RESEARCH ARTICLE

The assessment of odontophobia among Syrian refugees at the Moroccan military medical and surgical hospital in the Zaatari camp in Jordan and its influence by post-traumatic stress disorder: about an epidemiological investigation

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Abstract

Introduction:
Odontophobia is a complex anxiety disorder related to excessive fear of dental care. Of multifactorial origin, it affects more females than males at all ages. Odontophobia can also be associated with other disorders, namely post-traumatic stress disorder (PTSD), which is recognized in refugees from civil wars.

Materials and methods:
Descriptive and analytical cross-sectional epidemiological study, carried out during February 2020 at the Syrian refugee camp in Zaatari, Jordan, involving 200 consultants at the dental office to assess their degree of odontophobia and to determine the risk factors associated with this disorder, particularly post-traumatic stress disorder (PTSD).

Results:
The authors collated 200 subjects of which 125 (62.5%) were phobic with a corah score (≥13) and 75 (37.5%) were non-phobic with a corah score (<13). The sex ratio was statistically different between the two populations with a predominance of female sex (p=0.025). Odontophobia is also related to the length of time spent in Syria during the civil war, it is observed more in 96 (48%) patients who spent between (13 and 24 months) (p=0.017). Similarly, odontophobia is influenced by post-traumatic stress disorder in its severe form (p=0.011).

Conclusion:
Descriptive and analytical observational epidemiological study showing the high prevalence of odontophobia among Syrian refugees consulting at the dental office of the Moroccan military medical-surgical hospital in Zaatari camp in Jordan and its influence by post-traumatic stress disorder (PTSD).

Keywords: odontophobia, post-traumatic stress disorder, Syrian refugees.
INTRODUCTION

Odontophobia is a complex anxiety disorder related to excessive fear of dental care. It can manifest itself as a feeling of fear, anxiety or phobia. It is multifactorial in origin and may be linked to a history of psychological trauma experienced in early childhood or to a negative influence from the phobic person’s entourage. It may also have a cultural or subconscious origin such as claustrophobia, insect phobia or other phobias.

In addition, odontophobia can also be causally linked to other psychological disorders, namely post-traumatic stress disorder (PTSD), which is recognized particularly among refugees from civil wars. PTSD is considered to be a severe anxiety disorder that appears following a traumatic event. The objective of our work is to evaluate, through a descriptive and analytical epidemiological study, the anxiety profile of Syrian refugees consulting at the dental office of the Moroccan military medical-surgical hospital at Camp Zaatari in Jordan and to study the risk factors associated with this disorder, particularly post-traumatic stress disorder (PTSD).

MATERIALS AND METHODS

Objective and research framework:
This is a descriptive and analytical cross-sectional epidemiological study conducted during February 2020 at the Moroccan military medical and surgical hospital in the Syrian refugee camp at Zaatari in Jordan. The questionnaire consisted of a first part containing patient identification information (age, gender, monthly income, time spent in Syria during the civil war) and a second part assessing the anxiety profile of patients through the Corah Score (validated) and the degree of post-traumatic stress disorder (PTSD) through the Revised Event Impact Scale (R-ISIS).

The Corah Score was developed in 1969 as a characteristic measure to assess a patient’s tendency to apprehend a potentially dangerous and threatening situation, such as dental care. It is still the most widely used measure of dental anxiety to this day. This tool consists of four multiple-choice questions that capture the patient’s subjective reactions, each corresponding to a different dental situation. This scale consists of 1 question with 4 items measured from (1 to 4) points and 3 questions with 5 items measured from (1 to 5) points. The total score obtained from all the answers is between a value < to 13 determining non-phobic patients and a value > or = to 13 determining phobic patients.

The Revised Event Impact Scale (R-ESI) is a means of assessing the severity of post-traumatic stress in a given population. The R-ESI score consists of 22 items, scored on a 5-point frequency scale ranging from 0 (not at all), 1 (somewhat), 2 (moderately), 3 (a lot), and 4 (extremely). The scoring distinguishes 3 subscales: an avoidance subscale (items 5, 7, 8, 11, 12, 13, 17, 22), a memory intrusion subscale (items 1, 2, 3, 6, 9, 14, 16 and 20) and a hyperarousal/high neurovegetative activation subscale (items 4, 10, 15, 18, 19 and 21). Scores are obtained by summing the responses for each item. The authors currently choose to take a total score of (0 to 39) in favour of mild symptoms, a score between (40 and 55) in favour of a moderate disorder and a score of (56 or higher) for severe symptoms.

Target population:
The criteria for inclusion in our study were:
- Age between 6 and 60 years of age.
- Non-emergency consultants at the dental office of the Moroccan military medical-surgical field hospital in the Syrian refugee camp in Zaatari.

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- Good general state of health (no medical-surgical ATCD).
- No previously diagnosed psychological disorder mentioned in the patient’s health record.
- Proficiency in reading Arabic or English.

Exclusion criteria were age less than 6 years or more than 60 years, a general or psychological health problem, and poor command of Arabic or English. Patients were informed about the goals of the survey and the framework for participation. Written consent was obtained from all participants and children were assisted by their parents in completing the questionnaire. A new database was developed after the scale scores were determined to allow for statistical analysis using Microsoft SPSS version 20 data processing software. The biostatistical study was approved by the Biostatistics and Epidemiological Research Laboratory of the Faculty of Medicine and Pharmacy in Rabat.

3 | RESULTS

During the study period, we collected 200 patients who met our inclusion criteria, divided according to the following variables: age, gender, monthly income and time spent in Syria. We also assessed anxiety and the degree of post-traumatic stress disorder (PTSD) in this population.

a. Description of the target population:

By studying the descriptive parameters of the population, we obtained the following results:

. 42 (21%) patients are in the 6 to 12 year age range, 47 (23.5%) in the 13 to 20 year age range, 51 (25.5%) in the 21 to 35 year age range and 60 (30%) in the 36 to 60 year age range.

. 132 (66%) patients are female and 68 (34%) are male.

. 120 (60%) patients have a monthly income <200$, 60 (30%) patients have a monthly income between 200 and 300$, and 20 (10%) have a monthly income of 300$ or more.

. 28 (12%) patients spent during the civil war in Syria between 3 to 6 months, 70 (35%) between 7 to 12 months and 106 (53%) between 13 to 24 months.

b. Assessment of anxiety and degree of post-traumatic stress disorder:

We evaluated the anxiety and the degree of post-traumatic stress disorder in the study population, the results obtained are as follows:

. 125 (62.5%) patients are phobic with a corah score (> or = to 13) and 75 (37.5%) are non-phobic with a corah score (< to 13).

. 128 (64%) patients have mild post-traumatic stress disorder (PTSD) (IES-R score = 24), 62 (31%) have moderate disorder (IES-R score = 48) and 10 (5%) have severe disorder (IES-R score = 56).
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c. Prevalence of odontophobia in the study population:
In this study, we studied the prevalence of odontophobia in the target population according to age, gender, socio-economic level, time spent in Syria during the civil war and post-traumatic stress disorder. The results are shown in the following table:

| Characteristics of the population | Phobic (N) | Nophobic (N) | p     |
|----------------------------------|-----------|--------------|-------|
| Age                              |           |              |       |
| 6 to 12 years old               | 27        | 15           | 0.75  |
| 13 to 25 years old              | 32        | 15           |       |
| 26 to 40 years old              | 31        | 20           |       |
| 41 to 60 years old              | 15        | 25           |       |
| Gender                           |           |              | 0.025 |
| Female                          | 99        | 61           |       |
| Male                            | 26        | 14           |       |
| Monthly income                  |           |              | 0.12  |
| < than 200 dollars              | 15        | 53           |       |
| 200 to 300 dollars              | 12        | 45           |       |
| 300 dollars and more            | 10        | 65           |       |
| Time spent in Syria             |           |              |       |
| 3 to 6 mois                     | 29        | 16           | 0.017 |
| 7 to 12 mois                    | 29        | 10           |       |
| 13 & 24 mois                    | 67        | 49           |       |
| Post-traumatic stress disorder  |           |              |       |
| Light                           | 76        | 33           | 0.013 |
| Moderate                        | 41        | 40           |       |
| Severe                          | 8         | 2            |       |

d. Risk factors associated with odontophobia in the target population:
We investigated the correlation between anxiety disorder and qualitative variables in this population that showed statistical significance during the odontophobia prevalence study. The Odds ratio (OR) was calculated within a 95% confidence interval.

4 | DISCUSSION:

This is a descriptive and analytical cross-sectional study to assess odontophobia in a Syrian refugee population and to determine a possible correlation between this disorder and recognized post-traumatic stress disorder in individuals who have experienced traumatic events. During this work, the questionnaires were completed in the waiting room of the dental office of the Moroccan military medical-surgical hospital in Camp Zaatari. The distribution was systematic and without knowledge of the reason for consulting the patients. This mode of distribution did not recruit patients who came to consult only in emergencies but for different reasons and therefore did not generate a bias in the selection of phobic patients.

Inclusion did not take into account the gender of the subjects since our sample included 160 (80%) female patients and 40 (20%) male patients.

The results of the questionnaires showed a proportion of 125 (62.5%) phobic patients. Of these, 24% were described as very severe with a Corah score greater than 15. Within the scientific literature, the prevalence of odontophobia varies according to studies, populations, cultures and countries with values close to 10% (4.7). The results obtained in our study are important, given that (62.5%) of the subjects studied are phobic to varying degrees. This result can be explained by the peculiarity of the population studied, which is mainly made up of refugees from the Syrian civil war whose stress, disorientation and the influence of post-traumatic stress disorder can be incriminated.

The statistical results obtained after using the Chi 2 test and Pearson’s correlation led to the conclusion
that odontophobia is not related to the age of the patients (p=0.75). This result can be explained by the size of the population studied in each age group, which may generate inconclusive results. In addition, the sex ratio is statistically different between the two phobic and non-phobic groups (p=0.025), with a predominance of female sex. Indeed, a Norwegian study comparing the evolution of dental phobia by sex between 1997 and 2007, presents respectively the rates of 11.5% for the male sex against 23% for the female sex in 1997 and respectively 11.3% and 19.8% in 2007. Women have higher levels of dental phobia but visit dental offices quite often. This could be explained by the fact that men have more difficulty admitting their phobia, particularly because of their image in society. This is confirmed in the present study, as the number of female consultants was 160 (80%) compared to 40 (20%) males. Odontophobia is statistically independent of the time spent in Syria during the civil war (p = 0.24), but it is statistically related to the post-traumatic stress disorder recognised among refugees from civil wars. This result can be explained by the fact that post-traumatic stress disorder, which influences people’s psychological balance, can increase the anxiety rate with regard to dental care, which is itself considered a stressful and traumatic event by this population. This result was proven by Pearson’s correlation (OR - 95% CI, p=0.011).

The results obtained in our study demonstrated a possible causal link between post-traumatic stress disorder (PTSD) among Syrian refugees and dental anxiety (odontophobia). However, further studies on a larger sample are needed to further investigate the findings.

In light of these results, we recommend special oral care for refugees from civil wars, based on an adapted psychological approach in the first instance, or control of anxiety if it is confirmed by various means: premedication with sedatives, conscious sedation with nitrous oxide or dental care under general anaesthesia in severe cases.

5 | CONCLUSION

Odontophobia is a complex anxiety disorder that is quite often encountered in dental offices. This psychological disorder can be influenced by other disorders, namely post-traumatic stress disorder, which is encountered in refugees from civil wars. Special care is needed to alleviate this disorder, which has major repercussions on the state of oral health in particular and on the quality of life of patients.

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