0.001; p=0.007).
Conclusion: The majority of patients with lower back pain had limited knowledge about their condition and the related complications.
Keywords: Spine, Knowledge, Questionnaire, Low back pain. (JPMA 67: 1228; 2017)

Introduction
Low back pain (LBP) is a common health problem and is considered a major cause of disability among various age groups. The prevalence of LBP is estimated to be around 10% by the age of twenty years and 19.6% between twenty and fifty-nine years. LBP is more common among elderly patients, affecting 25.1% of men and 35.1% of women aged sixty years and above. In the countries of the Gulf Cooperation Council (GCC), LBP is considered a major health problem with a prevalence ranging from 18.8-64.6%. LBP in Saudi Arabia is associated with many conditions, including vitamin D deficiency and obesity. Some activities of daily living such as carrying heavy objects, lifting while twisting and sudden movement of the torso have also been linked to LBP among the Saudi population.

It is essential to ensure that the patients have proper understanding of the condition they are suffering from. In this regard, several studies conducted in different countries have investigated the level of knowledge in patients with back problems. The majority of these studies revealed unawareness of patients about the spine and its disorders. For instance, Tavafian et al., who assessed the attitude and awareness of Iranian patients towards LBP, found that 74% of them had little knowledge about LBP and its risk factors. That being said, educational interventions to correct the misconceptions and unawareness have proven to be effective in managing the pain and disability, especially if combined with other treatment modalities like physiotherapy.

The current study was planned to assess the knowledge and awareness of LBP among Saudi patients.

Patients and Methods
This cross-sectional study was conducted at the College of Medicine of the King Saud University, Riyadh, Saudi Arabia, from December 2015 to February 2016, and comprised patients presenting with lower back pain. Approval for the study was obtained from the institutional review board. The LBP knowledge questionnaire (LKQ), developed and validated by Maciel et al., was utilised to assess patients’ knowledge about LBP. The questionnaire consisted of three different domains about LBP: general aspects, concepts and treatment. Questions about basic anatomy, back pain definition along with causes, classifications, methods of diagnosis and general management were already included in the LKQ. In addition to the demographic questions (age, gender, marital status, educational level and monthly income), five more questions about epidemiology, complications and prognosis were added to be interpreted independently. The questionnaire was translated from English to Arabic by three experts in both languages and back
to English by two different translators to confirm an adequate equivalency between the Arabic and English versions. The questionnaire was also reviewed by spine surgeons who had been practising for years in Arabic- and English-speaking countries to ensure linguistic validity. Both male and female patients aged between 15 and 76 years with non-specific chronic LBP regardless of the exact duration were included in the study. Patients with cognitive impairment and those who underwent spine surgery were excluded.

The questionnaire was distributed to all the eligible patients who visited the orthopaedic spine clinics in King Saud University Medical City. The objectives were explained to all participants. Informed consent was obtained from all participants and they were free to withdraw from the study at any time. For patients under the age of 18, the consent was obtained from the patients and their parents. The data was entered into an Microsoft Excel. The scores of each participant for the three domains, i.e. general aspects, concepts and treatment, were calculated by summing all the correct answers with total scores of nine, four and eleven points, respectively. The overall score was also calculated through summing the scores for the three domains as per the published guidelines. Since our data was not normally distributed, a non-parametric Mann-Whitney U test was used to compare the groups. P<0.05 was considered statistically significant.

Results
There were 153 patients and all completed the questionnaire. The overall mean age was 40.2±19.3 years (range: 15-76 years). The number of male respondents was 61(39.9%) and that of females was 92(60.1%). Patients with higher level of education (bachelor’s degree and above) accounted for 72(47%) of the study population while the remainder received secondary education or lower 81(53%). Monthly income of 94(61.4%) participants was more than 5,000 Saudi riyals while the rest had less (Table-1).

The questionnaire’s internal consistency revealed a Cronbach’s alpha score of 0.834 for the twenty-four LKQ items.

The overall scores for the participants without any demographic restrictions had a median (range) of 9 (0-19) with a mean value of 9.16±4.86 out of a total of 24 points. Regarding the general spine aspects, including causes, symptoms and diagnostic methods, 97(63.4%) of the population scored less than five points out of nine. The majority of the participants, i.e.144(94.1%), scored less than three out of four in the concepts and definitions section while 109(71.2%) scored less than seven out of eleven in the treatment section (Table-2).

While comparisons based on the gender and age showed no significant difference in the total score, both the educational level and monthly income were dependent variables (p<0.001 and p=0.007, respectively) (Table-3).

The extra questions about LBP and spine disorders in general were answered by all participants. The majority 103(67.3%) answered yes when asked whether LBP was common among the Saudi community. Moreover,

Table-1: Numbers and percentages of each category of the demographic variables.

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>61 (39.9%)</td>
</tr>
<tr>
<td>Female</td>
<td>92 (60.1%)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>less than thirty years</td>
<td>72 (47.1%)</td>
</tr>
<tr>
<td>more than thirty years</td>
<td>81 (52.9%)</td>
</tr>
<tr>
<td>Educational Level</td>
<td></td>
</tr>
<tr>
<td>Secondary education and lower</td>
<td>81 (52.9%)</td>
</tr>
<tr>
<td>Higher Education</td>
<td>72 (47.1%)</td>
</tr>
<tr>
<td>Monthly Income</td>
<td></td>
</tr>
<tr>
<td>Less than five thousand Saudi riyals</td>
<td>59 (38.6%)</td>
</tr>
<tr>
<td>Five thousand Saudi riyals or more</td>
<td>94 (61.4%)</td>
</tr>
</tbody>
</table>

*Obtained through Mann-Whitney U test.

Table-2: The LKQ scores across categories of the demographic variables.

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>General Aspects</th>
<th>Concepts</th>
<th>Treatment</th>
<th>Overall Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Median (mean ± standard deviation)</td>
<td>Median (mean ± standard deviation)</td>
<td>Median (mean ± standard deviation)</td>
<td>Median (mean ± standard deviation)</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>3 (4±2)</td>
<td>1 (1±1)</td>
<td>5 (4±3)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>4 (4±2)</td>
<td>1 (1±1)</td>
<td>5 (5±3)</td>
</tr>
<tr>
<td>Age</td>
<td>less than thirty years</td>
<td>3 (4±2)</td>
<td>1 (1±1)</td>
<td>5 (5±3)</td>
</tr>
<tr>
<td></td>
<td>more than thirty years</td>
<td>3 (4±2)</td>
<td>1 (1±1)</td>
<td>5 (4±3)</td>
</tr>
<tr>
<td>Education</td>
<td>Secondary education and lower</td>
<td>3 (3±2)</td>
<td>1 (1±1)</td>
<td>4 (4±3)</td>
</tr>
<tr>
<td></td>
<td>Higher Education</td>
<td>5 (4±2)</td>
<td>1 (1±1)</td>
<td>6 (6±2)</td>
</tr>
<tr>
<td>Income</td>
<td>Less than five thousand Saudi riyals</td>
<td>3 (3±2)</td>
<td>1 (1±1)</td>
<td>4 (4±3)</td>
</tr>
<tr>
<td></td>
<td>Five thousand Saudi riyals or more</td>
<td>4 (4±2)</td>
<td>1 (1±1)</td>
<td>6 (5±3)</td>
</tr>
<tr>
<td>All Participants</td>
<td>3 (4±2)</td>
<td>1 (1±1)</td>
<td>5 (5±3)</td>
<td>9 (9±5)</td>
</tr>
</tbody>
</table>

LKQ: Low back pain knowledge questionnaire.
113 (73.9%) respondents believed that non-traumatic spine disorders did not lead to paraplegia. Besides, 142 (93%) answered that sexual dysfunction was not a complication of chronic disorders involving the lower spine segments, and 123 (80.4%) believed that there was no relation between someone with chronic back pain who presented with either faecal or urinary incontinence. Furthermore, around 70 (46%) respondents believed that it was more likely that acute LBP would progress into chronic.

**Discussion**

The present study evaluated the level of knowledge of patients with non-specific LBP about their condition and other problems related to the spine. It was evident that the patients had a limited knowledge about lower back pain since the median score was 9 out of 24 representing only 37.5% of the correct answers. Although people with higher education scored significantly more correct answers than the others, they still had a relatively low level of knowledge as their median was 12, representing exactly 50% of all correct answers. In the original study done by Maciel et al., Brazilian patients had also a low level of knowledge as their average scores in all sections were below 50% with a mean of nine correct answers out of 24.15

The study revealed several misconceptions including the fact that patients with non-traumatic spine disorders believed that their conditions could not be complicated by paraplegia due to any aetiology. It is also very likely that they would not recognise that their spine condition could be the underlying cause of their sexual dysfunction which can improve after surgery. A relatively high percentage of them (46%) assumed that acute back pain would progress into chronic in the majority of patients. Furthermore, it is very important to emphasise on educating patients with spine disorders about the red flags of cauda equina syndrome (CES), including faecal or urinary incontinence, which 80.4% of our patients did not know about. Unfortunately, what contradicts the aforementioned misconceptions have been thoroughly studied and discussed in the literature for a long time and they are not findings that spine surgeons and healthcare providers have recently discovered and need time to implement them in practice.24-33 We believe these misconceptions, along with the exaggerated fear from complications, are probably the reason why 56% of Saudi patients refused surgery when it was offered to them by their treating physicians.34

Since the educational level and income were significantly associated with higher knowledge scores, we ran a Spearman’s correlation coefficient to assess degree of correlation between the two variables. Although the correlation was significant (p=0.01), it was a weak correlation as Spearman’s coefficient was 0.21.35 We think it is because patients with higher income have better access to various health care institutions which increases the probability of them receiving educational services.

One limitation of the current study was that it was conducted in a single setting with a relatively small sample size.

**Conclusion**

The majority of patients with lower back pain in our study...
had limited knowledge about their condition and the related complications. Therefore, it is necessary to start educational campaigns and programmes targeting the general population and those with back pain in particular.

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**Conflict of Interest:** None.

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**References**