

Relationship between the posttraumatic stress disorder, nurses and fear, a PubMed approach

Ramona Jurcău¹, Ioana Jurcău²

¹ Department of Pathophysiology, Medicine Faculty, „Iuliu Hațieganu” University of Medicine and Pharmacy, Cluj-Napoca, Romania

² Emergency Clinical Hospital for Children, Cluj-Napoca, Romania

Abstract

Background. Posttraumatic stress disorder (PTSD) is a serious syndrome that can occur in people who have experienced a traumatic event. Nurses are repeatedly exposed to stress and events of high psychological intensity. Fear is a state of tension proportional to the intensity of the danger and which disappears once the danger has been overcome.

Aims. Although studies so far prove interest in the relationship between PTSD and the field of nurses, in general, the relationship between these two fields and fear has been rarely investigated

Methods. In order to highlight the relationship between PTSD in nurses and fear, the keywords stress disorders and fear (PTSD+N+F) were selected for analysis. The time periods analyzed were from 1960 in 2018. The PubMed filters analyzed were: Sex (Gender) and Age.

Results. There is an increasing tendency of the number of publications, especially in 2018. The difference was significant between: B and Nr/year; B and B+F; Nr/year and 0-18, 19-44, 45-64, > 65 and > 80. Referred to the periods of time, the biggest increases were between 2015-2018 for both filters like and age.

Conclusions. The interest in the PTSD+N+F relationship is real and important, presenting a constantly evolving over time.

Keywords: post-traumatic stress disorder, nursing, fear, PubMed.

Introduction

Posttraumatic stress disorder (PTSD) is a serious and often invalid syndrome characterized by the recurrent re-experience of trauma in the sensory memory (Miller et al., 2018). The PTSD can occur in people who have experienced or witnessed a trauma, event, a natural disaster, a serious accident, a terrorist act, war or fight, rape or other violent personal attack (Mealer et al., 2007). The medical assistance system in the world is currently facing a critical deficit of competent nurses to meet the increasing needs of the patients (Chan et al., 2013). Repeated exposure to extreme stressors and the inability to adapt to this challenge can lead to the development of psychological disorders, such as the symptoms of post-traumatic stress disorder (PTSD) (Yehuda, 2002). Factors that contribute to the incidence of PTSD include the nurses' age, years in practice and level of authority (Garcia et al., 2014). In studies comparing NSA assistants with general nurses, the incidence of PTSD has decreased as the age of assistants has increased and there was an inverse relationship between years, experience as a medical assistant and the incidence of PTSD (Colville et

al., 2017). The nurses reporting PTSD are more likely to report burnout (Maslach et al., 1996). There was a positive correlation between medical errors and the patient's compromised safety when the assistant had symptoms of stress (Colville et al., 2017). PTSD is correlated with learning and fear (Van Etten & Anthony, 2001).

Hypothesis

Although studies so far prove interest in the relationship between PTSD and the nursing profession in general, the relationship between these two and fear is still little investigated.

Objectives

The objective of this study was to evaluate the interest in the relationship between post-traumatic stress disorder (PTSD) in nurses (= N) and fear (Fear = f), through an assessment of PubMed studies.

Material and methods

The information was retrieved from the PubMed database. The search was filtered as to include as the most

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Address for correspondence: „Iuliu Hațieganu” University of Medicine and Pharmacy Cluj-Napoca 400012, Victor Babes Str. no. 8

E-mail: ramona_mj@yahoo.com

Corresponding author: Ramona Jurcău; ramona_mj@yahoo.com

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recent the year 2019, until the pandemic, without limit in time backwards.

Keywords

In order to highlight the relationship between PTSD in nurses and fear, the keywords stress disorders and fear (PTSD+N+F) were selected for analysis.

Periods of research

The periods of time analyzed were the following: 1960-1969, 1970-1979, 1980-1989, 1990-1999, 2000-2009 and 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018.

PubMed filters

The PubMed filters chosen for analysis were: Sex and Age. Within each verified filter, a few sub -filters were analyzed:

a) For the “Sex” filter, the selected sub-filters were: male (M), female (F), male+female (M+F).

b) For the “Age” filter, the selected sub-filters were: birth-18 years (0-18); 19-44 years (19-44); 45-64 years (45-64); 65 years and over (> 65); 80 years and over (> 80).

Study design

The organization was carried out based on the following criteria:

- Analysis of the chosen keywords, in relation to the total number of publication (N).

- Analysis of the chosen keywords, in relation to the sub-filters and the average number of publication per year (N/Y).

Statistical evaluation

- The results obtained were analyzed using SPSS 19.0. statistical package.

- For continuous data examination, Student’s t test was used.

- The differences were considered significant at a p< 0,05.

Results

1. Analysis for PTSD+N+F, related to the average number of publications per year (Fig. 1)

The highest number of publications was registered in 2018 (11); The smallest number of publications was registered in 2012, 2013 (4); From the beginning of the announcement of these publications on PubMed and until 2018, there is an increasing tendency of the number of publications, especially in 2018.

2. Analysis for PTSD+N+F, related to chosen filters

a) The sex filter (Table I)

The period of publications being 1985-2018, it is noted that the difference was significant between: B and N/year (0.006366), B and B+F (0.009231). All other differences were insignificant.



Fig. 1 – Analysis for PTSD+N+F, related to the average number of publications per year.

Table I

Statistical analysis for PTSD+N+F, regarding gender filter.

Period 1985-2018	N/Y	M	F	M+F
Mean	4.875	–	–	5.8
Standard derivation	2.68983426	–	–	4.4981478
p value related to N/Y	–	0.006366	0.203846	0.282132
p value related to M+F	0.282132	0.009231	0.121745	–

Table II

Statistical analysis for PTSD+N+F, regarding the age filter.

Period 1985-2018	N/Y	0-18	19-44	45-64	>65	>80
Mean	4.875	–	2.55	–	–	–
Standard derivation	2.6898343	–	2.3935678	–	–	–
p value related to N/Y	–	0.000327	0.021775	0.001457	0.000017	<0.00001
p value related to 19-44	0.021775	0.06637	–	0.151438	0.006732	0.000934

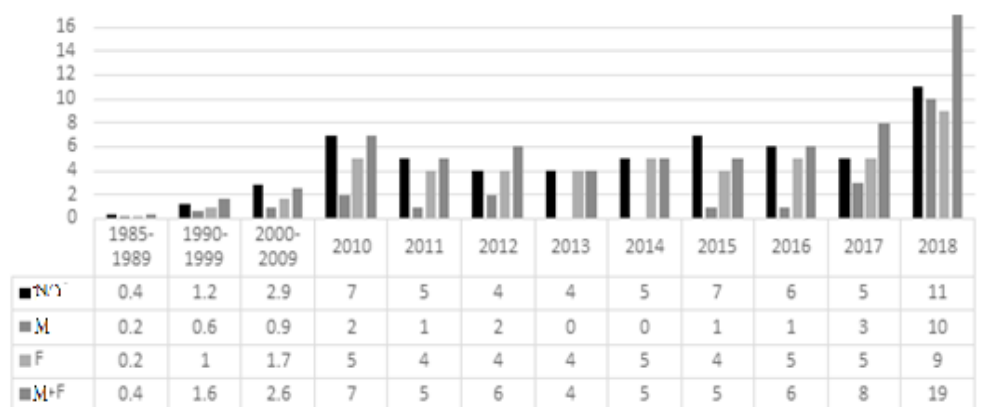


Fig. 2 – Analysis for PTSD+N+F, related to time periods, for sex filter.

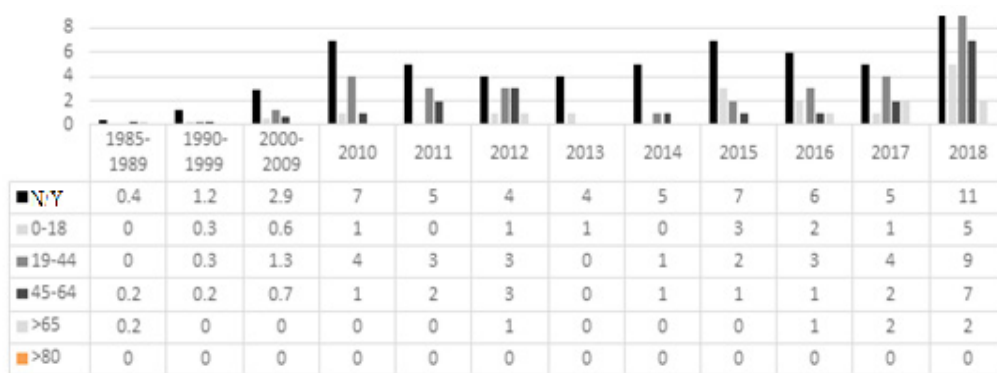


Fig. 3 – Analysis for PTSD+N+F, related to time periods, for the age filter.

b) Age filter (Table II)

The differences were significant: for all age intervals, related to n/year: 0-18 (0.000327), 19-44 (0.021775), 45-64 (0.001457), > 65 (0.000017), > 80 (<0.00001); Reported on 19-44, for > 65 (0.006732), > 80 (0.000934).

3. Analysis for PTSD+N+F, related to time periods

a) The sex filter (Fig. 2)

From the analysis of the graph it is found that: for B, F and B+F, n/year in the periods 1985-2009 it was the lowest and began to grow continuously after 2009, registering the largest increases in 2015 and 2018. Throughout the analyzed time interval, for B+F were the most publications, and the number of publications for F was constantly higher than for B.

b) Age filter (Fig. 3)

From the analysis of the graph it is found that: for 0-18, 19-44, 45-64, > 65, > 80, n/year in the periods 1985-2009 was the lowest and started to grow continuously after 2010, decreasing again in 2013, registering the biggest increases between 2015-2018. Throughout the analyzed time interval, for 19-44 were the most publications, and the number of publications for 45-64 was constant, higher than for 0-18 and > 65; > 80 having 0 publications.

Discussion

A. Research analysis

a) Analysis for keywords

An analysis was performed for the number of publications found in PubMed, analyzing the values on filters and subfilters, for PTSD, nurses and fear, using the keywords PTSD+N+F, for a total period of about 58 years.

For PTSD+N+F, the rhythm of publication has been progressive in time, proving that there has been an increasing interest for this subject, especially after 2017.

b) Analysis for Filters

Sex filter

The number of publications that mentioned both genders subjects was generally higher than the one in which male or female were mentioned. This aspect could be explained by the fact that the nurses are of both sexes, even if females predominate.

Age filter

The most numerous publications were for the 19-44 age, which shows the high interest for this age category. There are publication interests also for ages 0-18, 45-64 and >65 years, but not for >80 years. These results could be explained by the following: the active age of the nurses

is the young one, 19-44, but there are people who work before the age of 18, also many people are active between 45-64, and also after 65 years. Because the request for this profession is present regardless of age, the interest of research is understood for all age categories of nurses that are professionally active..

B. Literature analysis on the research topic

PTSD

PTSD appears in response to exposure to extreme stressor, being a very debilitating disorder, externalized by specific symptoms (Baxter, 2004). PTSD symptoms can occur years after exposure to trauma, and the duration of the illness can last a lifetime, affecting the patient's relationships with the family and the workplace (Olszewski & Varrasse, 2005). PTSD manifestations are due to the memory of a traumatic event of the past and are varied, among them being the sleep disorder, the threat sensation, the disposition disorders (Shalev et al., 2017). PTSD is triggered by distinct events and is therefore likely to studies on its early pathogenesis (Ben-Zion et al., 2019). The PTSD causes are varied, such as stressful events, in unique or multiple forms, isolated or repetitive, having consequences over long and debilitating that can lead to functional disturbances in the body (Kida, 2019). In the case of people with PTSD there is an intense conditional generalization in behavioral and cortical response, in several areas involved: the prefrontal dorsolateral and dorso-medial cortex, the left ventral hippocampus, the left and right island (Kaczurkin et al., 2017).

Fear and mechanisms involved

The hippocampus is involved in situations for conditioning fear, and the tonsil is involved in conditioning the fear of fear to simple or complex stimuli (Phillips & Ledoux, 1992). The hippocampal activity is developed during the acquisition of fear response, amygdala, being involved in processing changes in environmental relationships, has an activity that develops through experimentation (Knight et al., 2004). An important mechanism involved in the etiology of fear and anxiety is the classic conditioning, which also represents a method of regulating in anxiety disorders (Rachman, 1991; Dunsmoor & Paz, 2015). Another important mechanism for fear is the expression of the memory of fear, influenced by associative learning and which leads to the formation of new synapses in the adult brain (Yang et al., 2016).

PTSD and fear

People with PTSD suffer disorders in psychological processes: behavior, cognition, emotions, which in time cause adaptations of the function of the brain to maintain normality (Kida, 2019). PTSD is also defined in relation to fear: as a disorder of fear or, as an inhibition of it; thus, it is known that exposure to traumatic events that produce extreme fear and horror in military and civilian situations, but not all expositions of these kind are ended in PTSD (Jovanovic & Ressler, 2010). Patients with PTSD have a chosen response of fear, which is excessively generalized, and under safety conditions have an inability to inhibit the answers to fear, because at the base there is an inability to learn the safety signal and to modulate the answers of fear in a safety frame (Jovanovic et al., 2012). The response to trauma is related to the association of reactions to fear with

the initial trauma by conditioning the second order (Wessa & Flor, 2007).

PTSD and nurses

Nurses are often exposed to many stressors such as complexity and demands of the job, unrealistic expectations from patients and their families, ethical issues etc., due to which nurses may be predisposed to develop work-related psychological disorders (Mealer et al., 2009). Due to the stressful job characteristics, critical care unit nurses have an increased rate of absenteeism compared with general care nurses (Salmon & Morehead, 2019). Thus, critical care nurses exposure to traumatic events may be the source for the psychological distress, burnout syndrome and PTSD (Mealer et al., 2007; Mealer et al., 2017; Levi et al., 2021). Consequently, conditions in the intensive care unit can cause or aggravate PTSD, which are a potential risk for both nurse and patients health (Baxter, 2004). Another study has shown that after exposure to prolonged war stress, nurses had more PTSD symptoms compared to physicians (Ben-Ezra et al., 2007). It was also revealed that nurses who care for chronically ill children and do not express their grief, may develop symptoms of compassion fatigue (Meadors & Lamson, 2008). In their turn, nurses in various roles may encounter individuals with PTSD (Olszewski & Varrasse, 2005). As an advice, nurses should be able to identify signs of fatigue and to use coping strategies in order to revitalize themselves and minimize the risk of burnout (Maytum et al., 2003) and PTSD (Zhu et al., 2022).

Conclusions

1. Research on the combination of keywords chosen proves an increasing concern for the impact of PTSD in the life of the nurses, one of the consequences being fear.
2. Studies with subjects of both genres were preferred, and of these, the presence of women in studies predominated.
3. There was interest in most intervals corresponding to the professional active age of the nurses, but the interval between 19-44 years was predominant.
4. Research on PTSD, nurse and fear although it is reduced numerically proves a constantly growing interest of researchers for this subject.

Conflicts of interest

None to declare.

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