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Access to healthcare professionals' work satisfaction and health status determining factors

**CORRELATIONS OF BURNOUT, FREQUENCY OF AGGRESSIVE ACTS  
AND WORKPLACE CONFLICTS AMONG HEALTHCARE WORKERS**

Doctoral (Ph.D) Thesis

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## **INTRODUCTION**

Numerous international and national publications are underpinning the notion that burnout is very common among healthcare providers. The most dominant risk factors are the emotional burden during helping others, furthermore fear, depression and fatigue. Nevertheless, there are also several factors related to the workplace playing serious role in the development of the symptoms. The syndrome is characterized by fatigue, hesitation, inactivity, sleep disturbances, tiredness, despair, hopelessness, emotional emptiness, irritability, pessimism and negative attitudes.

Violent acts committed by patients or their relatives are another common, but less well studied area in Hungary. These can be manifested in the form of physical aggression (behaviour causing or threatening physical harm towards others) or in non-physical aggression ranging from sexual abuse to verbal aggression. The verbal form is twice or three-times more frequent than the physical. The causes can be manifold; the patients or their relative might be under the influence of alcohol or drugs, mentally ill, unsatisfied with the service, faced with bad news or sometimes they have to wait for long hours. There are work-related factors, too, e.g. overload, lack of social support, lack of workforce, low sense of autonomy and burnout. Aggression can cause pain, the result might require medical attention, and it can lead to stress, fear, phobias, sleep disturbances, low self-esteem, substance abuse (alcohol or drugs), absence from work, committing violence, resentment and “I cannot nurse” attitude. Psychological well-being worsens, burnout and dissatisfaction with work become more frequent and the patient-nurse relationship is also affected.

The third area of interest in the present paper is the prevalence of workplace related conflicts. Conflict among nurses has been identified as a priority problem in healthcare. There are many reasons behind this phenomenon, e.g. non-appropriate communication, dissatisfaction with work, high level of work-related stress and burnout. Conflicts among doctors and nurses are also quite frequent stemming from hierarchical differences, unclear roles and different amount of experiences. Workplace related conflicts are destructive from the perspective of the employees and the workplace, too. It can cause stress, anxiety, lowers the performance of the individuals and the team, decreases morals and fame in the team, increases burnout and the possibility of malpractices and professional changes.

Nurses who are less affected by burnout tolerate the violent behaviours of patients or relatives better. Furthermore, physical and non-physical aggression can be regarded as a predictive factor in the development of burnout. Victims of violence have higher levels in two dimensions of burnout: emotional fatigue and depersonalization. The level of depersonalization increases with the severity of aggression, while the personal performance decreases.

## **AIMS**

The studies were aimed to assess the relationship between the level of burnout with the number and type of workplace related conflicts. Furthermore, we wanted to know whether burnout increases the possibility of becoming a victim of violent acts committed by patients or their relatives. It was also investigated whether burnout is accompanied by higher level of job uncertainty. Based on the above mentioned this paper might fill in some important gaps in Hungarian research.

Based on the literature the following focus of research has been crystallized: **Does bad psychological state lead to more workplace related conflicts, or rather do healthcare providers with burnout more often become victims of aggression committed by patients or their relatives?**

We had the following hypotheses:

(H1) Nurses with bad psychological status have conflicts with their co-workers more often compared to those with good psychological health.

(H2) High levels of workplace uncertainty correlates with burnout and workplace related conflicts.

(H3) Nurses with severe burnout become more frequently victims of aggressive acts committed by patients or their relatives; furthermore they are less able to cope with these.

(H4) The frequency of violent acts towards a healthcare worker correlates with their level of education.

## **SAMPLE AND METHODS**

The quantitative cross-sectional study was conducted between June 29<sup>th</sup> and August 31<sup>st</sup> 2016. The questionnaire was uploaded to Google Drive and was made accessible through the

websites of the Csongrád Regional Organization and the national Chamber of Hungarian Nurses (MESZK), furthermore we asked the regional chairs of the MESZK to spread the questionnaire among their members. Members of Csongrád Regional Organization who registered to get newsletters got the questionnaire via e-mail, too.

Inclusion criteria were the following: at least one year of full-time employment in the healthcare system, Hungarian workplace and qualification according to the 63/2011 regulation of NEFMI.

The first part of the self-constructed questionnaire contained items regarding socio-demographic factors and the working environment. The rest of the items were parts of specific inventories which were the following: the Maslach Burnout Inventory (MBI; Maslach & Jackson, 1986), the Burnout Measure (Pines & Aronson, 1981), the Overt Aggression Scale (Yudofsky, Silver, Jackson, Endicott, & Williams, 1986), the Impact of Patient Aggression on Careers Scale (IMPACS; Needham et al, 2005), the Intragroup Conflict Scale (Jehn, 1995) and the Workplace Uncertainty (Németh et al., 2013).

Data were processed and analysed by the means of IBM SPSS 23.0 for Windows. Descriptive statistics were the followings: mean, standard deviation (SD), median, minimum and maximum. The following mathematical statistical methods were applied: factor analysis (with KMO index and Bartlett test), Varimax rotation, Kolmogorov-Smirnoff test, Shapiro-Wilk test, Wilcoxon test, Spearman's rank correlation, Kruskal-Wallis test, Mann-Whitney test, chi-square, Bonferroni correction. Results were regarded as significant if  $p < 0.05$ .

## **RESULTS**

Altogether 1341 people filled out the questionnaire, those who did not meet the inclusion criteria were deleted, e.g. worked abroad, are already retired or filled out the questionnaire twice. In the final analysis 1201 responders were included. Responses came from every county. Socio-demographic data are shown in Table 1. The majority of the responders were from Csongrád county (33.6%) and 19.8% were from Pest county. The rest of the counties were under-represented. Overtime was not reported by 317 people, while the rest does 25.9 hours of overtime on average (SD=28.85; Min=1; Max=280). Regarding employment status 76.8% (922 people) were inferiors, 20.9% (251 people) middle managers and 2.3% (28 people) managers.

Table 1. Demographic data

Demographic data ( <i>n</i> = 1201)	<i>n</i>	%		
Female	1111	92,5		
Male	90	7,5		
Graduates	419	34,9		
0-10 years of employment in healthcare	213	17,7		
10-19 years of employment in healthcare	223	18,6		
20-29 years of employment in healthcare	406	33,8		
30 years or more of employment in healthcare	359	29,9		
Primary care	188	15,7		
Outpatient care	249	20,7		
Inpatient care	749	62,4		
Pharmacy workers	15	1,2		
Profession				
Nurse	903	75,2		
Assistant	158	13,2		
District nurse	38	3,2		
Physiotherapist	18	1,5		
Midwife	16	1,3		
Ambulance man	13	1,1		
Dietician	11	0,9		
Other*	44	3,7		
*retailer of medical devices, medical orderly, public health inspector, health care manager, professional tutor, professional teacher, therapeutic massager				
	Medián	SD	Min.	Max.
Mean years spent working in the health-care system: 22.1	24	10,92	1	46
Mean age is 43.2	44	9	19	65

Permanent 12 hours shift work plan was reported by 38.2% of the responders, almost the same proportion works continuously day shifts (34.9%). The majority (61.1%) had no second job, 24.9% (299 people) does a second shift in the healthcare system and 14% (168 people) does this outside of the healthcare.

### **Results of the specific questionnaires**

The six item inventory used to measure *Workplace Uncertainty* resulted in an average of 15.18 points (Median=15; SD=5.053; Min=6; Max=30).

The average score on the external uncertainty subscale was 8.27 (Median=8; SD=2.836; Min=3; Max=15); but the reliability was unacceptable in this sample (Cronbach-alpha: 0.587). The fear of wage decrease was the most common among the responders (mean: 3.35), the second was the fear of losing co-workers (mean: 2.66) these were followed by the fear of relocation (mean: 2.26). The mean score of the internal uncertainty subscale was 6.91 (Median=7; SD=3.104; Min=3; Max=15); its reliability was good (Cronbach-alpha: 0.750). The most problematic factor of the internal uncertainty was the limited possibility to take on the job courses (mean: 2.44), the second was the hindrance of further education (mean: 2.34) and the last was the low chance of being promoted (mean: 2.13)

Burnout was assessed by the **MBI**. The average score of its first subscale – *the emotional fatigue* was 20.89 (Median=20; SD=12.073; Min=0; Max=54) and its reliability was excellent (Cronbach-alpha: 0.898). Low level of emotional fatigue was detected in 45.3% (544 people) of the responders, while 42.5% (510 people) belonged to the medium category and 12.3% (147) people were in the severe category. The mean score on the *depersonalization* subscale was 6.8 (Median=5; SD=6.453; Min=0; Max=30) and its reliability was good (Cronbach-alpha: 0.777). Low level of depersonalization was detected in 72.5% (871 people) of the responders, while 23.2% (279 people) belonged to the medium category and 4.3% (51) people were in the severe category. The mean score on the *personal efficacy* subscale was 31.03 (Median=32; SD=9.565; Min=0; Max=48) and its reliability was excellent (Cronbach-alpha: 0.828). Low level of personal efficacy was detected in 5.7% (68 people) of the responders, while 47.7% (573 people) belonged to the medium category and 46.6% (560) of the people were in the high category.

The mean score on the **Burnout Measure** was 2.98 (Median=2.76; SD=1.20; Min=1; Max=6.71) and its reliability was excellent (Cronbach-alpha: 0.889). Twenty-three percent (276 people) belonged to the “continuous euphoria group”, 32.8% (394 people) was in the “doing well group”, 22.9% (275 people) was in the “change needed group” and 21.3% (256 people) belonged to the “treatment needed group”. In the light of the presented results it can be stated that 44.2% of the responders are affected by the burnout on some level.

The **Overt Aggression Scale** was involved in two questions. The most common form of aggression experienced by the responders is verbal aggression, more specifically raised voice (37.7%) and bad words (24.8%). Out of the forms of physical aggression the aggression towards

an object is dominant (56.4%). Assault was experienced by 3.9% of the responders. Only 4.4% (n=53) reported that they never experienced violence since they work in the healthcare system.

In the analysis of negative emotional effects due to aggression (*IMPACS*) 1148 responders were included as 53 people indicated that they never experienced violence since they work in the healthcare system. The mean score on the subscale for *worsening of the relationship between the patient and the caregiver* was 7.89 (Median=7; SD=4.142; Min=4; Max=20); the reliability was excellent (Cronbach-alpha: 0.868). The mean score on the subscale for *severe negative emotional effects on the caregiver* was 7.01 (Median=6; SD=3.039; Min=4; Max=20); the reliability was acceptable (Cronbach-alpha: 0.696). The mean score of the subscale for *hostile attitudes toward the environment* was 3.96. (Median=3; SD=2.146; Min=2; Max=10); the reliability was acceptable (Cronbach-alpha: 0.669).

The *Intragroup Conflict Scale* was applied to measure the conflicts at workplace. On the subscale of *relationship conflicts* the mean score was 11 (Median=11; SD=3.444; Min=4; Max=16); the reliability was excellent (Cronbach-alpha: 0.921). The second subscale is the *task conflict*, the mean score was 10.2 (Median=10; SD=3.016; Min=4; Max=16); the reliability was excellent (Cronbach-alpha: 0.856). Only 4.6% of the responders (55 people) indicated that they never experienced any conflicts at the workplace. Out of the relationship conflicts the most common was the disagreement between co-workers (2.84) and the conflicts due to personality differences (2.84), these were followed by the conflicts due to different opinions about the tasks to do (2.78).

The conflicts at the workplace were also investigated by the means of a self-constructed measure, which was based on workplace experience and is Likert-scale containing fourteen questions. It assesses the types and frequency of workplace conflicts during the last twelve months. Disputes are more common among direct co-workers than those with the doctors or with the direct superior. It is characteristic for the responders that they are able to defend themselves during conflicts. These 14 questions were analyzed further; the internal structure was examined by the means of factor analysis; that is whether the items of the questionnaire can be grouped into fewer subscales. After the factor analysis four factors were identified, which covered 70% (70.605) of the whole variance. The factors were named based on the items belonging to them. The following four subscales were created from the 14 questions:

- Factor: self-defence, assertiveness=**self-defence**

- Factor: conflicts with authorities (superior, doctor)= **conflicts with authorities**
- Factor: describes how much the person is taken into consideration=**respect**
- Factor: measures the conflicts of equals= **conflicts of equals**

In the light of the results conflicts between co-workers are not frequent and the self-defence mechanism of the responders is working well.

### ***Comparison of the Maslach Burnout Inventory and the Burnout Measure***

As the Burnout Measure is not used widely to measure burnout in Hungary and it is not validated yet, it was important to examine whether it is as precise as the MBI. The repeated statistical tests showed that 89.5% of the people belonging to the categories of “high emotional fatigue”, to medium or high “depersonalization” and to low or medium “personal efficacy” were ordered in the Pines’ classification to the “treatment needed”, while 9.3% of them got into the “change needed” group and only 1.2% of them were classified as “doing well”. These results underpin the assumption that the Pines’ Burnout Measure is assessing burnout as well as the Maslach’s, that is those people who are regarded as having burnout based on the Maslach’s scale are classified as having burnout based on the Pines’, too.

### ***Verifying the hypotheses***

(H1) The connection between psychological state and workplace conflicts was assessed through the analysis of workplace conflicts according to Jehn in the four groups of the *Pines’ Burnout Measure* by the means of Kruskal-Wallis probe. Parallel to the four burnout categories the mean rank score of the Jehn’s total score was higher and higher. Mean Rank - hereinafter MR: „continuous euphoria” MR=414.74 (n=276); “doing well” MR=557.41 (n=394); „change needed” MR=672.79 (n=275); „treatment needed” MR=791.78 (n=256); Chi-Square=175.507;  $p < 0.000$ . There was significant difference between the categories of “continuous euphoria” (MR=287.27) and the “doing well” (MR=369.28) in the severity of workplace conflicts according to Jehn ( $U=41061.0$ ;  $Z=-5.408$ ;  $p < 0.000$ ) and the differences remained significant even after the Bonferroni correction ( $p < 0.000 \times 4 < 0.000$ ). There was also significant difference between the “doing well” (MR=307.7) and the “change needed” (MR=374.11) categories in the severity of



workplace conflicts according to Jehn ( $U=43420.0$ ;  $Z=-4.379$ ;  $p<0.000$ ). The “change needed” group had higher rank scores regarding workplace conflicts and the difference remained significant even after the Bonferroni correction (The “change needed” group had higher rank scores regarding workplace conflicts and the difference remained significant even after the Bonferroni correction ( $p<0.000 \times 4 < 0.000$ ). The “change needed” ( $MR=237.06$ ) and the “treatment needed” ( $MR=297.08$ ) categories also differed significantly ( $U=27242.5$ ;  $Z=-4.511$ ;  $p<0.000$ ). The “treatment needed” group had higher mean rank scores regarding workplace conflicts, as the difference remained significant even after the Bonferroni correction ( $p<0.000 \times 4 < 0.000$ ). Based on the results it can be stated that the worse someone’s psychological state is according to the Pines’ Burnout Measure the more conflicts they experience at the workplace.

The first hypothesis was also investigated with the *MBI* and the results were the following: There were significant differences among the three categories of the “emotional fatigue” subscale ( $\text{Chi-square}=100.836$ ;  $p<0.000$ ). The more severe the emotional fatigue dimension of burnout is, the more frequent workplace conflicts are among the responders ( $p<0.000$ ). There were also significant differences among the three categories of the “depersonalization” subscale regarding workplace conflicts ( $\text{Chi-square}=37.140$ ;  $p<0.000$ ). The Jehn’s indicator of workplace conflict is higher when a person is in the higher category of depersonalization ( $p<0.000 - 0.012$ ). There were significant differences among the three categories of “personal efficacy” subscale regarding workplace conflicts ( $\text{Chi-square}=37.140$ ;  $p<0.000$ ). People in the higher category of personal efficacy had significantly lower scores on the Jehn’s workplace conflict scale compared to the people with medium personal efficacy, that is higher levels of personal efficacy had negative correlation with the number of workplace conflicts. The results of these analyses are not reliable because of the uneven sample sizes.

The analyses of the relationship between the Pines’ burnout measure and the *self-constructed questionnaire consisting of four factors* resulted in the followings: The self-defence factor is less effective in the two most severe categories of burnout (change needed and treatment needed) ( $p<0.000$ ) and also comes with more frequent conflicts with equals, with superiors and with lower levels of respect ( $p<0.000$ ) compared to those with better psychological states.

The analysis was also run with the MBI and the results were the following: the emotional fatigue subscale had a positive significant correlation with the conflicts with authority ( $r=0.340;p<0.000$ ), with respect ( $r=0.317;p<0.000$ ) and with the conflicts with equals ( $r=0.283;p<0.000$ ), furthermore it had negative significant correlation with the self-defence subscale ( $r=-0.099;p=0.001$ ). The depersonalization subscale had also positive significant correlation with the conflict with authority ( $r=0.370;p<0.000$ ), with the respect ( $r=0.371;p<0.000$ ) and with the conflict with equals ( $r=0.334;p<0.000$ ), furthermore it had negative significant correlation with the self-defence subscale ( $r=-0.116;p<0.000$ ). The personal efficacy subscale had negative significant correlation with the conflict with authority ( $r=-0.192;p<0.000$ ), with the respect ( $r=-0.237;p<0.000$ ) and with the conflict with equals ( $r=-0.175;p<0.000$ ), furthermore it had positive significant correlation with the self-defence subscale ( $r=0.232;p<0.000$ ). Based on these results *the first hypothesis has been verified.*

**(H2)** The relationship of workplace uncertainty with burnout and with workplace conflicts is underpinned by the following results. Every uncertainty scale (external, internal and total) had significant linear connection with every subscale of the Maslach Burnout Inventory. People with lower “personal efficacy” had higher levels of workplace uncertainty. It has to be noted that although the correlation between uncertainty and burnout is weak (the values of the correlational coefficients are low: 0.162; -0.296; -0.166; -0.222), it is significant ( $p<0.000$ ). The correlation of workplace uncertainty with Pines’ burnout scores is also weak, positive and significant ( $p<0.000$ ). It is notable that the correlational coefficients are higher than those in the case of the MBI (0.317;0.322;0.382). The reason for this might be that Maslach divided the assessment of burnout into components (subscales), while Pines creates a total score reflecting the whole effect. Therefore the relationship between workplace uncertainty and the result of the Pines’ scale is tighter.

Based on the analysis of the relationship of internal and external workplace uncertainty with the two subscales of the *Jehn’s workplace conflict* measure, the external workplace uncertainty subscale had weak positive and significant correlation with the Jehn’s relationship conflict ( $r=0.140;p<0.000$ ) and with the task conflict ( $r=0.145;p<0.000$ ) subscales. The same is true for the internal uncertainty subscales: relationship conflict ( $r=0.166;p<0.000$ ) and task conflict ( $r=0.196;p<0.000$ ). So, the higher the workplace uncertainty is, the more conflicts are experienced by the responders.

The relationship of workplace uncertainty with the *self-constructed four-factor* questionnaire measuring workplace conflicts is the following: higher uncertainty had weak positive and significant correlation with the conflict with authorities ( $r=0.207;p<0.000$ ), with the respect ( $r=0.209;p<0.000$ ) and with the conflict with equals ( $r=0.128;p<0.000$ ), but it had no correlation with self-defence ( $r=-0.052;p=0.080$ ). All four factors had weak and significant correlation with the internal workplace uncertainty (although they are somewhat stronger than the previous data with Jehn's scales): conflict with authorities ( $r=0.199;p<0.000$ ), respect ( $r=0.279;p<0.000$ ) and conflict with equals ( $r=0.165;p<0.000$ ). The correlation with self-defence is negative, but the size is very small. ( $r=-0.072;p=0.015$ ). The higher the internal and external workplace uncertainty is, the more frequent conflicts are and the feeling of disregarding one's opinion is more intense. Furthermore, the higher internal uncertainty is, the less effective self-defence works during workplace conflicts. In the light of these results the high levels of workplace uncertainty correlate with high levels of burnout, furthermore the higher workplace uncertainty is, the more frequent workplace conflicts are experienced by the responders. So, *the second hypothesis is verified*.

**(H3)** The third hypothesis was about the relationship of burnout, aggression experienced at the workplace and aggression. Based on the analysis including Overt aggression scale and the Pines' Burnout Measure there are significant differences among groups with different levels of burnout regarding how much they are affected by aggression (Chi-Square=97.698;  $p<0.000$ ). The higher the level of burnout is, the more frequent violent acts are experienced at the workplace ( $p<0.000 - 0.030$ ). The correlation between the Overt aggression scale and the MBI shows that people with high emotional fatigue are significantly more often affected by aggression ( $p<0.000$ ) compared to the group with low emotional fatigue. High levels of depersonalization correlate with workplace aggression ( $p<0.000 - 0.033$ ). People with high self-efficacy experience significantly less often aggression ( $p=0.009$ ). It has to be noted that the results from the analyses with the Pines' Burnout Measure resulted in more reliable data than those with MBI, because the groups created according to the latter contained highly different number of people.

The scale measuring the negative emotional effects due to aggressive acts (IMPACS) was analyzed in relation to the data from the Pines' and Maslach's scales. People scoring high on the Pines' Burnout Measure had higher scores on all three subscales of the IMPACS ( $p<0.000$ ), compared to those with lower scores. This means that the more severe burnout someone has, the more negative emotional effects they experience, and furthermore they also become more hostile

towards the environment. The Maslach scale has three categories in all of its three subscales; these were analyzed with the three subscales of the IMPACS. There was a positive significant correlation with the emotional fatigue and the depersonalization subscales, while the personal efficacy subscale had a negative significant correlation with all three subscales of the IMPACS. Regarding emotional fatigue the IMPACS's 1. subscale was:  $r=0.382$ ;  $p<0.000$ ; 2. subscale was:  $r=0.321$ ;  $p<0.000$ ; 3. subscale was:  $r=0.428$ ;  $p<0.000$ . Regarding depersonalization IMPACS's 1. subscale was:  $r=0.366$ ;  $p<0.000$ ; 2. subscale was:  $r=0.326$ ;  $p<0.000$ ; 3. subscale was:  $r=0.406$ ;  $p<0.000$ . Regarding personal efficacy IMPACS's 1. subscale was:  $r=-0.218$ ;  $p<0.000$ ; 2. subscale was:  $r=-0.133$ ;  $p<0.000$ ; 3. subscale was:  $r=-0.192$ ;  $p<0.000$ .

People with high emotional fatigue and depersonalization tend to react to aggressive acts with the following: the relationship with the patient worsens, they have negative emotional effects and they become hostile towards the environment. The higher the personal efficacy is, the less common negative emotional state is after a violent assault. The above discussed results underpin the assumption that healthcare providers with severe burnout are more often subjected to aggression by a patient or their family members, furthermore they are also less able to cope with this compared to the people with good psychological state. So, *the third hypothesis is verified*.

(H4) The fourth hypothesis proposed – based on the literature, that education influences how often someone is subjected to aggression. The present results show that responders without degrees (MR=608.99) are a little bit less often victims of assaults than people with degrees (MR=586.09). Nevertheless there was no significant connection between the two variables (U=157851.5; Z=-1.093;  $p=0.274$ ). So, based on these results the level of education does not influence whether someone will become victim to violence, so *the fourth hypothesis is not verified*.

## DISCUSSION

The aim of the present study was to assess the severity of burnout and its correlations with workplace uncertainty, frequency of aggressive acts, workplace conflicts and to investigate the possible protective effects of education against violence.

Regarding *workplace uncertainty* our data showed that external uncertainty is more pronounced among the responders than internal. Most common were fear of decrement of wage, relocation and of losing co-workers; while internal uncertainty was rooted mainly in the limited

possibilities for on the job education. The fear of wage decrements had still a central role despite of the recent efforts to normalize wages. It can be assumed that this is due to the fact that the majority of the responders were nurses, to whom many employers pay the raise in the form of different allowances. They might think that these might be withdrawn at any time.

The measurement of *burnout* was done by two questionnaires. Based on the results from the MBI more than half of the responders (54.8%) reported some level of emotional burnout, while the depersonalisation was in the low category by 3/4 of the responders. Personal efficacy reached high scores only by a few people (5.7%), which would be a protective factor for burnout. Pines's Burnout Measure showed that 44.2% of the responders had some level of burnout. The reason for the high levels of burnout in this sample might be that mainly nurses filled out the questionnaires. One of the main aims of the study was to investigate the applicability of the Pines's Burnout Measure as this measure is not yet validated in Hungary. Based on our results it might be stated that the Pines and Maslach inventories are very similar in punctuality and reliability.

The experiences with *aggressive acts* were also studied. Very few responders stated that they never faced violent acts during work (4.4%). The most frequent were the verbal forms of aggression among the responders. During the previous year 78.4% of the responders perceived that a patient used a raised voice or used another aggressive verbal tools. Threats were reported by 40.3%. Physical violence was usually used towards an object, direct physical violence manifested mostly in grabbing clothes and causing light injuries. Participants of this study were mainly nurses, most of them worked at internal medicine, psychiatric and ER units, where violence is more frequent compared to other wards. This might be one of the reasons behind the high levels of aggressive experiences reported in this study.

*The negative emotional effects of aggressive acts* usually lead to worsening in the relationship with the violent patient, although experiencing the severe negative emotional effect is also significant.

The frequency of *workplace related conflicts* was also assessed. Only 4.6% of the responders did never experience any forms of conflicts during work. Based on our results relationship conflicts are predominant, although the occurrence of task-related conflicts is only a bit less. A self-constructed scale was also applied to quantify conflicts, which contained 14 questions based on our own experiences. Most often doctors or direct co-workers criticized the

work done, debates were usually among direct co-workers, furthermore doctors or immediate superiors tended not to listen to the responders' opinions. Self-defence functions usually worked well in conflicts, that is workers are able to defend themselves. Among reactions to workplace related conflicts the most common are the clarification of the situation and talking back, although negative emotional reactions are also frequent like worrying, distractedness and anger lasting for days.

The more severe the burnout is, the more frequent the conflicts are (H1). Of course the causal connection cannot be revealed, as it cannot be clarified whether burnout is the reason behind conflicts, or people's personalities lead to conflicts. Nevertheless, it can be assumed that bad psychological status causes conflicts, as a worker with burnout is constricted, hopeless and feels constant fatigue. Emotional fatigue and depersonalisation on a high level also correlates with frequent workplace conflicts; whereas high personal effectiveness serves as a protective factor against conflicts at the workplace. It has to be noted that the results of MBI should be treated with caution because of the different numbers of cases in each category. People with more severe burnout reported more conflicts with superiors and co-workers, they also experienced more often that they were ignored and they were less able to defend themselves during conflicts. It is possible that these results are due to the fact that burnout is a mentally exhausted state, which might elevate the occurrence of conflicts and decreases the ability of self-defence.

Participants with low personal efficacy had higher levels of workplace uncertainty, similarly to those with high depersonalisation and emotional fatigue scores. The correlation is even tighter between burnout and workplace uncertainty using the data from the Pines's Burnout Measure. Of course, this is not a causal connection either; it can be only assumed that workers with burnout experience more uncertainty on the job, too. The higher the uncertainty is, the more conflicts are experienced by workers, furthermore they also reported more conflicts with superiors and co-workers and they also experienced more often that they were disregarded. Uncertainty also makes self-defence mechanisms less effective during conflicts. The first part of the hypothesis demonstrated that people with higher workplace uncertainty are in a worse psychological shape creating a nice milieu for workplace conflicts (H2).

Emotional fatigue and depersonalisation show a positive correlation with the occurrence of aggressive acts, while personal efficacy serves as a protective factor. The present study cannot reveal the causal connection between these phenomena. Although it can be assumed that

workers with burnout are more prone to become victims of violent acts. This can only be proven with a longitudinal study. The more pronounced emotional fatigue and depersonalisation are, the more frequent the compromised relationship with the violent patient is, as are the negative emotional effect and the hostility towards the environment. The personal efficacy is a protective factor here, too (H3).

As it is internationally already proven that healthcare providers with higher education are more seldom victims of aggression, which is in line with personal experiences, it seemed to be interesting to examine this question. Although it did not reach the level of significance, workers with no degrees are slightly more often victims of aggression. This result can be due to different reasons. Participants with degrees are mainly middle leaders or leaders (42.8%), they obviously meet less patients, so there is less chance for them to be attacked. Another reason might be that 48% of graduates work in permanent day shifts, and it is known that violent acts are less frequent in this shift (H4).

## **SUGGESTIONS**

Based on the above discussed results the most important task is to prevent and treat burnout. In the prevention the supportive workplace environment, team work, division of labour, on the job education, trainings, team building, perks and possibility to study play the most important roles.

Burnout prevention trainings based on positive psychology are available in Hungary. In the treatment stress reduction methods, e.g. autogenic training, relaxation and regular workout can be included. These are proven to reduce stress and to prevent or treat burnout. Superiors at workplace may also have a big influence on the reduction of burnout through giving control to workers over their work schedule. In the treatment Bálint groups may also be applied.

It is also important that workers are prepared for aggressive acts. This can be done with a few days long course including communication training and development of skills for properly reacting to aggressive behaviour and to recognize the signs of nearby violence. In Hungary there were some trainings for the prevention of aggression including the multicausality of aggression, risk assessment, early recognition of violence, communication and verbal communication. This should be continued in a wider area, so that it can be accessed by every healthcare worker.

The reduction of workplace uncertainty is also important. This can be done through the support of on the job education and courses, furthermore through the continuous information about changes and reorganizations at the workplace.

Effective conflict resolution methods should also be taught, so that differences can be arranged as soon as possible.

Moral and financial appraisal of nurses could also positively influence the self esteem of workers, which could decrease burnout. Communicational misunderstandings might also be less frequent due to this.

The main limitation of the study is its cross-sectional nature, therefore causational and temporal connections cannot be described based on it. Another limitation is the online data collection, which reduces the pool of participants to those with internet connection, who are active internet users and are registered on social media. Mainly elderly are restricted in this regard or those who are not online on a daily basis.

In the future this study should be continued involving only nurses to create a more homogenous sample. This could help to get a more sophisticated picture about the aggression at the workplace and its correlations with burnout and workplace uncertainty. More emphasis could be placed on the differences among different types of patient care; sampling could more specific, so that every area is represented. A paper-pencil questionnaire would be more appropriate for this. Causational connections should be also investigated in the future by the means of a longitudinal study. The circumstances of aggressive acts could be also revealed this way, e.g. what preceded it and in which time of the day is it more frequent.

## **NEW SCIENTIFIC RESULTS**

The present study is unique and the first in national relations, as there was no other previous research on the burnout, workplace aggression and conflicts as thoroughly as ours.

- Based on self-constructed questions four factors of workplace conflicts were identified: self-defence, conflict with authorities, respect, conflict with equals.
- Self-defence mechanisms are well functioning during workplace conflicts.
- The Pines Burnout Inventory measures burnout as reliably as the Maslach Burnout Measure, that is if one test says that someone has burnout, the other shows the same.
- The more severe burnout someone has, the more frequent conflicts are at their workplace.



- High personal efficacy has a negative correlation with the number of workplace conflicts.
- People with burnout have less functioning self-defence skills, they have more conflicts with co-workers, superiors and they feel ignored more.
- More severe burnout correlates with higher level of workplace uncertainty.
- The more serious internal and external uncertainty at the workplace is, the more frequent conflicts are, the more intense the feeling of being disregarded is and the less effective self-defence is.
- People with more severe burnout experience aggression at their workplaces more often.
- People with higher self-efficacy are significantly less subjected to aggressive acts.
- After experiencing violent acts people with more severe burnout reported more often that the relationship with the aggressive patient got worse, they experienced more negative emotional effects and they tend to become more hostile towards the environment.

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### ***International congress presentations***

1. Irinyi Tamás, Ivánka Tibor, Rudisch Tibor, Németh Anikó: Aggression in the Hungarian health care system In: SGEM (szerk.) 3rd International Multidisciplinary Scientific Conference on Social Sciences and Arts: SGEM 2016 Conference Proceedings: Book 1, Psychology and Psychiatry, Sociology and Healthcare, Education, Vol. 2.. 103-110.

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