

THE ATTITUDES OF NURSES TOWARDS INPATIENT AGGRESSION AND SELECTED STAFF CHARACTERISTICS: A CROSS-SECTIONAL STUDY

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Abstract

Introduction: The attitude of nurses to the patient aggression may also reflect how they interpret its function or what meaning they attribute to aggressive patient behaviour. These attitudes are subsequently manifested in the way in which nurses behave towards aggressive patients and manage aggression. **Methods:** The study aimed to identify the attitudes of nurses from various clinical areas to the inpatient aggression and to reveal differences in attitudes based on selected staff characteristics. The study has a quantitative cross-sectional design. Nurses' attitudes towards the inpatient aggression were identified by means of the Attitude Towards Aggression Scale (ATAS©) distinguishing five types of attitudes represented by five domains named as offensive, destructive, intrusive, communicative, and protective domains. The prevalence of patient aggression towards nurses was determined using the Violence and Aggression of Patients Scale (VAPS). The sample consisted of 1220 nurses from nine selected faculty or university hospitals in the Slovak Republic. **Results:** The highest scores were identified in the ATAS© domains representing a negative perception of patient aggression in terms of destruction, offensive, or intrusion; on the other hand, nurses were open also to a positive perception of patient aggression. **Conclusion:** The results of our study point to the need for a deeper investigation into the issue of nurses' attitudes towards aggressive patients. Nurses' negative attitudes towards patient aggression can have an adverse effect on the quality of care provided to aggressive patients, thus it is crucial to identify these attitudes and implement lifelong-learning interventions to reduce them.

Keywords

nurse, attitude, aggression, patient, hospitalization

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1 INTRODUCTION

Patient aggressive behaviour is a serious globally reported problem of a clinical practice that is long-established, continuously discussed and explored within numerous research studies (Somani et al., 2021; Thompson et al., 2019). Nurses are considered to be the most common object of verbal and physical forms of patient aggression (Sato & Kodama, 2021). Patient aggression against nurses is multifactorial (Lepiešová et al., 2021). Its miscellaneous contributory factors might be explicated under the components of the models of aggression; e.g. patient, ward, and staff variables within a tentative model of inpatient aggression by Nijman et al. (1999); or the model of the causes of aggression (the internal, external, and situational/interactional explanatory conceptual models) by Duxbury & Whittington (2005). The factors are included also in the subscales/domains of various instruments and scales measuring this phenomenon; e.g. the Management of Aggression and Violence Attitude Scale, the MAVAS, by Duxbury (2002); the Factors Affecting Patient Aggression Scale, the FAPAS, by Lepiešová et al. (2021).

Nurses' perception of the numerous factors in terms of their contribution to the patient aggression may reflect their attitudes towards this phenomenon, which in turn can be projected into the performance of their profession and the management of aggression. The link between the attitude and the behaviour is reflected by Ajzen's Theory of Planned Behaviour representing the conceptual framework to understand the way how nurses behave towards aggressive patients (Jansen, 2005). This theory refers the attitudes to a person's evaluation of the behaviour as more positive or negative (Verhaeghe et al., 2016; Jansen, 2005). Understanding the attitudes on the basis of the Theory of Planned Behaviour was implicated to several studies on nurses' attitudes towards inpatient aggression (Jansen et al., 2006a; Jansen et al., 2005) based on which Verhaeghe et al. (2016) emphasized three perspectives of the attitudes towards aggression. First, aggression is perceived as a dysfunctional phenomenon that is violent, offensive, destructive, intrusive, or harmful; second, aggression can also be considered a functional, instrumental or communicative phenomenon in terms of a feeling expressed to meet a particular need; and third, it can be viewed as a normal or protective phenomenon, where aggression is an acceptable reaction to feelings of anger. Thus, the patient aggression can be interpreted by the two divergent dimensions: in terms of negative attitude to patient aggression it is understood as destruction, intrusion, and offensive (it means as intentional, deliberate, destructive and violent act); and in terms of a positive attitude to patient aggression it refers to a communication and a protection (Jansen et al., 2006b). In this respect, it is important to examine the meaning the nurses attribute to patient aggressive behaviour and their interpretation of its function. Nurses' attitudes represent a powerful element in the way nurses manage patient aggression (Jansen et al., 2006b); this fact can be reflected e.g. in the excessive and often unjustified use of physical,

mechanical or chemical restraints to reduce patient aggression (Coneo et al., 2020). Nurses' attitudes impact significantly the nurse-patient relationship and, on the other hand, may be a predictor of patient aggression (Verhaeghe et al., 2016; Gudde et al., 2015); e.g. in terms of a vicious circle of aggression, the repetitive pattern of patient's violent behaviour may develop as a reaction to some measures used followed by environmental and communication stressors increased (Nijman, 2002). Hahn et al. (2006) acknowledge nurses' attitudes towards aggressive patients and the way they manage patient aggression can either improve or worsen nurse-patient interaction. The issue of nurses' attitudes towards the inpatient aggression has become the subject of several research studies in recent decades, performed particularly in mental health facilities (Lickiewicz et al., 2021; Isaiah et al., 2019; Ezeobele et al., 2019; Al-Awawdeh et al., 2016; Laiho et al., 2014) in which nurses regularly face the patient aggression. However, there is still room to supplement data on nurses' attitudes towards patient aggression, not only from mental health facilities but also the other clinical areas and the unit types.

The aim of the present study was to map the attitudes of staff nurses from different clinical areas to inpatient aggression and to detect differences in attitudes based on selected staff characteristics: nurse education level, the years of working experience, the clinical area in which nurse currently works, shift work pattern, and the prevalence of inpatient aggression declared by a nurse, i.e. personal experience with various forms of inpatient aggression in the course of the last year of practice.

2 METHODS

A quantitative, cross-sectional research design using questionnaire to assess relevant variables was used. The nurses' attitude towards inpatient aggression was measured by Attitude Towards Aggression Scale (the ATAS©) of the Dutch author Gerard G. J. Jansen (2005). This unique instrument focuses on the attitudes towards patient aggression in terms of interpretation of the function or the intention of the behaviour, i.e. it assesses the meaning nurses attribute to patients' aggressive behaviour (Jansen et al. 2006a; Jansen et al., 1997). A short, 18-item self-reporting scale comprises five types of attitudes towards patient aggression while each type is measured by one of its five subscales / domains named as follows: offensive, destructive, intrusive, communicative, and protective. The higher the score achieved on the ATAS© domain, the more respondent's attitude matches with the attitude to patient aggression represented and expressed by that particular domain. The offensive domain (AO) evaluates aggression as insulting, hurtful, unpleasant and unacceptable behaviour including verbal aggression, expressing the disagreement to such behaviour. The destructive domain (AD) presents aggression as an actual or threatening act of physical harm or violence; describes aggression as a physical act but does not evaluate it. In

the intrusive domain (AI) aggression is presented as the intention of a patient to damage or injure others; aggressive behaviour is believed to be intentional. The communicative domain (AC) views aggression as a signal resulting from the patient's sense of powerlessness with the aim of enhancing the therapeutic relationship. In the protective domain (AP) aggression is viewed as shielding or defending of the physical and emotional space (Jansen et al. 2006a; Jansen et al., 2005). The nurses expressed how much they agree with each of 18 statements by means of a five-point Likert type scale, ranging from strongly agree (5) to strongly disagree (1). In our study, with the permission of the author of original ATAS© scale, the Slovak version of the scale was used, created by back-translation approach. The internal consistency (Cronbach's α coefficient) of the five domains in our sample reached values ranging from 0.53 to 0.81.

At the same time, we have collected data on the prevalence of patient aggression towards nurses using self-reporting instrument, the Violence and Aggression of Patients Scale (VAPS) by Lepiešová et al. (2012). This instrument is oriented on the prevalence of patient aggression against nurses by means of personal experience with such an incident declared by nurses. VAPS consists of 11 items (V1 to V11) representing various forms of aggression that are arranged into three subscales based on factor analysis, named as follows: 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. 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 the past year of their practice they had to face the aforementioned types of patient aggression. The higher the score achieved on the VAPS or its subscales, the higher the prevalence of patient aggression declared by the nurses. The reliability and validity of the scale were confirmed in a study by Lepiešová et al. (2012). The internal consistency (Cronbach's α) of the VAPS in our sample was satisfactory (0.86), ranging from 0.81 to 0.86 for individual subscales.

The sample comprised of 1220 nurses from nine selected faculty or university hospitals with equal representation of each region of the Slovak republic. The selection of respondents was purposive and followed pre-defined inclusion criteria: staff nurses working in direct contact with adult patients in conscious state for at least last 12 months in hospital wards that can be categorized into following five clinical areas – medical areas, surgical disciplines, mental health areas, oncology and palliative care areas, and emergency areas and intensive care units.

The mean age of the sample was 40.05 years (SD 10.09); the average number of years of working experience was 19.15 (SD 10.94). Most respondents were female (n = 1132; 92.8 %). Nurses educated to a secondary level prevailed in our sample (n = 666; 55.2 %). From the entire sample, 97 nurses (8 %) declared they completed educational seminars, workshops, or courses addressing the issue of patient aggression and its management. The majority of nurses worked

in multi-shift operation ($n = 980$; 80.3 %). The largest part of the sample was represented by nurses working in surgical disciplines ($n = 376$), 290 nurses were from medical areas, 233 from emergency areas and intensive care units, 223 from mental health areas, and the smallest subsample consisted of nurses working in oncology and palliative care areas ($n = 93$).

Data collection was conducted within a broader national research project. Data collection was conducted from November 2014 to May 2015. In selected hospitals, instruments were distributed in the mode of self-administered paper questionnaires by head nurses acting as contact persons in five clinical areas – medical areas, surgical disciplines, mental health areas, oncology and palliative care areas, and emergency areas and intensive care units. In total, 1783 questionnaires were distributed, 1251 had returned (70.16 % return rate).

Statistical analysis was conducted using 1220 questionnaires after exclusion of questionnaires that failed to meet inclusion criteria and incomplete ones.

Descriptive and inductive statistical analyses were performed using the statistical software SPSS version 18. The percentages (%), means (m) and standard deviations (SD) were calculated to characterize the sample and determine the scores on each item, the ATAS© domains, the VAPS subscales, and the VAPS scale as a whole. To test the linear dependence of selected variables, Spearman correlation coefficient (r_s) was used. Nonparametric Mann-Whitney U test and Kruskal-Wallis test were used to ascertain significant differences between the groups. They were further verified by the Fisher's Least Significant Differences (LSD) test to determine which groups differ from the rest. P value of 0.05 was considered statistically significant. Internal consistency of the scales was assessed by calculating Cronbach's α .

3 RESULTS

Nurses of our sample were confronted with all referred forms of inpatient aggression in the past year of their practice. The most frequently they experienced verbal aggression (VS), followed by physical aggression without the use of a weapon (VT1). The least frequently declared forms were physical aggression with the use of a weapon, and contact forms of sexual aggression (VT2). Table 1 presents the scores achieved in individual ATAS© domains in the whole group of respondents representing the attitude of nurses towards patient aggression.

The highest scores were achieved on domains representing negative perception of patient aggression, the destructive, offensive and intrusive ones. Mean scores on these domains (> 3.5) indicate nurses from our sample agree with types of attitude presented by these domains. Of the two domains emphasizing positive meaning of patient aggression, higher score was found in protective domain (AP), with its value (2.96; SD 1.16) pointing to an unclear or ambiguous

relation to the view of aggression expressed by this domain. The communicative domain (AC) is the least represented type of attitude towards aggression in our sample, with its score (2.63; SD 0.99) indicating a tendency to disagree with such understanding of patient aggression.

Prevalence of patient aggression against nurses of our sample significantly differed based on clinical area nurses work in. Nurses from mental health areas and those working in emergency areas and intensive care units reported higher frequency of exposure to all forms of inpatient aggression in the past year of their practice when compared with nurses from medical-surgical and oncology and palliative care areas. Significant differences based on the clinical area were found also for nurses' attitude towards patient aggression reflected by destructive and communicative domains (Table 1).

Table 1
Staff nurses' attitude towards patient aggression and the clinical area

ATAS [®] domain	N=1220	medical	ICU	surgical	mental health	oncology and palliative care	p(K-W)
	m ± SD	m ± SD	m ± SD	m ± SD	m ± SD	m ± SD	m ± SD
AO	4.11 ± 0.79	4.07 ± 0.84	4.15 ± 0.79	4.15 ± 0.76	4.09 ± 0.80	4.16 ± 0.77	0.850
AD	4.16 ± 0.90	4.01 ± 0.97	4.14 ± 0.93	4.22 ± 0.89	4.26 ± 0.85	4.27 ± 0.77	0.010*
AI	3.88 ± 0.91	3.81 ± 0.97	3.84 ± 0.86	3.99 ± 0.87	3.82 ± 0.92	3.85 ± 0.90	0.055
AC	2.63 ± 0.99	2.64 ± 0.98	2.42 ± 0.95	2.66 ± 0.99	2.72 ± 0.96	2.78 ± 1.11	0.008*
AP	2.96 ± 1.16	2.98 ± 1.16	2.83 ± 1.15	2.99 ± 1.22	2.98 ± 1.07	3.07 ± 1.23	0.350

AO – offensive, AD – destructive, AI – intrusive, AC – communicative, AP – protective

5-point Likert type scale used: 5 – strongly agree, 4 – agree, 3 – uncertain, 2 – disagree, 1 – strongly disagree

ICU – emergency areas and intensive care units

p(K-W) – nonparametric Kruskal-Wallis test, * statistically significant result, p< 0.05

Based on least significant difference value (LSD), nurses from medical disciplines differed from nurses working in other clinical areas in the intensity of their agreement with destructive domain (AD) as they expressed significantly lower acceptance of the negative understanding of aggression presented by this domain. In relation to the positive view on patient aggression represented by communicative domain (AC), nurses from emergency areas and intensive care units significantly less likely agreed with such perception of aggression.

Table 2 presents differences in attitude towards patient aggression between the two groups of nurses subdivided on the basis of nurse education level confirmed in offensive (AO), intrusive (AI),

and communicative (AC) domains. Nurses with secondary education to a greater extent tended to agree with the types of attitude presented in these particular domains. In both subgroups, the highest mean scores were achieved on destructive domain (AD).

Table 2
Staff nurses' attitude towards patient aggression and education of nurses

ATAS® domain	nurses educated to a secondary level	university graduates	p(M-W)
AO	4.17 ± 0.76	4.06 ± 0.80	0.035*
AD	4.24 ± 0.84	4.13 ± 0.91	0.272
AI	3.93 ± 0.87	3.81 ± 0.90	0.027*
AC	2.59 ± 0.91	2.55 ± 0.97	0.017*
AP	2.89 ± 1.17	2.96 ± 1.13	0.968

AO – offensive, AD – destructive, AI – intrusive, AC – communicative, AP – protective

5-point Likert type scale used: 5 – strongly agree, 4 – agree, 3 – uncertain, 2 – disagree, 1 – strongly disagree
p(M-W) – nonparametric Mann-Whitney U test; * statistically significant result, p< 0.05

Nurses of our sample working in multi-shift operation reported significantly higher frequency of exposure to all forms of patient aggression when compared with those working in single-shifts. As presented in Table 3, significant differences in nurses' attitude towards patient aggression were found between these two subgroups, namely in intrusive (AI) and protective (AP) domains. Nurses working in single-shifts significantly more likely agreed with perception of patient aggression presented by these domain.

Table 4
Staff nurses' attitude towards patient aggression and shift work pattern

ATAS® domain	nurses working in single-shift operation	nurses working in multi-shift operation	p(M-W)
AO	4.17 ± 0.77	4.08 ± 0.79	0,307
AD	4.26 ± 0.84	4.17 ± 0.91	0,141
AI	4.01 ± 0.88	3.82 ± 0.89	0,019*
AC	2.72 ± 0.97	2.53 ± 0.93	0,104
AP	3.12 ± 1.13	2.89 ± 1.15	0,027*

AO – offensive, AD – destructive, AI – intrusive, AC – communicative, AP – protective

5-point Likert type scale used: 5 – strongly agree, 4 – agree, 3 – uncertain, 2 – disagree, 1 – strongly disagree
p(M-W) – nonparametric Mann-Whitney U test; * statistically significant result, p< 0.05

The relationship between nurses' attitude towards patient aggression reflected by ATAS© domains, their working experience and declared prevalence of inpatient aggression during their last year of practice (the mean scores on the VAPS and its subscales), was determined by Spearman's correlation coefficient (Table 4).

Table 4

Correlations between attitude towards patient aggression, years of working experience and the prevalence of inpatient aggression declared by nurses

ATAS® domain	years of working experience	VAPS	VS	VT1	VT2
AO	0.124*	-0.043	0.003	-0.042	-0.040
AD	0.118*	-0.030	0.004	-0.014	-0.043
AI	0.136*	-0.075*	-0.047	-0.075*	-0.013
AC	0.060*	0.033	0.014	0.016	0.084*
AP	0.069*	-0.012	-0.030	0.008	0.018

AO – offensive, AD – destructive, AI – intrusive, AC – communicative, AP – protective

VAPS – Violence and Aggression of Patients Scale, VS – verbal, VT1 – physical aggression without use of a weapon, VT2 – physical aggression with use of a weapon and contact forms of sexual aggression

* statistically significant correlation, $p < 0.05$

Significant relationship was confirmed between means scores achieved on ATAS© domains and the years of working experience – in our sample, each type of attitude towards patient aggression correlated positively with the length of working experience, but correlations are negligible or weak. The attitude presented by intrusive domain (AI) was found to correlate negatively with the frequency of inpatient aggression declared by nurses (VAPS), in particular the physical aggression without use of a weapon (VT1). The attitude presented by communicative domain (AC) correlated positively with the frequency of exposure to the physical aggression with use of a weapon and contact forms of sexual aggression (VT2) declared by nurses (Table 4). However, the strength of the correlation is negligible.

4 DISCUSION

Our study results confirmed that staff nurses from all types of clinical areas were confronted with various forms of inpatient aggression during the last year of practice. More detailed results on the incidence of patient aggression towards nurses in selected hospital wards in the Slovak Republic were published in the study by Lepiešová et al. (2015). Results demonstrating the occurrence of inpatient aggression towards nurses are repeatedly published and confirm the presence of this phenomenon in medical, surgical, emergency, geriatric wards and other

departments of healthcare facilities (Janiczeková & Lauková, 2021; Thompson et al., 2019; Schablon et al., 2018; Shi et al., 2017; Pekurinen et al., 2017). Patient aggression is not exclusively a phenomenon related to psychiatric or mental health care. Patient aggression against healthcare personnel is considered to be serious problem in general healthcare settings as well (Jansen et al., 2005). Nurses in our study were confronted with verbal aggression the most frequently, which is in line with the evidences described in several studies from different countries, e.g. Dimunová & Žemličková (2020), Trindade et al. (2019), Hamzaoglu & Türk (2019), Isaiah et al. (2019). Trahan (2018) and Kowalczyk & Krajewska-Kułak (2017). As research studies suggest, nurses' attitudes towards patient aggression including their perception of causes, and management of patient aggression have a significant impact on nursing care (Jalil et al., 2017; Ismail, 2016). For that reason, the nurses' perception of patient aggression, their attitudes and correlated factors are worth studying more deeply as nurses are the staff members to decide how to improve the care provided to their patients and prevent any harms or injuries on both, the staff and the patients (Kit, 2016).

The attitudes of nurses are influenced by miscellaneous factors, which are presented by several studies, e.g. Sato et al. (2021); Isaiah et al. (2019), Al-Awawdeh et al. (2016), Arguvanli et al. (2015) and Laiho et al. (2014). In accordance with the aim of our study, by the means of the ATAS© the attitudes of nurses from selected hospital clinical areas to inpatient aggression were identified, along with determination of the significance of the selected variables for their formation. We found out that nurses' attitudes towards inpatient aggression are significantly influenced by their personal experiences with such a behaviour. As presented in Table 4, we confirmed a significant relationship (negative, only negligible correlation) between the prevalence of patient aggression against staff nurses in their past year of practice (VAPS), in particular the physical aggression without the use of a weapon (VT1) and their attitude to patient aggression reflected by intrusive domain (AI) – the more often the nurses declared to face these „milder” forms of patient physical aggression (e.g. throwing of objects, pushes, shoves, slaps, punches, kicks, stings, bites, scratches, spitting), the less they agreed patients' aggressive behaviour is the expression of the intention to damage or injure others. In direct nurse – patient interaction, nurses are able to recognize whether such manifestations of aggression are acted intentionally and are directly addressed towards concrete person or not. These findings may also correspond to the perception of internal causes as being most responsible for patient aggression in compliance with the model of the causes of aggression by Duxbury & Whittington (2005).

Our results indicate, the more often the staff nurses declared to face “more serious” patient physical aggression (VT2) with the use of a weapon (e.g. choking holds, assault with a sharp object, stabbings, shootings) and contact forms of sexual aggression (physical contact with

sexual intent with no actual physical harm or sexual assault including physical harm), the more they agreed with communicative attitude (AC) viewing patient aggression as an expression of his/her powerlessness and a call for enhancing the therapeutic relationship with a staff. This finding is controversial as we wouldn't expect that nurses who face physical and sexual aggression more often than others and therefore are more intimidated and afraid of it could experience aggression as an attempt to communicate. In comparative study by Jansen et al. (2006b), authors reflect it can be argued that being the victim of aggression and violence more often, has less affinity with the two attitudes (protective, communicative) representing the more permissive, tolerant views towards patient aggression.

In addition to the attitude of all respondents of our study, we searched the attitudes of nurses based on clinical area in which nurses actually work. The findings of this study indicate that nurses from all clinical areas tended to agree more with the offensive, destructive, and intrusive domains by ATAS[©], which represent negative attitudes towards patient aggression. At the same time, they expressed disagreement with the communicative and protective domains, which represent positive attitudes towards patient aggression (Jansen, 2005).

The predominance of negative attitudes of nurses towards inpatient aggression has been reported also in other studies, especially from psychiatric wards (Isaiah et al., 2019; Al-Awawdeh et al., 2016). Laiho et al. (2014) state that nurses working in psychiatric wards express significantly less agreement with the protective domain of the ATAS[©] scale compared to nurses working in emergency and rehabilitation wards. In our sample, nurses from medical clinical areas expressed significantly less agreement with the negative understanding of patient aggression presented in the destructive domain (AD), in which patient aggression is understood as a current act or threat of physical harm and violence. Nurses from emergency areas and intensive care units had a significantly lower tendency to agree with a positive understanding of patient aggression represented by the communicative domain (AC), indicating that patient aggression may be a manifestation of the patient's feeling of helplessness. In summary, it can be stated that negative attitudes towards patient aggression prevailed in all monitored clinical areas.

Nurses in multi-shift operation (nurses working both, the day and the night shifts) had less tendency to perceive patient aggression in terms of intrusive domain (AI) compared to nurses working in only single-shift operation, it means as intentional action to harm, injure others or control them. They consider the aggressive behaviour of patients to a lesser extent intentional. On the other hand, they agree to a lesser extent with the protective domain (AP), which understands the patient aggression in terms of his/her protective behaviour in order to defend his/her physical or emotional space.

In our research, we confirmed a statistically significant, but negligible or weak correlation (Schober et al., 2018) between the length of nurses' clinical practice in terms of the years of working experience, and each type of attitude towards patient aggression expressed in the individual domains of the ATAS[®] scale. A possible interpretation is that attitudes are much more intense by the time and years of professional experience. The highest but still weak significant correlation was observed between the nurses' length of clinical practice and the attitudes presented by the intrusive (AI) and subsequently offensive domains (AO). These are understood as negative attitudes towards patient aggression. The reason might be the frequency of personal encounters with different types of patient aggression during the years of working experience. Laiho et al. (2014) state that the longer the nurses work in one workplace, the more often they agree with the attitude towards patient aggression represented by the offensive domain. This may be due to the more frequent experience of these nurses with patient aggression. On the other hand, these authors further state that longer clinical practice of nurses can lead to their identification with the positive types of attitude represented by the communicative and protective domains, which is in line with the statistically significant positive correlations achieved in these two domains in our research.

Our findings might be considered controversial when analyzing differences in nurses' attitudes towards inpatient aggression based on the nurse education level. Similarly, Laiho et al. (2014) report the ambiguous effect of education on nurses' attitudes towards patient aggression. In contrast, Lickiewicz et al. (2019) found out that attitudes towards patient aggression are already shaped at the level of academic education. This can be interpreted by the fact that nursing students are at potential risk of being exposed to patient aggression during their clinical placements, as are nurses, and are even more vulnerable, thus particularly negative attitudes may develop in the time of their academic education. The authors suggest the necessity to construct education programmes focusing on practical aspects of dealing with patient aggression and enabling future health care professionals to better understand patients' behaviour. In relation to this, in concordance with the model of the causes of aggression by Duxbury & Whittington (2005), Coneo et al. (2020) evidenced a significant effect of the training programme in the management of aggression on the staff attitudes towards causes and management of aggression. In our study, nurses educated to a secondary level had a stronger tendency to agree with attitudes towards patient aggression expressed in the offensive (AO) and intrusive (AI) domains. At the same time, when compared to the university graduates, they had a more pronounced attitude expressed in the communicative domain (AC). They agreed that patient aggression is intentional insulting, harmful, unpleasant behavior with the intent of harming, injuring or controlling others. They expressed disagreement with such behaviour,

considered the patient aggression to be unacceptable; on the other hand, they perceived it to a greater extent as patients' efforts to communicate.

Several authors (Lickiewicz et al. 2021; Doendens et al., 2019) emphasize the impact of education, and educational training to change the negative attitudes of nurses towards inpatient aggression. In this context, they emphasize particularly its reflection into the care provision, e.g. in terms of using the restraints to control patient aggressive behaviour.

Based on our study, we recommend further research focusing on a deeper understanding of nurses' attitudes in various sociocultural contexts and clinical settings, as up-to-date studies do not cover all aspects of nurses' attitudes. Likewise, the qualitative research is needed at the nurses' individual level to get to know their personal experience of being confronted with various types of patient aggressive behaviour and its impact on the attitudes towards this phenomenon. Further research should focus on determining factors that influence and affect these attitudes, as this issue is associated with the patient aggression management and patient safety.

Our study has several limitations. Data were obtained by the means of two instruments, which are characterized as self-report questionnaires. The results might have been influenced by the respondents' efforts to respond in a socially desirable way. In our study, we focused only on some selected variables that affected the attitudes of nurses in the study sample. These attitudes may have been influenced by other variables that were not explored. Therefore, generalization of our results is not possible. As Lepiešová et al. (2021) stated limitation of the study is the period during which the study was conducted within a broader research project (2014-2015), given that data not older than five years should be used. We confirm the data concerning nurses' attitudes towards inpatient aggression presented in this study are still considered to be unique in our context and have not been published yet. We realize the time factor may affect the relevance of the data, but in Slovakia, there were no significant changes (e.g., legislative, sociocultural, organisational, and administrative) in the conditions of the Slovak nursing practice, which could influence the relevance of data obtained in our study.

5 CONCLUSIONS

Based on the results of our study, we conclude that nurses in the Slovak Republic in various clinical areas of faculty and university hospitals have mostly negative attitudes to patient aggression, which may be due to several factors, including personal experience with various forms of inpatient aggression, the length of clinical practice, the nurse education level. On the other hand, they are open also to a positive perception of patient aggression in terms of agreement with the communication and protection domains of the ATAS© scale. These findings

are worth being considered to be a challenge to explore the phenomenon of nurses' attitudes towards patient aggression more, along with the factors affecting them. It seems to be important to obtain data on this issue and, based on them, to initiate the measures at different levels of the management of health care facilities to prevent the cultivation of negative attitudes of nurses to such a behaviour of the patients.

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