Introduction

In the recent years, there is a tremendous development in neurosurgery techniques for the treatment of spinal diseases,[1] these include new tools like; micro endoscope.[2] However, even with all of these techniques and improvement of surgery, patients of neurosurgery have concerns regarding spinal operations and its benefits, thus leading to increasing rate of rejection of surgery and delay of treatment.[3,4] For that the outcomes of spinal surgery still have some limitations and not all patients report satisfactory recovery.[5,6] A Chinese study done in October 2014–January 2015 analyzed the preoperative concerns of 94 Chinese patients suffering from spinal degenerative disease. The result was the "recurrence of symptoms following operation" (41/94) as most concerned, followed by "clinical outcome" (35/94) and "postoperative rehabilitation and daily activity" (30/94). [7] And another preliminary study done among 100 patients in Turkey, for whom spinal operations were recommended for...
several reasons, and who had not accepted surgery. Forty-six patients stated they had distrust of surgery, and 54 patients did not want to be operated on for personal reasons. After comparing the two groups, they found that neurosurgical operations and the history of dissatisfaction of the patient or an acquaintance was significantly higher in the first group \((P < 0.001)\) and 40% of all the patients \((n = 40)\) had a past unpleasant neurosurgical experience that was either personal or relevant.\(^{41}\)

Because there is a lack of literature on this aspect, and in our population in KSA especially in Hafar Al-Batin, patients often have second thoughts about spine surgery. Therefore, this study was planned to analyze the concerns of spinal patient about the spinal surgeries and why they refused the surgery when it recommends for them.

The purpose of the research was to address these concerns by educate patient and community about surgery with videos in Arabic distribute in social media, as time is a critical factor in neurosurgical patients.

**Method and analysis**

**Cross-sectional study**

A questionnaire survey of patients attending neurosurgery clinic at central hospital King Khalid General Hospital in hafar Al-Batin, Saudi Arabia, was done. This cross-sectional study has included a survey questionnaire distributed manually to record their demographic data (age, gender, and occupation), most common concerns and their information Source. Based on the nature of the research and the objectives, it sought to achieve, the data were analyzed using the IBM Statistical Package for Social Sciences (SPSS) version 21.0 and the results were extracted. The results of the frequency tables were analyzed and the standard deviation was determined. The correlation coefficients were analyzed using the Pearson correlation coefficient to establish correlation between the variables related to age, occupation, level of education and rejection of surgery, or search for alternatives treatment or belief in serious injuries. The Alpha Cronbach criterion was used to determine the consistency criterion for questionnaire questions.

**Results and Discussion**

**Reliability**

Cronbach’s Alpha was used to measure Reliability but it needs improvements to reach 0.6. Scale: All variables.

**Frequencies**

Homogeneity is noted at the samples pecifications according to gender, ages, and heterogeneity according to occupation, level of education, and diagnosis.

**Frequency table**

The majority of our sample from males with rate 59.3% and 40.7% females.

The characteristics of the sample according to age 49.5% from 20:40 years old, 37.4% from 41:60, 61 and above 12.1%.

According to occupation 26.4% from the sample homemaker, 18.7% office job and the same percentage military, 12.1% retired, 16.5% others.

The majority suffers from trauma with rate 48.4%, 20.9% degenerative spine disease, 12.1% tumors, 14.3% others.

According to education level 34.1% university, 22% illiterate, 16.5% secondary, 13.3% intermediate, 13.2% primary.

A homogeneity is noted at the sample opinion according to undergone spine operation, satisfaction on spine surgery and heterogeneity according to dissatisfaction on spine surgery, response at the need of spine surgery, response at the searching for other treatment alternatives or rejection of spine surgery, thoughts about surgery and information sources.

**Frequency table**

25.3% from the sample have undergone spine operation in the past, 72.5% did not.

The satisfaction rate among who undergone spine operation was in a high level as 20.9% from 25% who already get into this surgery was satisfied with surgery outcome, only 6.6% were not satisfied.

The reasons of not satisfaction mostly were recurrence of symptoms, no improvement, pain after surgery, and other.

About the patient feedback upon his/her reaction if they need spine operation the majority with 46.2% will accept that but 29.7% will delay surgery and looking to alternatives, 23.1% will reject because of concerns.

Reasons for not accepting the spine surgery and search for alternative were following: life risk, limb paralysis, possibility of failed surgery, recurrence of pain, postoperative rehabilitation, hospitalization exposure, fear of loss job, and existence of a systemic disease.

About the thoughts on spine surgery, the majority with 34.1% opinioned that there is risk to lose function, e.g., I cannot walk or difficulties in bathroom, 22% think it causes limb paralysis, 20.9% other, 13.2 thought may be the symptoms recurrence again, 8.8% thought of no benefit from it or expectation of small improvement.

The information source for the patients were 45.1% the relatives, 25.3% doctors, 15.4% internet, 12.1% Social media and 2.2% others.

**Correlation**

A negative correlation was found between age and level of education and occupation and rejection of spine surgery or searching for alternative treatment and thinking of risk to lose function, e.g., or cannot walk or difficulties in bathroom.
Results and Discussion

The total sample consisted of 59.3% males and 40.7% females. 49.5% from the age group of 20–40 years, 37.4% from 41 to 60, and 12.1% were above 60 years. Looking at the occupation, 26.4% were homemakers, 18.7% had office job and the same percentage had the military background, 12.1% retired, 16.5% others. According to education level, 34.1% university educated, 22% were illiterate, 16.5% were secondary, 13.3% were intermediate, and 13.2% were only primary educated. The majority suffers from trauma with rate 48.4%, 20.9% degenerative spine disease, 12.1% from tumors, and 14.3% others. We note homogeneity at the sample opinion according to undergone spine operation as 25.3% from the sample have undergone spine operation in the past, 72.5% did not. We found a negative correlation between age and level of education and employment status.

The satisfaction rate among who undergone spine operation was in a high level as 20.9% from 25% who already get into this surgery and was satisfied with surgery outcome, only 6.6% was not satisfied which confirms the results of Yoon JP, Oh JH, Min WK, Kim JW, Jeong WJ, Lee HJ study and Brandt MG, Rotenberg BW, Yeung JC, Franklin JH, Doyle PC study as not all patients report satisfactory recovery, only who get through reported that and who did not still confirms there concerns we can add from our study that The reasons of not satisfaction mostly was recurrence of symptoms, no improvement, pain after surgery and other.

Regarding need of spine surgery, it was found the majority with 46.2% will accept that but 29.7% will delay surgery and looking to alternatives, 23.1% will reject because of concerns, a finding which is similar to the Turkish study which applied on 100 patients results as 54 patients did not want to be operated on for personal reasons. This study examines the reasons for as it was-life risk, limb paralysis, possibility of failed surgery, recurrence of pain, Other, clinical outcome, postoperative rehabilitation, hospitalization exposure, fear of loss job, and existence of a systemic disease. We found also according to the thoughts about spine surgery the majority with 34.1% think that there is risk to lose function, for example, I cannot walk or difficulties in bathroom, 22% think it causes limb paralysis, 20.9% other, 13.2% stating the symptoms might recurrence again, 8.8% stated no benefit from it, which is different from Chun-Xiao Luo, * Yang Yang, et al. study.

We found that the information source for the patients were 45.1% close relatives, 25.3% doctors, 15.4% internet, 12.1% from social media, In comparison with Durdag E1, Labara S, et al. results as 40% of all the patients (n = 40) had a past unpleasant neurological experience that was either personal or relevant reject immediately acceptance of spine surgery if it needed based on relatives and displeased experience

Recommendations

1. Need of awareness campaigns about the importance of spine surgery in case of need to correct perception of patients
2. Due attention should be given to correct diagnosis
3. Provide the correct information about the complications of spine surgery if needed to dispel the false perceptions about major concerns that may be largely untrue and delays treatment and thus deteriorate health condition
4. Because there is a large proportion of the cause of injury to accidents, prefer to need of training courses to address the risk of injury and how to deal with injury at the beginning.

Conclusion

There are concerns in a wide range of patients suffering from spine problems requiring surgical intervention, despite the great progress in these surgeries. Patients continue to rely on their opinions on previous unsatisfactory experiences, as well as the experiences of relatives in the absence of clear awareness. It is known that delay in surgery or receiving proper treatment may cause the deterioration of some cases, which requires a clear intervention and awareness of the real necessities such as surgery. Further diagnosis needs to be taken care to prevent complications and reduce negative outcomes.

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Conflicts of interest

There are no conflicts of interest.

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