

Original Article

Association of Pain Fear and Experience of Shame in Health Care Professionals

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Abstract

Background: Pain as an experience affects person's behavior, which involves social, cultural and psychological factors. Shame is an internal process of social comparisons and acts as a warning mechanism for an impending threat.

Objective: To evaluate the association between the fear of pain and the experience of shame in healthcare professionals.

Methodology: A cross-sectional study was conducted in the Prefecture of Corinth in Greece. A random sample was selected among healthcare professionals. The final sample was 260 healthcare professionals. The duration of the study was from June to September 2017. The questionnaire included four sections: a) sociodemographic and professional profile of the sample b) the questionnaire «Other As Shame Scale (OAS)», c) the scale of shame's experience, based on Experience of Shame Scale (ESS) and d) the fear of pain questionnaire (FPQ). Descriptive and inferential statistics were used based on SPSS 25.

Results: The mean age of the sample was 43.7 years and 78,5% was female. The total mean score of OAS was estimated at 13.7, of ESS 44.2 and of FPQ 65.6 indicated that health professionals felt low external shame and moderate internal shame as well as fear of pain. The shame and self-esteem of health professionals were influenced by minor pain ($\beta=0.500$), age ($\beta= -0.144$) and stressful events during adult life ($\beta=3.791$). Moreover, the experience of shame was influenced by minor pain ($\beta=0.595$), age ($\beta= -0.390$), stressful events during adult life ($\beta=4.512$) and married life ($\beta=4.261$)

Conclusion: The particular nature of health professionals' work and the constant direct or indirect contact with patient's pain probably facilitate the development of mental structures that affect emotional reactions.

Key Words: Shame, fear, pain, health care professionals

Introduction

The pain, according to a first international approach, is an “unpleasant sensory and emotional experience which is connected with an actual or potential harm of tissues or is described as something similar” (Merskey et al., 1979). This definition allows for subjective appreciation of pain and implies the difficulty of describing it. This subjective dimension depends from the temperament of the patient and his mental status. On the one hand, the experience of pain, combines both the vulnerability and the source of its origin (health damage), and on the other hand the existence of the patient and his emotional reactions. This combination results in the recognition of pain based on current or/past experience of pain (Skevington et al., 1995).

Beyond pain is associated with physical harm and psychological status, either individually or in combination, the literature added a third factor which is fear of pain (Gheldof et al., 2010, Wideman et al., 2010, Vlaeyen et al., 2012). Fear of pain is associated with emotional reactions that occur while waiting or during the pain (Lyby et al., 2011). People with a high fear of pain may present maladaptive responses to painful stimuli, which often involve situational avoidance (Peacock et al., 2008). People who feel the fear of pain are likely to avoid painful situations or pain experiences (Gatzounis et al., 2017, Vambheim et al., 2017).

Moreover, pain as an experience affects person's behavior which involves social, cultural and psychological factors (Peacock et al., 2008). Grief, anxiety and depression are just some of painful emotions, however, there is an annoying feeling that is less often identified, namely shame. The feeling of shame is a social emotion and is related to reactions or actions that cover or reveal the feelings of the person with the use of speech, silence, alienation and social action. It is not always a negative feeling as it can take place on a daily base and reflects the human nature (Schneider 1977). It is distinguished from the feeling of guilt because it is associated with the desire of apology and also involves hiding, removing and self-observing, a possible reflection of possible rejection by the community (Lewis 1992, Zahavi 2014, Dolezal & Lyons 2017). The assessment of shame can be combined with the sense of stigmatization that an individual may feel because one's condition.

In the healthcare sector, shame has been focused on a sample of patients and on selected health disorders, such as patients with dementia (Aldridge et al., 2019), mental disorders (Dorahyet et al., 2015), eating disorders (Duarte et al., 2017) HIV (Pantelicet et al., 2017) and hearing problems (Broekhof et al., 2020). The above studies document complications in patients' social relationships as a result of shame, with primary avoidance behavior being social contact.

Health professionals are a special study sample, given that their professional environment is identified by the patients' pain and health services provided. In this distinct environment, health professionals are expected to have developed mechanisms of psychological resistance to the presence of pain, whether it concerns patients or even themselves (Duke et al., 2013). For health professionals who have knowledge on pathophysiology pain, pharmaceutical management and clinical protocols, the resistance of physical pain in relation to fear or shame, should be approached in a different way from the general population or from patients. Thus, the aim of this study is to evaluate the association between fear of pain and experience of shame in healthcare professionals.

Methodology

A cross-sectional study was conducted in the Prefecture of Corinth and specifically in General Hospital and Health Centers of the Prefecture. The study was approved by the Scientific Council of General Hospital of Corinth with protocol number 10056 and date 08/05/2017.

A random sample was selected among healthcare professionals who work in General Hospital of Corinth and Health Centers of the Prefecture Corinth. 300 individuals were participated in the study, from which 265 finally responded, whereas, 5 questionnaires were rejected because they were returned not fully completed. The final sample study was 260 healthcare professionals, giving a response rate of 86.7%. The duration of the study was from June to September 2017. Healthcare professionals from all disciplines participated in the study, whereas were excluded those who were absent from their service with any form of leave.

The anonymity and the confidentiality of the study were fully respected. For the participation in the study, each participant signed informed

consent. For each individual, a secret personal code of participation in the survey was created.

Study instrument: The questionnaire included four sections. The first section consisted of questions regarding sociodemographic and professional profile of the sample. The second section included the self-reported questionnaire named «Other As Shame Scale (OAS)» which includes 30 statements of which 24 measures the shame and the rest 6 the self-esteem of the person (Koss et al., 2000). This instrument was created to investigate the individual's perceptions of how others see and judge him/her and has been used in relevant studies (McCarberg et al., 2008, Benn et al., 2005). OAS's proposals are divided into three sub-scales and specifically into a) inferior feeling, b) empty feeling, and c) person's perception of others' reaction when they make mistakes. The final score of OAS is the result of the sum of the questions. Higher scores reveal high external shame. The instrument has been validated into Greek language by Gouva et al. (2016). The third section referred to the scale of shame's experience, based on Experience of Shame Scale (ESS), which estimates three different types of shame as a) characterological shame, b) behavioral shame, and c) bodily shame (Andrews et al., 2002). In total, 8 themes are covered regarding the feeling of shame, each of which has an experiential, a cognitive and a behavioral element. The ESS is a part of the questionnaires that exclusively measure the tendency to shame (and not at the same time the tendency to guilt) and estimates the shame as a stable factor of person's mood and not as a transient reaction to specific situations (Tangney 2002). This questionnaire has been validated into Greek language by Gouva et al., (2016). The final section included the fear of pain questionnaire (FPQ-III) which was developed by McNeil and Rainwater (1998) and reflects the degree of fear caused by a painful situation. Its construction was based on the behavioral-analytical model of Goldfried and D'Zurilla's (1969) with an emphasis on analyzing of an occasional situation. This is the third version of a self-completed scale, which is consisted of 30 questions. The FPQ-III displays a satisfactory validity of conceptual construction and reliability (McNeil & Rainwater, 1998), showing that persons they mentioned high levels of fear of pain, avoid more the painful stimuli than those at a lower level of fear (Williams et al., 2008). A total score is obtained by summing

up estimations for each painful experience. The overall score ranges from 30 to 150 and the higher the score, the greater the fear is judged. It includes three subscales: minor, severe and medical pain. This questionnaire has been validated into Greek language by Gouva et al. (2016).

Statistical analysis: The Cronbach's reliability was calculated to investigate the internal reliability of three instruments. For the description of the sociodemographic and professional characteristics of the sample, as well as the instruments percentage distribution, mean and standard deviations (SD) were used. To assess the correlation between quantitative variables Pearson correlation coefficient was estimated. For comparison of two groups the independent Samples t Test was performed and for comparison of more than two independent groups the analysis of variance (ANOVA). Finally, in order to explore the impact of demographic characteristics of the sample, the presence of stressful events and the fear of pain on the experience of shame was applied a multiple linear regression analysis. For the selection of the statistically significant among the variables, the stepwise method was chosen. In all statistical procedures, differences were considered statistically significant when the statistical significance was less than 5% ($p < 0.05$). The statistical analysis was performed using SPSS 25.

Results

The mean age of the sample was 43.7 years (SD=7.7 years) and 78.5% was female. The majority of respondents were married (67.3%). 48.1% of health professionals had completed tertiary education. Regarding the professional profile of the participants, the majority belonged to the nursing staff (52.7%) and 38.1% had a working experience from 11 to 20 years (Table 1). Moreover, the internal consistency of questionnaires based on Cronbach's alpha showed a very good reliability and particularly, the reliability of OAS was 0.890, FPQ 0.938 and ESS 0.933. The total mean score of Other As Shame Scale was estimated at 13.7 (SD 9.6) which means that health care professionals felt low external shame, the total mean score of Experience of Shame Scale was 44.2 (S.D. 12.8) indicating moderate shame. As far as the fear of pain, the total mean score was 65.6 (S.D. 21) judging the fear moderate (Table 2).

Table 1. Sociodemographic and Professional profile of the sample

	Frequency	Percentage
Gender		
Male	56	21.5%
Female	204	78.5%
Age groups		
20-30	15	5.8%
31-40	40	15.4%
41-50	146	56.2%
51+	59	22.7%
Marital status		67.3%
Unmarried, divorced, widows	85	32.7%
Married	175	67.3%
Educational level		
Primary	54	20.8%
Secondary	31	11.9%
Tertiary	125	48.1%
Master	39	15.0%
PhD	11	4.2%
Type of health professional		
Physicians	53	20.4%
Nursing staff	137	52.7%
Administrative staff	37	14.2%
Others (Midwife, Social Worker, Psychologist, Technician etc.)	33	12.7%
Work experience		
<10 years	82	31.5%
11-20 years	99	38.1%
21+ years	79	30.4%

Table 2. Means of OAS, ESS and FPQ scales

Other As Shamer Scale	Mean	Standard Deviation
Inferior feeling	4.8	4.1
Empty feeling	2.4	2.6
Person's perception of others' reaction when they make mistakes	5.8	3.8
Total Score of Other As Shamer Scale	13.7	9.6
Experience of Shame Scale		
Characterological shame	19.5	6
Behavioral shame	17.8	5.9
Bodily shame	6.8	2.8
Total Score of Experience of Shame Scale	44.2	12.8
Fear of pain questionnaire		
Minor pain	17	6.6
Severe pain	29.2	9.9
Medical pain	19.3	8
Total Score of Fear of pain questionnaire	65.6	21

Table 3. Correlations analysis among Sub-scales

	OAS	Inferior feeling	Empty feeling	Mistakes	Charactero-logical shame	Behavioural shame	Bodily shame	ESS
Charactero-logical shame	0,634**	0,542**	0,438**	0,596**				
Behavioural shame	0,531**	0,430**	0,378**	0,524**	0,692**			
Bodily shame	0,420**	0,395**	0,339**	0,331**	0,591**	0,549**		
ESS		0,533**	0,452**	0,591**				
Minor pain	0,350**	0,285**	0,333**	0,312**	0,283**	0,301**	0,190**	0,309**
Severe pain	0,154*		0,142*	0,186**		0,223**		0,159*
Medical pain	0,275**	0,234**	0,261**	0,226**	0,209**	0,264**	0,224**	0,265**
FPQ-III		0,219**	0,270**	0,271**	0,215**	0,300**	0,167**	

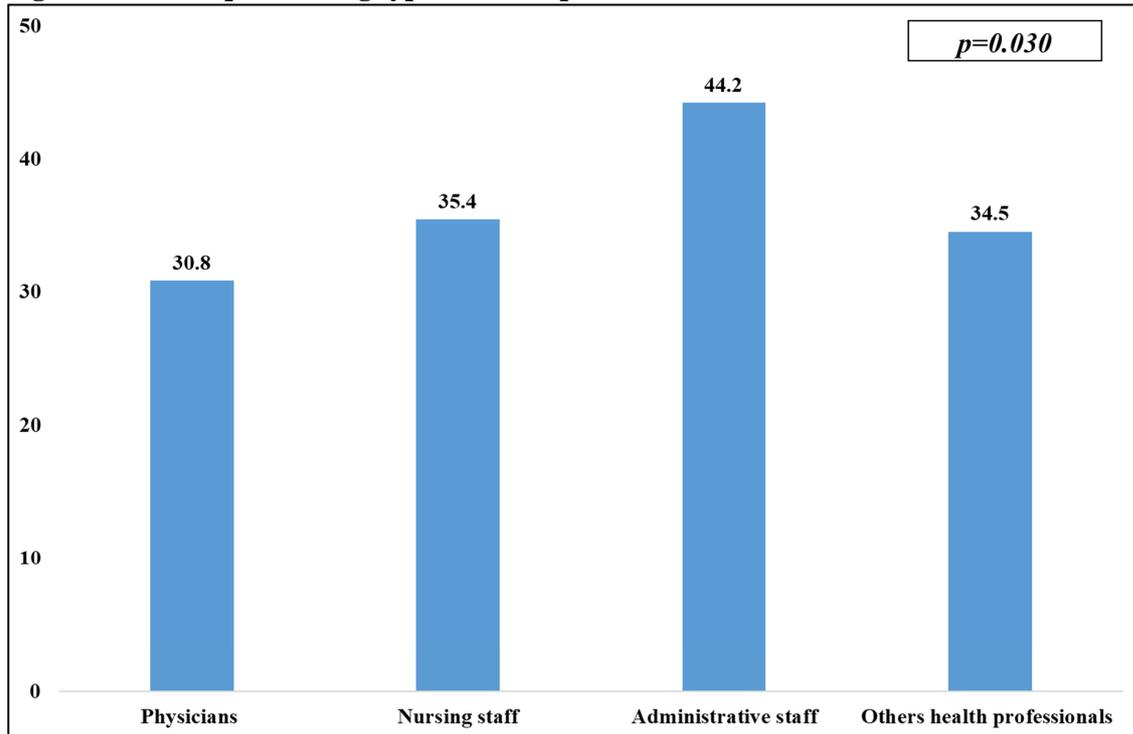
** Correlation is significant at the 0.01 level * Correlation is significant at the 0.05 level

Table 4. Differences of Stressful events and Scales

	Stressful events during childhood			Stressful events during adult life		
	No	Yes	p	No	Yes	p
Total Score of Other As Shamer Scale	12.8	16.5	0.006	11.2	15.2	0.002
Inferior feeling	4.4	5.9	0.007	4	5.3	0.016
Empty feeling	2.2	3.1	0.018	2	2.7	0.023
Person's perception of others' reaction when they make mistakes	5.5	6.6	0.038	4.8	6.3	0.001
Total Score of Experience of Shame Scale	43.1	47.6	0.018	41.6	45.8	0.014
Characterological shame	19.2	20.7	0.081	18.2	20.4	0.005
Behavioral shame	17.3	19.3	0.038	16.8	18.4	0.050
Bodily shame	6.6	7.7	0.019	6.6	7	0.370
Total Score of Fear of pain questionnaire	34.1	39.2	0.067	34.8	36	0.656
Minor pain	6.5	8.2	0.052	6.8	7	0.807
Severe pain	19.1	19.5	0.627	19.1	19.3	0.822
Medical pain	8.5	11.5	0.008	8.8	9.6	0.411

Table 5. Multiple linear regression models of Experience of Shame

	Unstandardized Coefficients		P value
	B	Std. Error	
Dependent variable: Total Score of Other As Shamer Scale			
Constant	17.167	3.614	0.001
Minor pain	0.500	0.084	0.001
Age	-0.144	0.071	0.046
Stressful events during adult life	3.791	1.251	0.003
Dependent variable: Total Score of Experience of Shame Scale			
Constant	51.211	4.387	0.001
Minor pain	0.595	0.112	0.001
Age	-0.390	0.099	0.001
Stressful events during adult life	4.512	1.555	0.004
Married	4.261	1.634	0.010

Figure 1. Fear of pain among type of health professionals

Regarding the correlation analysis among scales, the results showed that the total score of Other As Shame Scale moderate, associated with total score of Experience of Shame Scale ($r=0.629$) and was associated weakly with Total Score of Fear of pain ($r=0.286$). Additionally, the total score of Experience of Shame Scale ($r=0.629$) associated weakly with Total Score of Fear of pain ($r=0.272$). According to the above findings, the experience of shame and the fear of pain presented correlation. It is important to mention that all subscales of the used questionnaires were found to be positively linearly correlated (Table 3). This demonstrates that the experience of shame and the fear of pain of healthcare professionals mutually affected.

Furthermore, 47.7% of the participants stated they felt pain during this time of period. Of these, the highest percentage was women compared to men (52.5% vs. 30.4%, $p = 0.003$). In terms of chronic pain for more than 3 months, 42% reported having experienced it. Statistically significant differences were found between fear of pain and type of health professionals (Figure 1).

From the results also appeared a correlation between health professionals' age and the

experience of shame. The results are also concluded that increasing age leads to a decrease of experience of shame ($r = -0.176$, $p = 0.004$), characterological shame ($r = -0.161$, $p = 0.010$), behavioral shame ($r = -0.152$, $p = 0.014$) and bodily shame ($r = -0.125$, $p = 0.045$).

As far as the stressful event of health professionals during their life, 28.1% reported they experienced a stressful event during their childhood, while 64.2% stated they experienced during their adult life. Health professionals, who felt stressful events in childhood or in their adult life, were more likely to experience shame. The presence of stressful events in childhood or in adult life of health professionals appeared to be an important reason related to the experience of shame, since stressful events were associated with all subscales of shame. However, the fear of pain was not found to have a statistically significant difference with stressful events (Table 4).

The multiple regression analysis was used in order to investigate the effect of demographic characteristics of the sample, the presence of stressful events and the fear of pain on the experience of shame (Table 5). The first model revealed that the shame and self-esteem of health professionals were influenced by minor pain

($\beta=0.500$, $p= 0.001$), age ($\beta= -0.144$, $p= 0.046$) and stressful events during adult life($\beta=3.791$, $p= 0.003$). Moreover, the second model showed that the experience of shame was influenced by minor pain ($\beta=0.595$, $p= 0.001$), age ($\beta= -0.390$, $p= 0.001$), stressful events during adult life($\beta=4.512$, $p= 0.004$) and married life ($\beta=4.261$, $p= 0.010$).

Discussion

The purpose of this study was to evaluate the association between the fear of pain and the experience of shame in healthcare professionals.

Health professionals treat the patient's pain as a daily experience. This reflects in a variety of ways, in the event that a professional is called upon to face some form of pain to himself. Someone could argue that professional co-existence with pain can give a dynamic which will help him to cope with it better, and on the contrary, another he might suspect that this contact with someone else's pain may aggravate the process of coping with the pain situation (Duke et al., 2013). However, the whole procedure cannot be separate from the social and family profile of health professionals and from other factors influencing their behaviour.

According to our results, health professionals felt low external shame and moderate internal shame as well as fear of pain. These findings were similar to those previously reported to citizens in Greece (Gouva et al., 2016a, Gouva, 2016b), and to other countries (Van Wij & Hoogstraten 2006). These observations are perhaps attributable to the fact that health professionals are confronted with pain stimuli and images, leading them to develop similar psycho-emotional defenses and perceptions about it.

There was found a weak negative linear correlation between age and experience of shame. However, the small size of linear dependence suggests that there are other factors that affect shame values. An additional novelty of this research is that age influence the experience of shame since the one-year increase in age corresponds to an average decrease of 0.31 points in the ESS score overall score for the experience of shame.

Relevant studies show that health professionals are affected by patient pain (Stevens et al., 2011) and this is multiplied when patients belong to special groups such as new-born infants in intensive care units (Gibbins et al., 2015). In the

present study it was considerably higher the fear of pain in administrative staff compared to nursing staff, physicians and others specialties of health professionals. The above findings may be due to the fact that medical and nursing staff has developed mechanisms of psychological resistance to the presence and anticipation of pain due to their direct contact with patients, thus they are aware of coping with the fear of pain (Lybyet al., 2011), whereas administrative staff which is not involved to patients' treatment and only empirically perceive patients' pain, may create unconscious psychological loads that adversely affect their general psycho-emotional state.

A confirmation of this study as far as the association of the traumatic experience, either in the childhood or in adult life, with internal and external shame and fear of pain has been reported in the literature of other countries (Feiring et al., 2002) as well as in Greece (Ahrens et al., 2006). More specifically, international studies revealed that the family environment can effectively support the individual in order to achieve something better in life (Hung et al., 2017). This could confirm that the psychological reactions of the individual are consolidated in the early stages of human life through his experiences in the family environment which he develops (Varinnet al., 2017). The family environment creates safety barriers to the psychosynthesis of a person who may be helping him to cope with the difficulties of life. So, the environment in which a person grows up as an important parameter in developing a sense of shame and fear of pain. Unfortunately, the correlation of the family environment with the psychological phenomena of shame and fear of pain has not been adequately studied for both the general population and health professionals which consisted the population of this study.

The question arises as to whether a traumatic experience creates the right conditions for the development of increased shame and fear of pain or that the above correlation is due to the influence of some other factors associated with both the tendency to recognize an event as stressful and experienced of shame and fear of pain (McCarthy-Jones, 2017, Afari et al., 2014). It is important to note that the dependence of childhood traumatic experience on external and internal shame as well as in the fear of pain limits the search for the first years of individual's

life during the early stages of development, for example factors that come from the general family environment in which the individual grows and develops (Lies et al., 2017, Edwards et al., 2016, McCarthy-Jones, 2017).

Finally, one conclusion that sheds light on the relationship between fear of pain and shame of health professionals is that both external shame and the experience of shame appeared to be affected only by mild pain and not by moderate pain or by severe medical pain. The above conclusion demonstrates that the shame-generating mechanism is weakened and marginalized when important issues related to the survival of the body emerge. The individual ceases to blame himself for the other's eyes as he worries about the development that he may have suffered from a physical injury.

This absence of comparative studies creates barriers to confirming and comparing most findings with other countries and populations. In addition, it's noteworthy that the set of linear models adapted to the data, although statistically significant in the ability to predict shame and fear of pain, had little effectiveness as represented by the determinant. This indicates that, apart from the factors recorded in the survey, there are other factors that explain the variability of the shame and fear of pain in this population that remains to be searched for and identified.

Conclusion: In conclusion, healthcare professionals are highlighted by this study as a set of employees that differs from the general population in terms of the factors that affect the shame and fear of pain. The particular nature of their work and the constant direct or indirect contact with the patient's pain, possibly facilitates the development of mental structures that affect emotional reactions, a case that is highlighted by the results of this work and should be studied in future research. Moreover, the complete absence of dependence on the objective parameters recorded in the present study with the fear of pain highlights the hypothesis that this fear is based on unconscious subjective fantasies.

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