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The Effect of Unreliable Social Media Use on Preoperative Cesarean Anxiety

Güvenilir Olmayan Sosyal Medya Kullanımının Ameliyat Öncesi Sezaryen Anksiyetesine Etkisi

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ÖZ

Amaç: Günümüzde birçok hasta sosyal platformları kullanarak sezaryen hakkındaki kişisel deneyimlerini ve görüşlerini paylaşmaktadır. Popüler bir fenomen olmasına rağmen, bu paylaşımların güvenilirliği ve hastanın anksiyetesine üzerindeki etkisi hakkında çok az şey bilinmektedir. Bu çalışmada, amacımız literatürde ilk olarak, sosyal medya kullanımının, hastaların ameliyat öncesi sezaryen anksiyetesine düzeylerine etkisini araştırmaktır.

Gereç ve Yöntem: Etik kurulun onayıyla, elektif sezaryen öncesi görülen 250 gebe çevrimiçi platformların kullanımıyla ilgili prospektif, tek merkezli bir anketi ve ayrıca ameliyat öncesi kaygı düzeyleri için Amsterdam Ameliyat Öncesi Kaygı ve Bilgi Ölçeğini (APAIS) doldurmaları istenmiştir.

Bulgular: 205 hasta anketi cevaplamıştır ve hastaların %98,8'i internet kullanıcılarıdır. Ayrıca makale okuyanların %72,9'u ve video izleyenlerin %58,3'ü sezaryen için genel anestezi istemediklerini belirtmişlerdir. İnternette sezaryen anestesizi ile ilgili makale okuyanların ve video izleyenlerin APAIS anksiyete skorları daha yüksek bulunmuştur. Anestezi ile ilgili anksiyete cerrahi ile ilgili anksiyeteden anlamlı olarak daha yüksektir. Bu çalışma literatürde sosyal medyanın anksiyete üzerindeki etkisini değerlendiren ilk çalışmadır.

Sonuç: Bu çalışmada gebelerin yüksek oranda sosyal medya kullandığı ve güvenilirliği kontrol edilemeyen sosyal medya kullanımının hastaların anksiyete düzeylerini artırıcı etkisi olduğu gösterilmiştir.

Anahtar kelimeler: Anksiyete, sezaryen, internet, APAIS, rejyonel anestezi

ABSTRACT

Aim: Nowadays, many patients use social platforms to share their personal experiences and opinions about caesarean section. Despite being a popular phenomenon, little is known about the reliability of these posts and their impact on patient anxiety. In this study, our aim was to investigate, for the first time in the literature, the effect of social media use on patients' preoperative caesarean section anxiety levels.

Method: With the approval of the ethics committee, 250 pregnant patients seen before an elective caesarean section were asked to complete a prospective, monocentric questionnaire about the use of online platforms and also to complete the Amsterdam Preoperative Anxiety and Information Scale (APAIS) for preoperative anxiety levels.

Results: 205 patients answered the questionnaire and 98.8% of the patients were internet users. Also 72.9% of those who read articles and 58.3% of those who watched videos stated that they did not want general anaesthesia for caesarean section. APAIS anxiety scores of those who read articles and watches videos about caesarean section anaesthesia on the internet were higher and anaesthesia-related anxiety was significantly higher than surgery-related anxiety. This is the first study which evaluated the social media effect on the anxiety in the literature.

Conclusion: The findings show that pregnant women use social media extensively and that the use of social media, the reliability of which cannot be controlled, has an increasing effect on patients' anxiety levels.

Keywords: Anxiety, cesarian-sectio, internet, APAIS, regional anesthesia

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INTRODUCTION

Internet-based health information comes from a wide variety of sources. It can be highly specialised, as recently demonstrated in the field of regional anaesthesia, or easily accessible, such as social media, which provide information or services by enabling users to connect with others who share their interests or goals. (1) Social networks such as YouTube, Instagram, Twitter or the others are not only a storage of videos but also a popular social network where users can interact and socialise (e.g. commenting, favouriting and following). Participating in communities and forums, blogging or tweeting are some of the activities of the so-called "ePatient", individuals who are "equipped, enabled, empowered and engaged in their health and health care decisions" (2). Especially after COVID-19, ePatients have started to share online videos about their health or medical problems, which seems to be partly driven by the inability of contemporary medical practice to meet patients' needs that go beyond the traditional treatment they receive, a trait also identified by participants in online health care groups. (3)

Anxiety is defined as a transient emotional state of unpleasant feelings of tension, apprehension, nervousness and fear, and high autonomic nervous system activity (4). Patients feel nervous or worried that something might happen, most commonly during the perioperative and postoperative periods, and affects patients' comfort and well-being. Up to 60-80% of patients experience anxiety before surgery. (5,6) Factors that contribute to anxiety include cultural diversity, age, gender, type of surgery and anaesthesia, previous experience with anaesthesia or surgery, and inadequate preoperative information. Studies have shown that the incidence of preoperative anxiety is higher for caesarean section and for the most common technique, regional anaesthesia (RA), than for other anaesthetic techniques and surgical procedures.. (7,8,9)

However, there are many studies in the literature about the use of hospital or suggested websites for an upcoming anaesthesia or procedure, but there is no study about the uncontrolled social media use for information and the effect on anxiety. We therefore conducted a survey of patients undergoing elective C/S at our institution to assess whether patients use social media to seek information about anaesthesia and the effect of information on their anxiety levels using the Amsterdam Anxiety Scale.

MATERIALS AND METHOD

This single-arm, prospective, observational cohort study included 250 patients scheduled for elective cesarean section at the Obstetrics and Gynaecology Department of Ankara Bilkent City Hospital. Patients were between 18 and 45 years of age, American Society of Anesthesiologists (ASA) Class I-II, who volunteered to participate in the study and were able to understand the questionnaire and give informed consent. Patients were excluded if they had major cognitive impairment or any mental disorder that could affect the results, such as inability to read and understand Turkish, and if they required emergency surgery. Patients agreed to participate by completing the study questionnaire. The sample size was set to include approximately the same number of patients as in similar studies.

This study was approved by the Ethics Review Board of Ankara Bilkent City Hospital (approval number: E1-21-1739) and registered in the Clinical Trials Registry (NCT05416541).

Each questionnaire was collected by the study coordinator. The questionnaire used for this paper consisted of three sections. (A: patient characteristics; B: internet and social media use; C: Amsterdam Preoperative Anxiety and Information Scale).

The first part analysed demographic information such as age, education, number of pregnancies, whether she had had surgery before, if so, what type of anaesthesia was used, how many caesarean sections she had, if she had had a caesarean section before, what type of anaesthesia was used.

The second part analyses internet use. It will be found out whether the patient uses the internet, if so, how often she uses it, which portals she uses most to exchange information (YouTube, Facebook, Twitter, Instagram, blogs and Google) and whether she used the internet to get information (text, video) about her anaesthesia during her pregnancy. If she has exchanged information, we will ask her opinion about the written or visual information she has seen or read. We will then ask whether she would change her choice of anaesthesia as a result of the information she found on the internet.

In the final section of the questionnaire, preoperative anxiety was assessed using the Amsterdam Preoperative Anxiety and Information Scale (APAIS), which has been translated and validated in Turkish. (10)

The APAIS is a self-report questionnaire consisting of six items. Two items assess anxiety related to anaesthesia, two items assess anxiety related to surgery, and two items assess desire for information. Thus, the APAIS assesses patients' anxiety about anaesthesia, surgery, and lack of knowledge, and the score ranges from 6 to 30. (11)

Statistical Analysis

Statistical analysis was performed using SPSS 17.0 program (SPSS Inc, Chicago, IL, USA). Continuous variables were presented as mean \pm standard deviation and median (min-max), and categorical variables were expressed as number (percentage). Conformity to normal distribution was tested using Kolmogorov-Smirnov test. Student's t-test was used for comparing normally distributed data, Mann-Whitney U test was used for comparing non-normally distributed data, and Pearson's chi-square or Fisher's test was used for comparing categorical variables. $p < 0.05$ was considered statistically significant for all tests.

RESULTS

Of the 250 patients who were asked, 99.6% ($n = 249$) agreed to take part in the study, and the mean age was 29,22[4,59] years. The median and minimum-maximum number of parities was 2 (1-7). 82.7% ($n = 206$) of the patients had experience of anaesthesia.

98.8% of the patients ($n=246$) were internet users and 93.6% of them ($n=231$) were daily internet users. 68.2% ($n=170$) of patients had completed primary or secondary school, and the remaining 31.8% ($n=79$) had completed university. Internet use didn't show any correlation with education. (Table 1)

Who agreed the questionnaire (mean) (%)	99.6 (n= 249)
Age (mean)	29,22 ± 4,59 years
Parite (mean)	2
Experienced anaesthesia before (%)	82.7 (n = 206)
Education (%)	
Primary – secondary	68.2 (n=170)
University	31.8 (n=79)
Internet users (%)	98.8 (n=246)
Daily internet users (%)	93.6 (n= 231)
Read articles about C/S anaesthesia.	34.6 (n=85)
from internet (%)	
Watched videos about C/S anaesthesia from internet (%)	29.3 (n=72)

Among internet users, 34.6% (n=85) had read articles and 29.3% (n=72) had watched videos about caesarean section anaesthesia on the internet. The proportion of those who read articles or watched videos about caesarean section anaesthesia on the Internet was statistically significantly higher among university graduates ($p < 0.05$). 72.9% (n=62) of those who read articles and 58.3% (n=42) of those who watched videos stated that they did not want general anaesthesia for caesarean section. 80.1% of those who had not read about caesarean section anaesthesia on the internet or 74.1% of those who had not watched a video had no opinion about anaesthesia.

APAIS anxiety scores of those who read articles about caesarean section anaesthesia on the internet were statistically significantly higher than those who did not (18 vs 15) ($p = 0.01$). Anxiety scores of those who watched videos were statistically significantly higher (20.5 vs 15) ($p = 0.0001$). From the answers given to APAIS scores, it was observed that anaesthesia-related anxiety was significantly higher than surgery-related anxiety ($p < 0.05$). It was also observed that APAIS score was significantly higher in university graduates than non-university graduates ($p < 0.05$).

DISCUSSION

The number of so-called “e-patients”, patients who routinely use the Internet to obtain information about their health care, is steadily increasing. (12) In our study, we found that 98.8% of patients were internet users, and 72.9% of those who read articles and 58.3% of those who watched videos stated that they did not want general anaesthesia for caesarean section. The APAIS anxiety scores of those who read articles and watched videos about caesarean section anaesthesia on the internet were higher, and it was also observed that anaesthesia-related anxiety was significantly higher than surgery-related anxiety. This is the first study in the literature to evaluate the effect of social media on anxiety.

The participation rate was high at over 99.6%. The main finding of the survey was that most young patients had used social media and 98.8% of them used it to find out more about anaesthesia.

The motivation of these e-patients is to find the information they want quickly and easily. As only a few minutes are dedicated to the explanation of anaesthesia, this may not be enough for patients (its advantages and disadvantages, as well as risks and alternatives, if they exist). (13)

In the literature, Murero et al. showed that patients after cardiac surgery showed that one fifth of the surveyed 80 patients, Kurup et al. showed that about 40% of their 877 enrolled patients and Weiser et al. showed that less than one third of the 815 patients had used the Internet preoperatively to obtain medical information about surgical procedures not for upcoming anaesthesia. (14,15,16) In these studies, searches for elective anaesthesia are significantly lower than in our study. This is consistent with a previous report that showed that patients were significantly more afraid of surgery than of anaesthesia in the pre-anaesthesia visit. (17) From the responses to the APAIS scores in our study, anaesthesia-related anxiety was significantly higher than surgery-related anxiety. The reason for the difference from the other studies may be that the mean age was higher than in our study and the time per patient in the preoperative anaesthetic visit was longer. Again, while in these studies anaesthesia anxiety decreased with education, in our study the opposite was found.

In our study, we found that almost all of our patients used the internet and social media. Because the so-called “e-patient” seems to be younger and our mean age was 29,22±4,59 years younger than these studies and also our study group consists only of women. (3)

Various studies have reported that 73.3% to 86% of women undergoing caesarean section experience preoperative anxiety. (18) Anxiety before caesarean delivery is associated with increased incidence of hypotension after spinal anaesthesia, refusal of caesarean delivery or regional anaesthesia, also decreased Appearance, Pulse, Grimace, Activity and Respiration (APGAR) score, readmission or prolonged hospital stay, infection, increased postoperative pain scores, increased analgesic requirement and cost of hospitals, which reduces overall maternal satisfaction with perioperative hospital services. (9,19,20) In our study, we found that 72.9% of those who read articles and 58.3% of those who watched videos from social media said they did not want general anaesthesia for caesarean section.

Therefore, identifying and reducing perioperative anxiety in women undergoing CS has become more important. The ASA reports the need for a preoperative anaesthetic assessment for all patients. The provision of anaesthesia information and preoperative educational interventions has been shown to reduce preoperative anxiety. (6) The ideal method of providing this information is unknown. Most information aimed at reducing preoperative anxiety is given to the patient verbally or in writing, but this is not always easy for the patient to understand. Recent research has shown that even when information is given to healthy, educated young volunteers in an ideal environment, recall is low. (21) Pre-operative anaesthetic counselling, hospital or procedure websites recommended by doctors are important for pre-operative anxiety levels. Because it is easy to use and accessible, women use internet social media (blogs, YouTube, Instagram, Twitter and Facebook) to reduce their anxiety. They search for information about pregnancy and parenting, share information of their choice with others, and build social networks to strengthen social support. (22)

In January 2022, there were 69.95 million internet users in Turkey. And 50.6% are women; over 40.7% are aged 18-44. The number of internet users in Turkey increased by 3.9 million (+5.9%) between 2021 and 2022, but the issues surrounding COVID-19 continue to affect research into internet penetrati-

on, so the actual number of internet users may be higher than these published figures suggest. (23) (<https://datareportal.com/reports/digital-2022-turkey>) Given the high level of internet use, concerns have been raised about the possibility of public manipulation by pharmaceutical marketing strategies and misleading public opinion by false claims from unreliable sources, and these should be acknowledged. (24) Other disadvantages of using social media for health information were misinformation faced by consumers and increased knowledge about the procedure, awareness of complications. (25) Similar to our study, Tanis et al. reported that unsupervised online videos can occasionally cause anxiety. (26)

CONCLUSION

It seems that we need to consider directing our patients to reliable and credible resources when appropriate. The quality of online anaesthesia information is variable, with reports of good quality information on several anaesthesia-related topics, but also that most anaesthesia information available on the World Wide Web is of poor quality, and that it is difficult for patients searching the Internet to find and understand how to evaluate good quality anaesthesia-related sites.

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