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ألم الظهر المزمن والقلق والإكتئاب
دراسة حالة لخمس نساء سعوديات

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الملخص:
هدفت الدراسة الحالية إلى بحث العوامل النفسية لدى خمس نساء سعوديات يعانين من ألم الظهر المزمن غير المسبب بالانزلاق الغضروفي أو المشكلات الصحية الأخرى، ويمثلن فئات عمرية وخلفيات حضارية واقتصادية اجتماعية، وثقافية مختلفة.
تم تطبيق أسلوب دراسة الحالة على النساء الخمس من خلال مقابلات شخصية دورية أجريت في الفترة الممتدة ما بين أبريل ٢٠١١ حتى مارس ٢٠١٢.
أشارت النتائج إلى أن جميع الحالات تعاني من الاكتئاب بدرجات مختلفة تتراوح من الشديد إلى المتوسط وكذلك من انخفاض جودة الحياة. كما أشارت النتائج إلى أن أربع حالات من الخمس يعانين من اضطراب الوظيفة الجنسية. إضافة إلى ذلك، فإن الاكتئاب ربما يتوسط العلاقة بين ألم الظهر وكل من جودة الحياة والوظيفة الجنسية. لكن لم تتوصل الدراسة سوى إلى علاقة ضعيفة بين ألم الظهر والقلق.
أما فيما يتعلق بعوامل الشخصية، فإن درجات عامل العصابية كانت دالة في أربع حالات من الخمس.
تمت مناقشة النتائج في ضوء الدراسات السابقة والإطار الثقافي الاجتماعي للحالات المدروسة.

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interactive relations in the current cohort. Depression may be an intermediary factor between back pain and the other three variables. According to these conclusions, it is of great importance that patients suffering from chronic back pain be subjected to complete psychological examinations that assess psychological symptoms and quality of life status.

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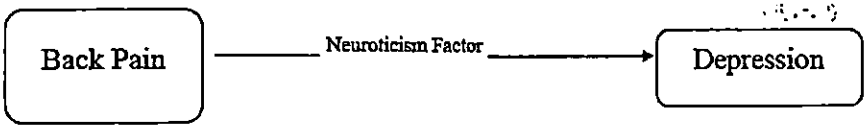
(Figure 2)



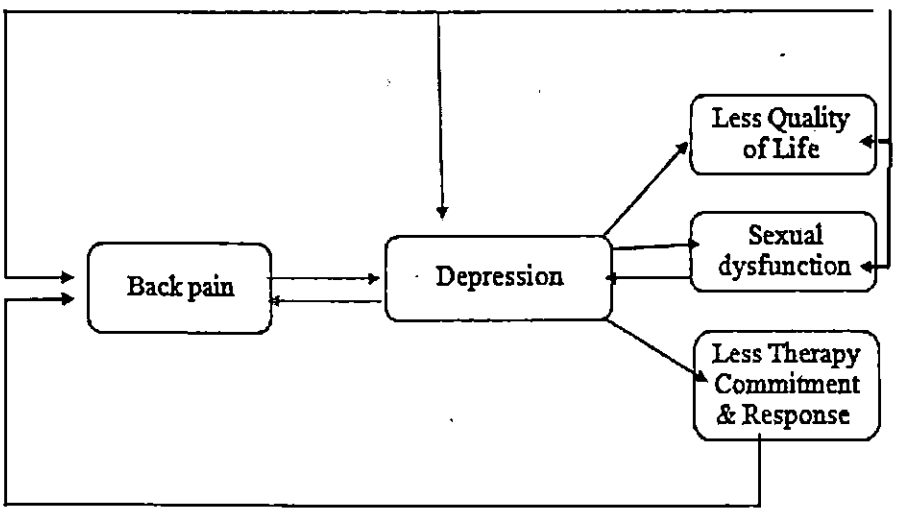
In the current study, we show data consistent with previous findings that neuroticism could be an indicator for depression among LBP patients. This suggests that the early detection of high neuroticism could help predict and diagnose depression in LBP patients, thereby improving treatment outcomes.

The present study showed that levels of anxiety have little, if any, correlation to LBP, as only two of the five examined cases suffered from anxiety. Other groups have also shown that levels of anxiety are not increased, or are only mildly so, in LBP sufferers (Bener et al., 2013; Dickens, Jayson & Creed , 2002). The results of the present study, however, differ from those of several other groups (Manchikant et al., 2002; Esteves et al., 2013; Mngoma , Corbie`re & Stevenson, 2008; 2008; Mok and Lee, 2008; Moix et al., 2011; Kurt, et al 2013), who find that nearly half of the primary care patients suffering from chronic pain have been diagnosed with one or more anxiety disorders. Additionally, Kendra et al., (2010) states that there is a positive correlation between anxiety and pain in the clinical and non-clinical samples. Differences between these findings and those of the present study could be due to the nature of the back pain involved. Although LBP is a chronic ailment that causes physical pain and negatively affects many aspects of the individual's life style, in the current five cases, these women may have accepted LBP as a rather stable kind of disorder that poses no threat to their lives and thus can live with it and still be productive as long as the pain attacks are under control. Additionally, the current cohort is comprised of middle-class and educated individuals with an average age of 36, factors that may play a role in a resilience to anxiety related to LBP.

Conclusion

Back pain, depression, sexual dysfunction, impaired quality of life, and a reduced commitment to therapy are five variables that constitute a circle of

Figure 1



In regards toward the impact of personality traits upon the severity of LBP, the present study revealed an association between back pain and increased neuroticism factor, with one exception. This is consistent with previous reports (Nitch and Boon, 2004; Goubert, Crombez & Van Damme , 2004). We also show a correlation between increased neuroticism factor and increased depression in four of the five cases. These findings are in accordance with those of groups who found that neuroticism is a serious risk factor for depression (Jylh and Isomets (2006); Klein, Durbin and Shankman, 2009). In addition, Kendler, Kuhn and Prescott (2004) find that individuals with higher neuroticism are more susceptible to suffer from depression in the face of adverse life pressures and events than those with lower neuroticism scores. Thus, neuroticism is an intermediary factor between back pain and depression.

It is possible that the failure of these individuals to adhere to non-medical therapy programs was a consequence of their depression. These results are in accordance with previous reports supporting the viewpoint that back pain and depression have a negative impact on therapy commitment and response; reducing the chances of pain relief (Mangerud et al., 2013; Kroenke et al., 2011; Duthey, 2013). Thus, depression can be an intermediary factor between back pain and therapy commitment and response. The treatment of depression in patients suffering from back pain could therefore improve the patient's commitment to therapy and improve their response, leading to a better quality of life.

In another context, we observed that the sexual habits of four of the five cases were negatively affected by LBP. This result agrees with those of previous studies, which show a direct relationship between back pain and sexual dysfunction, and suggest that a decrease in sexual performance and satisfaction is a common problem among patients suffering from back pain (Ambler, William & Hill, 2001; Cambell et al., 2012).

Bahouq et al. (2013) also concluded that chronic back pain could affect all aspects of life, including the sexual function of an individual, while Chatellier and Maigne (2011) found that sexual difficulties are present in between 50% and 78% of back pain patients. Similarly, Laflamme and Marchand (2006) report rates as high as 80%. In the current study, sexual dysfunction could also be an underlying cause of a reduced quality of life. This could be an additional factor in their suffering of depression As the Saudi culture is one in which a woman is assessed according to her ability to have children as well as her sexual performance (Lingawi,2002) , sexual difficulties could have a particularly severe psychological impact. The prospects of aging, or of developing chronic ailments that affect her marriage, are psychological threatening factors that can negatively affect the psychological and health status of individuals like those in the current study.

Our model suggests that chronic LBP, depression, sexual dysfunction, reduced quality of life, and insufficient commitment to therapy are five variables that can constitute an interactive circle, as shown in Figure 1.

psychological disorders. Our results are also in accordance with a number of previous studies in patients with chronic back pain and depression (Mok and Lee 2008; Manchikant et al. 2002; Esteves et al.2013; Mngoma, Corbie`re & Stevenson,2008; Yoshida and Kato, 2011). In contrast to these previous studies, however, the chronic LBP in the subjects of the current study was not caused by cartilage sliding or other specific medical problems. This suggests that, as with previous studies, underlying depression might be a trigger for LBP (Kurt et al., 2013). Other researchers (Duthey, ٢٠١٣; Failde et al., 2012; Carayon, Smith & Haims, 2011; Mok and Lee, 2008; Croft et al., 1995; Yilmazl and Dedeli, 2012) have found that signs of psychological disorder, such as depression, often predict a new cycle of lower back pain. Thus, the relationship between back pain and depression may often be a cyclical or forward-feeding one, in which one ailment contributes to the other.

Given this possibility, our study and others emphasize the importance of the early detection of depression detection among patients with chronic back pain. Diagnosing and treating depression in these patients may help prevent chronic and/or severe attacks pain. In addition, we observed that the quality of life in the current cohort had been negatively influenced by LBP. This negativity is reflected in the difficulties they faced in their daily routine, family care, social relations, sleep habits, work, recreation, and other measures. We suggest that depression may mediate the relationship between back pain and quality of life, as depression, like chronic pain, is known to increase self-pity, withdrawal from life, and decreased work performance and life enjoyment. This conclusion is supported by studies showing a correlation between back pain and depression that negatively effect quality of life (Kroenke et al., 2011; Mngoma, Corbie`re & Stevenson, 2008; Friedrich, Hahne & Wepner, 2009; Viggers et al., 2012; Hee Hong et al., 2014; Ramirez-Maestre, Esteve & López, 2008).

In the current cohort, all subjects had at least a three-year history of complaints regarding the ineffectiveness of medical and physical therapies in relieving their back pain. We observed that, while these patients relied on painkillers, they did not abide by physical therapy and life-style change programs.

Lower back pain (LBP) and Neuroticism: In Table 2, we represent the following conclusions from this study. First, we observed an association between LBP and increased neuroticism in four of the five cases. The neuroticism factor in these four cases (cases 1, 3, 4, and 5) was between moderate and severe. We also observed an association between increased neuroticism and increased depression score in all cases except Case 2. The scores for depression in cases (1, 3, 4, 5) ranges between moderate and severe

We observed no association between increased neuroticism factor and increased anxiety. In fact, in two cases (Cases 1 and 4), high neuroticism was associated with decreased anxiety. In Cases 2 and 5, a higher neuroticism factor was associated with higher anxiety, which ranged between mild and severe.

LBP and Depression and Anxiety: An association between LNP and depression was observed in all five cases. Depression occurred to varying degrees, ranging from mild to severe. We found similarities in the results of the Beck and the Al Taiif Hospital Scale of Depression in all cases except Case 2. The other four cases scored similarly high in terms of depression on both scales. Depression in Case 2 was reported to be mild using the Beck scale, and not present using the Al Taiif Hospital Scale of Depression. We found no association between LBP and anxiety in three out of the five cases, in which anxiety levels were low (Cases 1, 2, and 4). In two cases (3 and 5), LBP was associated with anxiety that ranged between mild and severe. We observed similar results using the Al Taiif Hospital Scale of Anxiety and the Taylor Scale of Anxiety in all cases except Case 5, in which the Taylor Scale of Anxiety reported mild anxiety while the Al Taiif Hospital Scale of Anxiety did not indicate anxiety. We also observed that, except for Case 5, who was unmarried, the participants indicated that their ratings of sexual desire, sexual efficiency, and sexual satisfaction had been negatively affected.

Discussion

The present study found that the five female LBP patients studied suffered from varying degrees of depression, ranging from mild to severe. This finding is similar that of Ellegaard and Pedersen (2012), who found that back pain can cause significant psychological stress, leading to a number of

Table 2: the table shows the results of all five cases using different psychological test scales.

	Medical Diagnosis (back pain as diagnosed at referral place)	Major Five Factor Inventory	Taiif Hospital Scale of Depression	Beck Scale of Depression	Taiif Hospital Scale of Anxiety	Taylor Scale of Anxiety
Case 1	Severe chronic back pain	High score on neuroticism factor + High score on conscientiousness factor	Raw score limited between 60 T-score and less than 70 T-score High Depression	Score 27 Severe Depression	Raw score opposed to less than 60 T-score (Anxiety at normal range i.e.no anxiety	Score 15 No anxiety
Case 2	Moderate Chronic Back Pain	High score on extraversion Factor + High score on openness to experience factor	Raw score opposed to less than 60 T-score Anxiety in normal range(i.e. no anxiety)	Score 12 Mild depression	Raw score opposed to less than 60 T-score Anxiety in normal range(i.e. no anxiety)	Score 13 No anxiety
Case 3	Severe Chronic Back Pain	High score on neuroticism + High score on agreeableness Factor	Raw score limited between 60 T-score and Less than 70 T-score High depression	Score 24 Moderate depression	Raw score limited between 60 T-score And less than 70 T-score High anxiety	Score 28 Severe anxiety
Case 4	Moderate Chronic Back Pain	High score on neuroticism factor	Raw score Limited between 60 T-score and less than 70 T-score High depression	Score 28 Severe depression	Raw score Opposed to less than 60 T-score Anxiety in normal range (i.e. no anxiety)	Score 13 No anxiety
Case 5	Moderate Chronic Back Pain	High score on neuroticism factor + High score on conscientiousness factor	Raw score Limited between 60 T-score and less than 70 T-score High depression	Score 19 Moderate depression	Raw score Opposed to less than 60 T-score Anxiety in normal range (i.e. no anxiety)	Score 19 Mild anxiety

of the major basic factors of a personality using 60 items that were derived from a factor analysis of several personality tests. The list consists of five sub-scales, each of which includes 12 items (per domain) determined by selecting one of five alternatives: strongly agree, agree, neutral, disagree, strongly disagree. The five sub-scales are: Neuroticism, Extraversion, Experience to Openness, Agreeableness, and Conscientiousness. AlShalan (2009) confirmed the validity and consistency of such an inventory in a population similar to that used in the current study, and created a modified version in which 58 items are distributed among the five sub-scales.

Scale 2: The Al Taiif Hospital Scale of Depression is notable as a local standardized scale.

AlDlaim (1993) and others created this scale to determine degrees of depression for clinical diagnosis and research purposes and was shown to be of high validity and consistency. The scale consists of 47 statements, each marked as one of four alternatives: always, sometimes, rarely, or never. The latter options are graded successively as 4, 3, 2, or 1. The statements with the following numbers, however, (1, 9, 10, 13, 15, 21, 24, 39, 40, 41) are corrected reversibly; the options are graded as: (1, 2, 3, 4) successively. The respondent's grade is calculated by adding the grades of all the statements to obtain a figure that is compared with the criteria tables. The higher the grade, the higher the degree of depression.

Scale 3: The Al Taiif Hospital Scale of Anxiety is another useful local standardized scale, created by Aldelem in 1993. This scale aims to measure levels of anxiety for the purpose of clinical diagnosis and research. This scale includes 47 items, each of which has four choices: always, sometime, rarely, never. Higher points indicate higher high anxiety. The last two scales of Aldelem have been shown to be both sensitive and specific. (Twnisi, 2002, Muzahim,2000)

The other two scales used, the Beck Scale of Depression and the Taylor Scale of Anxiety have been well validated in the literature, and require no further description here.

Results

of whom suffered from chronic back pain that had been medically diagnosed as ranging from mild to severe. The cultural, social, economic, and urban backgrounds of the five subjects were varied (Table 1). While all of the subjects lived in Riyadh at the time that they were treated, one subject was originally from the northern region of the Kingdom, while another was from the southern region and the remaining three from the middle region of the Kingdom. The study was conducted between April 2011 and late March 2012, in coordination with hospital regulations and approval.) All treatment took place at outpatient clinics.

Detailed Sample description in the table below:

Table 1 is a description of the study sample in terms of, marital status, educational status and occupation.

	Age	Marital Status	Academic Qualification	Occupation
Case 1	55 years	Married with 7 children (4 girls, 3 boys)	Grade 8	Housewife
Case 2	38 years	Married with 3 children (3 school-age boys)	B.A.	Teacher
Case 3	44 years	Married with 4 children	B.A.	Retired teacher
Case 4	41 years	Married with 4 children	M.A.	University instructor
Case 5	48 years	Single, divorced, no children	B.A.	Administrator

Measures

Collection of information in all cases was performed using private personal interviews that consisted of one researcher and one patient as well as by the completion of an approved standardized form by the patient. All patients are consented for this study and an ethical approval been granted from the clinic board.

To assess the presence of an affective disorder, we applied five different scales: Costa and McCrae Big Five-Factor Inventory, Al Taiif Hospital Scale of Depression, Beck Scale of Depression, Al Taiif Hospital Scale of Anxiety, and the Taylor Scale of Anxiety, to the subjects.

Scale 1: The Costa and McCrae Big Five-Factor Inventory. The NEO Five factor Inventory (NEO-FFI) presented by Costa and McCrae (Costa and McCrae, 1992) is considered to be the first objective tool for the examination

(2013)examined 614 participants with LPB, with a follow up of 4 years (the Netherlands study), and found that only 15% showed anxiety or depression. In 2180 subjects complaining of LBP, Bener et al. (2013) found that 13.7% showed depression and 9.3% showed anxiety. Thus, the incidence of LBP together with anxiety and depression is variable in different populations. In the Arab world, Mokdad et al. (2004) observed an increase in the incidence of LBP, musculoskeletal disorders, anxiety, depression, and related diseases in the Arab world between 1990 and 2010.

The co-existence of LBP with affective disorders, such as anxiety, adds to the already high financial burden and loss of productivity in a society. Moldovan et al. (2009) recommended the routine inclusion of psychological assessment in the care of patients suffering from chronic pain, with the rationale that early interventions will minimize pain and improve the quality of life for these individuals. Nitch, & Boon (2004) found that individuals with particularly high intensities are most likely to experience anxiety and depression. On the other hand, Lance (1999) postulated that, if an individual is able to decrease his/her anxiety and increase his/her acceptance of chronic pain, the individual might be able to better adapt to his/her condition.

Neuroticism and a greater catastrophizing of pain have been observed in patients suffering from chronic LBP, compared to controls (Wade and Price, 2000; Nitch and Boon, 2004; Goubert, Crombez & Van Damme, 2004). Neuroticism involves being anxious, depressed, guilty, tense, irrational, shy, moody, emotional, and having low self-esteem (H. J. Eysenck and Eysenck 1985) and is a predisposing factor for depression (Jylhä and Isometsä, 2006; Klein, Durbin, and Shankman, 2009; Kendler, Kuhn, and Prescott, 2004). Patients with high neuroticism were found to be more emotionally distressed in relation to their LBP (BenDebba, Torgerson & Long, 1997). Chronic LBP also contributes to decreases in sexual desire, sexual arousal, and an incidence of sexual dysfunction as high as 50% to 78% of patients (Bahouq et al., 2013; Maigne and Chatellier, 2011).

The present study examines the association between chronic LBP and depression and anxiety in a small cohort of Saudi Arabian women.

Subjects and Methods

The study sample consisted of five female patients living in Riyadh City, all

Chronic Back Pain, Anxiety, and Depression: A Case Study of Five Female Saudi Patients

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Introduction

Lower back pain (LPB) is defined as tension or stiffness in the muscles below the costal margin (Chou 2011). Colloquially, lower back pain refers to the area between the rib cage and the buttocks. This pain may arise from the muscles, spine joints, or the vertebral discs (Yoshida & kato (2011). Measures of bodily function are defined using international classifications of functioning, disability, and health, and refer to all bodily activities. These measures indicate whether an individual suffering from back pain with limited function fits under the LPB classification (WHO 2001). The American Academy of Pain Medicine states that back pain in workers 40 to 65 years of age costs employers in the US an estimated $7.4 billion per year, emphasizing the high cost of untreated back pain. Added to this statistic is the negative quality of life experienced by patients suffering agonizing chronic pain over long periods of time.

LPB is a common ailment; Yamada et al. (2014) showed that the incident of LPB is found in up to 25% of surveyed subjects. Jacobs (2006) demonstrated an incidence of LBP of 18.4%. Thus, a significant portion of the population complains of LBP. Many studies have found an association between the presence of chronic LPB and the incidence of anxiety (Hedda et al., 2011). In fact, the most common psychological disorders that are studied in conjunction with with LBP are anxiety and depression (Nitch, & Boon (2004) . In one study, 55% of males and 48% of females with LBP displayed anxiety or depression (Sagheer Khan & Sharif (2013). In contrast, Gerrits et al.,

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Abstract

The aim of the present study was to examine psychological factors in five Saudi females of various ages who represent different cultural, social, economic, and urban backgrounds. All the selected subjects suffered from chronic back pain that was not caused by cartilage sliding or other medical problems.

The current case study approach was adopted during periodic personal interviews conducted between April 2011 until March 2012. It was observed that all subjects are suffering from varying degrees of depression ranging from severe to mild and low quality of life. It was also observed that four of the five subjects had experienced impaired sexual function. Our findings suggest that depression in these subjects may mediate the relationship between back pain, quality of life, and sexual function. We observed weak association between back pain and anxiety in this cohort. In terms of personality factors, measures of neuroticism were significant in four of the cases. We discuss the results in light of previous studies, and seek to interpret them within the socio-cultural framework of the subjects examined.

Keywords: anxiety, depression, chronic back pain