

## ORIGINAL PAPER

## EXPERIENCE OF NURSES WITH IN-PATIENT AGGRESSION IN THE SLOVAK REPUBLIC

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**Abstract**

*Aim:* The aim of the study was to explore the experience of staff nurses from selected hospitals in all regions of Slovakia of inpatient aggression in their past year of practice. *Design:* A quantitative cross-sectional study. *Methods:* The sample consisted of 1,042 nurses with a mean number of years of work experience of 19.23 (SD 10.96) from medical, surgical, and psychiatric wards, and emergency and intensive care units. Data collection was conducted by the self-reference instrument, the Violence and Aggression of Patients Scale (VAPS). *Results:* Over the past year, 97.4% of nurses have been confronted with patient aggression. 96.8% of nurses have experienced verbal aggression and 83.3% physical aggression. Nurses working in psychiatric and intensive care wards have experienced the most frequent episodes of patient aggression. A statistically significant difference was confirmed in the prevalence of patient aggression towards nurses based on their pattern of shift work. Nurses working in multiple-shift operation reported a higher frequency of patient aggression compared with those working single-shifts. The relationship between age, years of work experience, and level of education, and experience of patient aggression was not proved to be significant. *Conclusion:* The study highlights nurses' experience of different forms of patient aggression and provides confirmation of the current relevance of this issue. The results may become the basis for a systematic evaluation of the causative factors and the management of aggression. The implementation of preventive strategies in clinical practice is crucial.

**Keywords:** nurses, experience, inpatient aggression, forms of aggression, VAPS scale.

**Introduction**

Patient aggression has become an integral part of healthcare professionals' everyday lives (Lovašová et al., 2014; Schablon et al., 2012). Nurses, as the most numerous group of healthcare professionals, and in the longest direct contact with the patients in the course of care, are most exposed to the risk of patient aggression (Lepiešová, Nemčeková, 2013; Swain et al., 2014). The serious impact of patient aggression on the professional performance of nurses is well documented. It negatively affects the quality of care provided; contributes to increased levels of stress and nurse turnover (Pekara, Trešlová, 2011); reduces the mental and physical well-being, and motivation of nurses; and worsens their working environment and job satisfaction (Gurková et al., 2015; Schablon et al., 2012).

Although research studies on patient aggression against nurses (healthcare professionals) focus, to a large extent, on psychiatric workplaces, (McCann et al., 2014) and emergency and intensive care units (Gillespie et al., 2013), the authors cover the occurrence of patient aggression in other departments as well (Kersten et al., 2014; Swain et al., 2014). In the Slovak Republic several research studies have been implemented to determine the prevalence of patient aggression against nurses, focusing on different types of workplace (Čerňanová, 2010a; Kačmárová et al., 2014; Lepiešová, Nemčeková, 2013). Nevertheless, in comparison with foreign studies, the issue requires more detailed analysis, with a larger research sample.

**Aim**

The aim of the study was to determine staff nurses' experience of different forms of inpatient aggression, to establish the relationship between the prevalence of patient aggression reported by nurses and selected individual characteristics of nurses (for example, age and years of work experience) or characteristics of the nurse's workplace (for example, the frequency

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with which restraints and tranquillizing medications are used in dealing with aggression), and to detect differences in the prevalence of patient aggression against nurses based on established criteria (type of workplace, clinical discipline, shift work pattern, and education of nurses).

## Methods

### Design

A quantitative cross-sectional study was used.

### Sample

The selection of respondents was conducted according to defined inclusion criteria: staff nurses from selected hospitals in the Slovak Republic (SR) working in direct contact with adult patients in a conscious state for at least one year. The research sample consisted of 1,042 nurses. Of the total sample, only 80 participants were male; thus differences based on gender were not explored. The mean age of the sample was 40.03 years (SD 10.16) and the mean number of years of work experience was 19.23 (SD 10.96). The respondents were from Nitra Faculty Hospital (n = 182), Trenčín Faculty Hospital (n = 72), Trnava Faculty Hospital (n = 90), Bratislava University Hospital (n = 221), Žilina Faculty Hospital (n = 82), Prof. Matulay Psychiatric Hospital, Kremnica (n = 69), F. D. Roosevelt Faculty Hospital, Banská Bystrica (n = 108), J. A. Reiman Faculty Hospital, Prešov (n = 118) and L. Pasteur University Hospital, Košice (n = 100). With regard to the division of the entire sample by type of workplace/clinical discipline, the largest part consisted of nurses from medical departments (n = 323): 308 nurses were from surgical wards, 220 from psychiatric wards, and the smallest group consisted of nurses from emergency and intensive care units (n = 191). 585 nurses (56.1%) were educated to secondary school level and 457 nurses (43.1%) were university graduates. The majority (n = 837; 80.3%) worked in multi-shift operation.

### Data collection

Data collection was conducted by the self-reference instrument, the Violence and Aggression of Patients Scale (VAPS) by the authors Lepiešová et al. (2012). The VAPS consists of 11 items (V1 to V11) representing different forms of aggression structured into three subscales based on factor analysis: VS – verbal aggression, VT1 – physical aggression without the use of a weapon, and VT2 – physical aggression with the use of a weapon and contact forms of sexual aggression. The reliability and validity of the scale was confirmed in a study by Lepiešová et al. (2012). Cronbach's alpha was 0.860. By means of a six-point

frequency scale (1 – never; 2 – rarely; 3 – occasionally; 4 – often; 5 – very often; 6 – always), nurses reported how often in the period of their past year of practice they had become the object of the aforementioned types of patient aggression – the higher the score on the VAPS, the higher the prevalence of patient aggression reported by nurses. In addition to the VAPS, the questionnaires contained data on individual characteristics of respondents and characteristics of their workplaces, including two additional items in which the nurses' perception of the frequency of use of selected restrictive strategies (medications and restraints) to deal with patient aggression in their workplaces was investigated. These items were also evaluated by means of a six-point frequency scale (1 – never; 2 – rarely; 3 – occasionally; 4 – often; 5 – very often; 6 – always). The empirical data were collected from November 2014 to April 2015. The questionnaires were distributed to nurses indirectly by head nurses. In total, 1,531 questionnaires were distributed and 1,069 were returned (69.8% return rate), of which 27 were incomplete or failed to meet inclusion criteria, and were thus excluded. The remaining 1,042 questionnaires were statistically analyzed.

### Data analysis

The statistical analysis was performed using the SPSS 10. Statistical testing was performed using descriptive and inductive statistics. Within each item, the subscales and the VAPS scale as a whole, mean score (m) and standard deviation (SD) were calculated. Pearson correlation coefficient r was used to test the linear dependence of selected variables. The analysis of variance (One-Way ANOVA) test was used for group comparison. A p-value < 0.05 was considered to be statistically significant.

## Results

From the entire sample, 97.4% of nurses had been confronted with inpatient aggression in the 12 months prior to the administration of the questionnaire. Personal experience of verbal aggression (subscale VS) was confirmed by 96.8% of nurses. Up to 83.3% of nurses had experienced physical aggression, of whom 77.7% encountered physical aggression without the use of a weapon (subscale VT1), and 27.5% physical aggression with the use of a weapon and contact forms of sexual aggression (subscale VT2). Sexual aggression from patients was reported by 67.7% of nurses in the evaluated period. Non-contact forms of sexual aggression were experienced by 78.9% and 18.1% of nurses reported experience of contact forms of sexual aggression.

As indicated in Table 1, nurses most frequently experienced verbal aggression (VS), followed by physical aggression without use of a weapon (VT1). The least frequently confronted form was physical aggression with use of a weapon, and contact forms

of sexual aggression (VT2). In the table, reported manifestations of patient aggression against nurses are arranged in descending order from most frequent to least frequent.

**Table 1** The frequency of various forms of patient aggression as reported by nurses (n = 1042)

Items of the VAPS scale	M*	SD
<b>VS – Subscale verbal aggression</b>	<b>2.77</b>	<b>1.37</b>
3. verbal attack – insults, rebukes	3.24	1.39
2. unsubstantiated accusations	2.98	1.33
1. defamations	2.80	1.37
4. verbal attack – intimidations, threats	2.69	1.38
5. verbal sexual comments	2.14	1.12
<b>VT1 – Subscale physical aggression without use of a weapon</b>	<b>2.18</b>	<b>1.23</b>
6. spittings, bites, scratches, stings	2.46	1.34
7. shoves, pushes, throwing of objects	2.19	1.19
8. slaps, punches, kicks	1.91	1.07
<b>VT2 – Subscale physical aggression with use of a weapon and contact forms of sexual aggression</b>	<b>1.22</b>	<b>0.63</b>
9. choking holds, assault with a sharp object, stabbings, shootings	1.27	0.67
10. physical contact with sexual intent (with no actual physical harm)	1.24	0.66
11. sexual assault (including actual physical harm)	1.14	0.55
<b>VAPS – Violence and Aggression of Patients Scale</b>	<b>2.19</b>	<b>1.34</b>

SD – standard deviation, M – mean, \* 6-point frequency scale used: 1 – never; 2 – rarely; 3 – occasionally; 4 – often; 5 – very often; 6 – always

Statistical analysis of the VAPS (correlation analysis, ANOVA analysis) respecting selected characteristics of nurses and their workplaces failed to confirm a significant relationship with regard to differences based on age, number of years of working experience or the level of education of nurses. Nurses reported using restraints while dealing with aggressive patients at their workplace at an average frequency of  $3.21 \pm 1.15$  (interpreted as *occasionally*) and the use of tranquillizing medications for the same purpose at an average frequency of  $3.75 \pm 1.19$  (interpreted as *often*). Confirmed statistically significant

relationships between the subscale and scale scores of the VAPS and the frequency of use of both restrictive strategies in workplaces, as reported by nurses, are presented in Table 2.

The VAPS differed significantly in all subscales, as well as the scale as a whole, for groups of nurses from various workplaces/clinical disciplines (Table 3). All forms of patient aggression presented in the VAPS were proved to be experienced significantly more frequently by nurses working in psychiatric wards, and emergency and intensive care units.

**Table 2** Correlations between reported prevalence of patient aggression against nurses and the frequency of the use of restrictive management strategies

Restrictive strategies	Restraints		Medications	
	r	p	r	p
VAPS	0.371	< 0.001	0.358	< 0.001
VS – verbal aggression	0.348	< 0.001	0.331	< 0.001
VT1 – physical aggression without use of a weapon	0.382	< 0.001	0.378	< 0.001
VT2 – physical aggression with use of a weapon and contact forms of sexual aggression	0.131	< 0.001	0.119	< 0.001

r – Pearson correlation coefficient; p – p-value

Nurses working in multi-shift operation reported a higher frequency of all presented forms of patient aggression compared with those working in single-

shifts. Statistically significant differences were confirmed between the groups in the subscales VS, VT1 and the VAPS as a whole (Table 4).

**Table 3** Differences in reported prevalence of various forms of patient aggression against nurses based on the type of workplace

Workplace (m ± SD)	Surgical	Medical	Intensive care	Psychiatric	p
VAPS	2.00 ± 1.17	1.98 ± 1.23	2.42 ± 1.47	2.57 ± 1.47	< 0.001
VS – verbal aggression	2.54 ± 1.21	2.44 ± 1.28	3.13 ± 1.46	3.27 ± 1.43	< 0.001
VT1 – physical aggression without use of a weapon	1.92 ± 1.04	2.03 ± 1.21	2.40 ± 1.28	2.61 ± 1.30	< 0.001
VT2 – physical aggression with use of a weapon and contact forms of sexual aggression	1.19 ± 0.61	1.15 ± 0.53	1.25 ± 0.72	1.33 ± 0.70	0.024

p – p-value of ANOVA test

**Table 4** Differences in reported prevalence of various forms of patient aggression against nurses based on shift work pattern

Shift work pattern (m ± SD)	Single-shift operation	Multi-shift operation	p
VAPS	1.96 ± 1.17	2.24 ± 1.37	< 0.001
VS – verbal aggression	1.96 ± 1.17	2.84 ± 1.40	0.001
VT1 – physical aggression use of a weapon	1.86 ± 1.02	2.26 ± 1.26	< 0.001
VT2 – physical aggression with use of a weapon and contact forms of sexual aggression	1.18 ± 0.57	1.23 ± 0.65	0.316

p – p-value of ANOVA test

## Discussion

The study results confirm that staff nurses from various workplaces are confronted with a wide range of forms of patient aggression. Patient aggression reflects the problem of aggression in society, which can be imported at any time (for example, from risk communities) to a hospital setting (Ford et al., 2009). Within the period of 12 months prior to administration of the VAPS, up to 97.4% of nurses of the sample had experienced patient aggression. The nurses were most often confronted with verbal aggression from patients in the form of insults and rebukes (Table 1). Verbal aggression is recorded as the most common form of patient aggression against nurses/healthcare professionals in several studies of a similar nature (Gurková et al., 2015; Kačmárová et al., 2014; Lepiešová, Nemčeková, 2013; Pekara, Trešlová, 2011; Schablon et al., 2012). The higher prevalence of verbal aggression in comparison with physical forms of aggression is detailed in several cultures (Balamurugan, 2012; Cheraghi et al., 2012; Jiao et al., 2015; Koukia et al., 2013; Lepping et al., 2013) although the occurrence of aggression and its forms are culturally specific (Cohen, Leung, 2011).

Patient aggression against nurses can be attributed to various factors (Farrington, 2007), including, among others, the patient's perception of the nurse-patient relationship (Winstanley, Whittington, 2002). Nurses are the healthcare professionals in most frequent contact with patients; thus nurses become a 'buffer' between the patients and physicians (Pekara, Trešlová, 2011). While performing their professional duties, nurses perform nursing interventions that may be unpleasant for patients and thus possibly provoke aggressive manifestations according to the concept of

aversive stimulus. This has been identified as a precursor to incidents of aggression not only in psychiatric practice. Aversive stimulus is defined as patients perceiving the interventions of healthcare professionals to be unpleasant and irritating, whether or not they are appropriate in the context (Winstanley, Whittington, 2004). Such interventions can induce frustration in a patient or may require them to perform actions which they do not believe to be in their best interests. Many nursing or therapeutic interventions by their very nature act as aversive stimuli. Lengthy waits for patients to be examined, problematic interaction and communication between patients and healthcare professionals, tests and investigations which give rise to pain, fear, and anxiety (McDonnell, 2010) should also be taken into consideration.

Nurses' experience of patient aggression in particular workplaces varies. The highest frequency of aggression was reported by nurses working in psychiatric wards, and emergency and intensive care units (Table 3). This may be related to the clinical manifestation of patients' illnesses in these workplaces (Abderhalden, 2007; Pich et al., 2011; Ridenour, 2014; Speroni et al., 2014). However, the nurses in our sample reported that patient aggression also occurred in surgical and medical wards; although significant differences were confirmed when their experiences were compared with those of nurses from psychiatric wards and emergency and intensive care units (Table 3).

Although studies to monitor the occurrence of aggression predominantly focus on psychiatric wards and emergency and intensive care units, patient aggression has been reported in various hospital

departments, for example, surgical, medical, geriatric, and pediatric (Iennaco et al., 2013; Koukia et al., 2013; Schablon et al., 2012; Winstanley, Whittington, 2004), suggesting the need to investigate the issue of patient aggression in all clinical disciplines (Iennaco et al., 2013).

Nurses working in a multi-shift operation are more exposed to patient aggression compared with those working single-shifts (Table 4), which is probably related to the organization of shift work patterns in the workplace. Usually, there are fewer nurses on afternoon or night shifts, resulting in greater demands on nurses, who thus have less time to address the individual needs of each patient. This might generate patient dissatisfaction and its expression in the form of verbal aggression (Wilder, Sorensen, 2009). However, a different pattern of patient aggression in relation to the shift work patterns of a workplace was indicated in a study by Pai and Lee (2011), who recorded an extremely high incidence of verbal aggression in the morning shift (up to 80.8%), followed by the afternoon (76.8%) and the night shifts (45.6%). Contributing factors included refusal to admit patients to hospital, postponement of procedures, delays in collecting anamnestic data, and patient dissatisfaction with the care provided. On the other hand, working night shifts increases a nurse's risk of sexual harassment by a patient. The study by Pai and Lee (2011) indicated younger nurses (< 30 years) to be in the highest risk group as their lack of experience meant their failure to recognize potential incidents. Length of professional experience and higher levels of education were found to be protective factors in prevention and management of patient aggression. However, our study failed to confirm a significant relationship respecting differences in experience of patient aggression reported by nurses based on age, number of years of work experience, or level of education.

The frequency of the use of restrictive management strategies was proved to be a significant correlate of the prevalence of patient aggression against the nurses in our sample (Table 2). Čerňanová (2010b) in her review article on patient aggression in psychiatric nursing states that greater attention has been paid to the issue of aggression management with the use of restraints in Slovakia since 2005, culminating in the release of methodological guidelines (*Odborné usmernenie...*, 2009). Mechanical restraint of a patient (by means of limb restraints) is considered to be the most frequently used radical restrictive strategy to deal with an aggressive patient, and is a means of protecting both patient and staff. In relation to the use of restrictive measures, in particular, restraints and seclusion, Davies and Janosik (1991)

highlighted a common phenomenon: the natural cycle of aggression. After a patient has been released from restraint, staff, fearing he/she may become aggressive again, tend to avoid interaction. This social distancing contributes to the patient's reputation as an aggressor, causes problematic integration among other patients and, in interaction with other environmental and communication stressors, initiates a cycle of loneliness, anger and frustration, thus increasing their propensity to further aggression.

In our study we confirmed a significant relationship between the prevalence of patient aggression against nurses and the frequency of the use of restrictive management measures (Table 2). However, the correlation coefficient does not reflect a causal-consequent relationship. While it indicates the existence of a relationship, it does not necessarily imply causality (Rimarčík, 2007). Therefore the occurrence of aggression and the frequency of the use of restraints and tranquillizing medications may have a cause-and-effect relationship in both directions, corresponding to the natural cycle of aggression. Restraint of the patient (in the Slovak context the most commonly used strategy in patient aggression management due to the fact that communicative approaches to patient aggression are not yet sufficiently developed) applied in response to their aggression may become a cause of further aggressive behaviour (Lepiešová, Nemčeková, 2013).

## Conclusion

The study provides evidence of the current relevance of the problem of patient aggression in Slovak hospitals and highlights staff nurses' experience of different forms of patient aggression and the methods of its management. Failure to address the issue of patient aggression against nurses has a strong impact on job satisfaction, and the quality of care provided; it may also cause psychological harm and affect the healthcare facility itself (by increasing sick leave, staff turnover, and economic costs). The study results may become the basis for a systematic evaluation of the causative factors and the management of aggression – after all, a safe working environment for nurses should be regarded as a priority. The implementation of preventive strategies in clinical practice would therefore appear to be essential.

## Ethical aspects and conflict of interest

The study was conducted in accordance with the ethical recommendations of the Declaration of Helsinki (2002). It was approved by the Ethics committee of the Jessenius Faculty of Medicine in Martin, Comenius University in Bratislava. Consent

to carry out the research study was obtained by the management of each hospital addressed. All participants were informed of the purpose of the study and agreed to be included in the research. The authors declare the study has no conflict of interest.

## Acknowledgements

Supported by project VEGA 1/0217/13 The prevalence identification and analysis of patients' aggression against nurses.

## Author contribution

Conception and design of study (ML), data analysis and interpretation (ML, MT, IB, IF, RK), manuscript draft (MT, IB, ML), critical revision of the manuscript (ML, KZ), final approval of the manuscript (MT, ML, IB).

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