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# **EDUCATION AND RISK MANAGEMENT IN THE CZECH HEALTHCARE FACILITIES: CASE OF NURSES' EDUCATION ABOUT PATIENTS' DISABILITY**

*JAN NEUGEBAUER, MAREK VOKOUN*

## **Abstract:**

This paper investigates the symbiotic relationship between education and risk management within Czech healthcare facilities, specifically focusing on nurses' education regarding patients' disabilities. On the sample of 1,200 respondents from Czech healthcare facilities, the survey results suggest that education levels significantly shape risk awareness, tool utilization, and risk integration. While positive trends are evident in the healthcare sector, concerns linger around interpreting assessment results, information sufficiency, and the shortening of nurses' education. This study's broader implications inform ongoing discussions on nursing education and its impact on patient care quality. It underscores the essential role of comprehensive education in cultivating critical thinking, adept risk management, and patient-centered care. The study sets the stage for continued discourse and policy considerations, reinforcing patient safety, staff competence, and healthcare system resilience.

## **Keywords:**

Education, healthcare, Czechia, Nurses, Risk management

**JEL Classification:** I21, M53, D81

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## Introduction

The importance of health services was growing even before the COVID-19 pandemic, and the health sector proved to be a critical strategic component of GDP (Amelio & Figus, 2021). Recent crises demonstrated how education, employee training, and effective risk management can lead to identifying, assessing, and mitigating potential risks and hazards that could negatively impact patient safety, staff well-being, and the overall quality of healthcare services (Filip et al., 2022). Many strategies and managerial tools can be used to address problematic situations; however, the simple textbook Rule of Ten tells us that prevention and quality assurance are the best tools for avoiding high costs associated with a crisis or other problems.

Education and staff training are the simplest and cheapest ways to prevent and reduce risks (Luguri & Strahilevitz, 2021). Many authors have discovered a link between education and errors in healthcare practice (Uyar et al., 2021). They are all in agreement with the explanation that more educated employees are less likely to be involved in risky situations. It means that management can solve the problem before it arises and can help to avoid as many problematic situations as possible (Gazzola et al., 2020; Holl et al., 2021; Parretti et al., 2022; Saviano et al., 2019; Ranjbari et al., 2021; Dyck et al., 2019; Uyar et al., 2021).

## 1 Literature review

### 1.1 Patients' Disabilities and Risk Management in Healthcare Facilities

Dealing with patients' disabilities is a multidisciplinary concept that distinguishes two basic approaches: traditional and social (Liddiard, 2014). The conventional approach focuses on disadvantages primarily from a functional standpoint. This category includes all areas concerned with the damage, diagnosis, treatment, or prevention of individual body structures or their functions. On the other hand, the social type focuses on sociological and other possible psychopathological processes associated with a physical disadvantage. This category almost always includes all social interactions that are or will be difficult for a person with a physical handicap (Liddard, 2014; Bogart, 2014; Neugebauer & Tóthová, 2019). Many authors agree that, from a contemporary perspective, it is necessary to distinguish between the concepts of *damage*, which is defined as a cognitive and psychological limitation, and *disability*, which refers to external barriers and negative attitudes imposed on individuals (Oliver & Sapey 1999; Jablensky 2009; Liddiard, 2014; Gane et al., 2018).

Staff education processes and risk management tools used to monitor the negative effects of threats and disasters on business continuity are being implemented in healthcare facilities; however, more research on patients' disabilities and risk management is needed. Several research projects and review studies point to the International Classification of Functioning, Disability, and Health (ICF) as being a valid, very beneficial, and sufficiently effective tool for evaluating the overall condition of a patient with a physical handicap (Castaneda et al., 2014; Stucki, 2004). Some authors emphasized the general application of the ICF in nursing (Li et al., 2016), while others focused on specific tools in the rehabilitation sector (Piexak et al., 2015).

### 1.2 Education and Risk Management in Healthcare Facilities

Education, defined as the process by which nurses learn and gain experience (Conway, 1996; Devkota et al., 2017), is one of the factors that contribute to emotional stability and maturity, as well as the ability to assume responsibility and dignity for others and think critically (Michelangelo, 2015).

Less emotionally mature and inexperienced nurses communicate more with patients and cooperate less in the team, which can lead to potentially dangerous situations (Devkota et al., 2017; Prezerakos, 2018).

A comprehensive research study that primarily analyzed current teaching techniques and methods of nursing students in Northern Ireland discovered that students were under high stress and failed to respond adequately in more physically demanding situations when doing practical teaching (Hamill, 1995). As a result, education is now emphasized through simulation and other modern techniques (Padilha et al., 2019).

Physical handicap and their assessment are currently considered a sociological problem in the Czech Republic; thus, we do not overly monitor this issue in nursing care (Novosad, 2011). When we look more closely at this issue, we can see the importance of assessment in three areas: impairment, activity limitation, and participation restriction, all of which are related to quality of life and understanding the patient's autonomy (Van Oyen et al., 2018; Simo Fotso et al., 2019). Every healthcare professional should commit to life-long learning because gaining experiences and knowledge is essential for performance improvement. Continuous education programs should be promoted by organizations (Mlambo et al., 2021).

## 2 Data and Methods

This study used a quantitative exploratory research design, and data were collected as a part of a research project on healthcare providers across the Czech Republic (at the NUTS 3 level). A non-standardized piloted questionnaire was used for data collection on nurse education in healthcare facilities. In total, 1490 questionnaires were distributed, and 1200 questionnaires were returned (80.5 % return rate). The subsequent socio-econometric analysis was performed using SPSS and SASD statistical software in two stages.

The first step involved calculating standard summary statistics (mean values, standard deviation, frequencies, and other descriptive statistics) and open questions to provide an overview of representativeness and a first look at the results.

The second step evaluated categorical variable dependencies in contingency tables. The variable of interest was the highest level of education and its relationship to four variables dealing with the intensity of the use of risk management tools in the organization (the use of risk management tools, risk assessment tools, next steps tools after risk assessment, and "How to work with results" tools and processes). The standard chi-squared test of independence with three levels of significance (alpha at 1%\*\*\*, 5%\*\* , and 10%\*) was used. The level of possible deviation was calculated for each value of the contingency table to determine the direction of a statistically significant relationship between two traits. When there were not enough observations, the Yates correction was used.

## 3 Results

The majority (96.5%) of respondents are women (Table 1), as expected by the predominance of females in nursing practice in the Czech Republic. Nurses have to have a certain level of education (Table 2) as required by the Czech Republic law about the education level of nurses and healthcare staff.

**Table 1: Respondents' gender**

Gender	Absolute frequency	Relative frequency
Men	42	3.5 %
Women	1158	96.5 %
Total	1200	100 %

Source: Authors' own work

There are three levels of education: Secondary school, Higher vocational school, and College. Most of the nurses have a college degree (42.6 % of respondents), 37.8 % of respondents (n=454) have a secondary school level of education, and 19.6 % of respondents (n= 235) with higher vocational school.

**Table 2: The highest level of education**

Level of education	Absolute frequency	Relative frequency
Secondary school	454	37.8 %
Higher vocational school	235	19.6 %
College	511	42.6 %
Total	1200	100 %

Source: Authors' own work

The following table shows the absolute and relative frequencies of the variable "current work position" in healthcare facilities (Table 3). The study covers mostly shift nurses (95.6 %); only 3.9 % (n=47) of respondents work as ward nurses, and a small fraction of respondents (0.5 %, six nurses) work as head nurses. There were no respondents who worked as a primary or deputy nurse.

**Table 3: Actual working position**

Working position	Absolute frequency	Relative frequency
Shift nurse	1147	95.6 %
Ward nurse	47	3.9 %
Head nurse	6	0.5 %
Total	1200	100 %

Source: Authors' own work

Table 4 shows the absolute and relative frequencies of the geographical variable "Region in the Czech Republic" where the respondents do their job. The study covers 17.9 % (n=215) respondents from the capital city, Prague; 8.6 % (n= 103) respondents from the Central Bohemian region; 5.6 % (n=67) respondents from the South Bohemian region; 5.5 % (n=66) respondents from the Pilsen Region; 2.8 % (n=34) respondents from Karlovy Vary region; 7.2 % (n=87) respondents from Usti Region; 3.2 % (n=38) respondents from Liberec region; 5.2 % (n=63) from Hradec Kralove region; 4.2 % (n=50) respondents from Pardubice region; 4.8 (n=58) from Highlands region; 12,3 % (n=148) from South-Moravian region; 6.8 % (n=81) respondents from Olomouc region; 4.8 % (n=58) from Zlín Region; and 11 % (n=132) respondents from Moravian-Silesian Region.

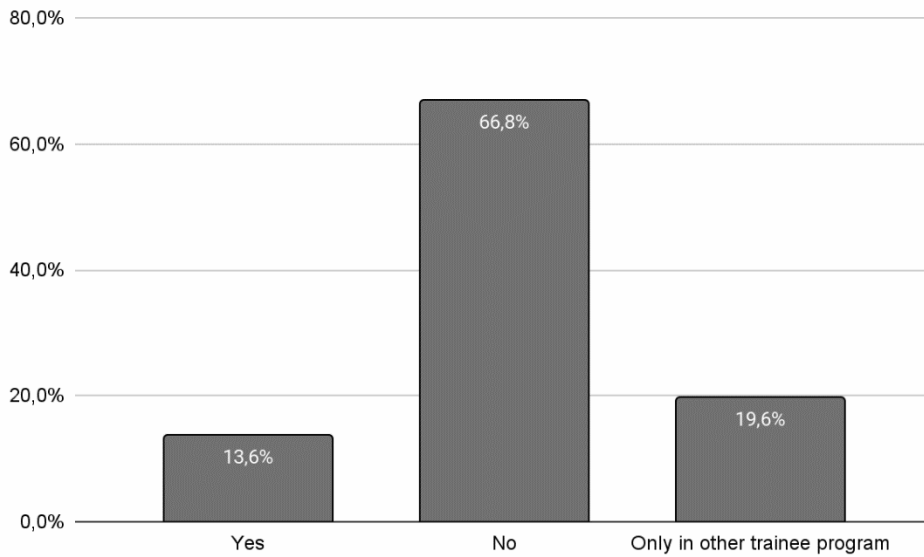
**Table 4: Region of the Czech Republic**

Region of Czech Republic	Absolute frequency	Relative frequency
Prague, capital city	215	17.9 %
Central Bohemian region	103	8.6 %
South Bohemian region	67	5.6 %
Pilsen region	66	5.5 %
Karlovy Vary region	34	2.8 %
Usti region	87	7.2 %
Liberec region	38	3.2 %
Hradec Kralove region	63	5.2 %
Pardubice region	50	4.2 %
Highlands region	58	4.8 %
South-Moravian region	148	12.3 %
Olomouc region	81	6.8 %
Zlín region	58	4.8 %
Moravian-Silesian region	132	11.0 %
Total	1200	100 %

Source: Authors' own work

Figure 1 shows the relative values of the monitored area "Completion of an educational program on the issue of disabilities". Of the total number of 1,200 respondents, 13.6 % (n= 163) stated that they had completed a training or educational program focusing on the issue of physical handicaps, and 19.6 % (n= 235) had completed another training, lecture, or educational course in which they marginally dealt with the issue of physical handicap. The largest group, 66.8 % (n= 802), consists of respondents who did not attend any training, lecture, or course in which the issue was at least partially addressed.

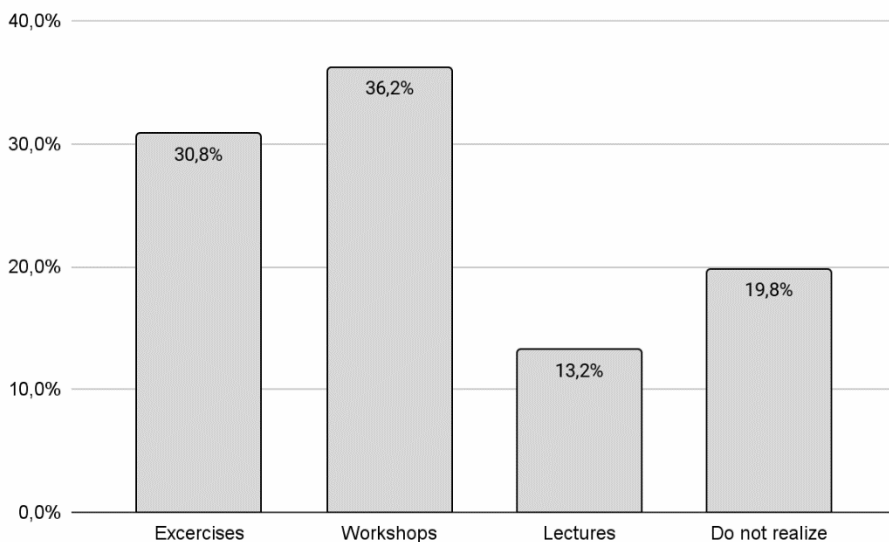
**Figure 1: Education about education program**



Source: Authors' own work

Figure 2 shows relative values of the monitored variable "type of training or an educational program offered by the current employer." Out of a total of 1,200 responses, 30.8% (n= 370) of respondents stated that they had the opportunity to attend seminars at their facility, 36.2% (n= 434) of respondents that they have the opportunity to attend practical workshops, and 13.2% (n= 158) of respondents have the opportunity to attend professional lectures. 19.8% (n= 238) did not answer this question.

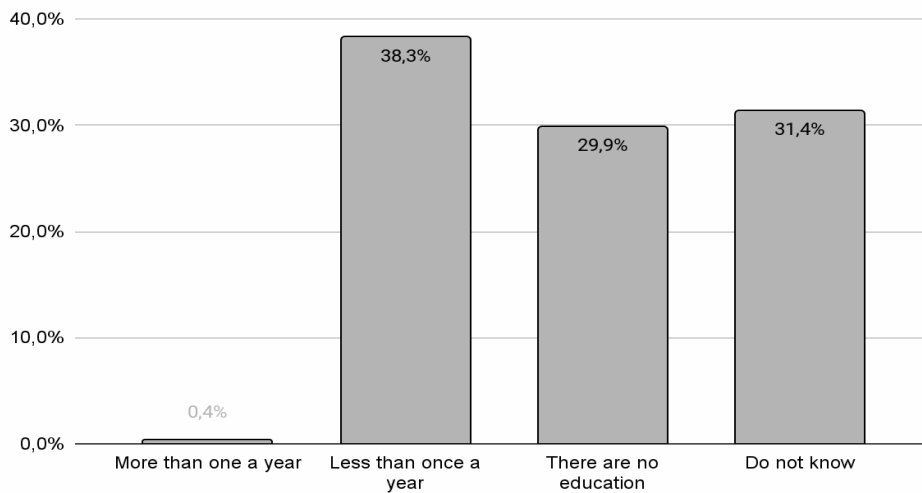
**Figure 2: Type of training or educational programs**



Source: Authors' own work

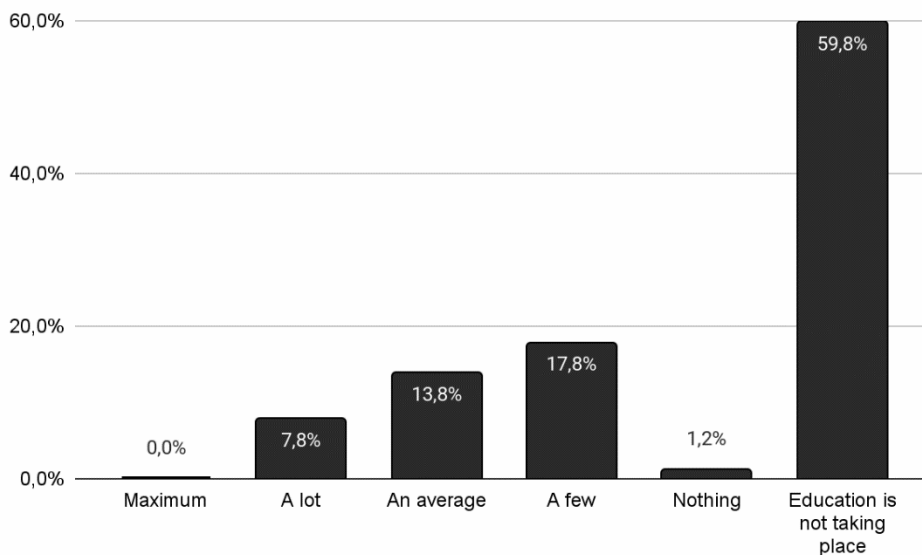
Figure 3 shows relative values of the observed variable "frequency of education of respondents about the issue of physical handicap". Out of a total of 1200 responses, they said that in 0.4% (n= 5) of cases they are educated more than once a year and in 38.3% (n= 460) of cases they are educated less than once a year. Respondents also state that 29.9% (n= 359) do not receive education at all and 31.4% (n= 377) do not know whether education is ongoing or not.

**Figure 3: The frequency of the trainee programs in the employment**



Source: Authors' own work

**Figure 4: Subjective assessment of information sufficiency**



Source: Authors' own work



Figure 4 shows relative values of the monitored variable "subjective assessment of the sufficiency of information after completing an educational course or other training". Out of a total of 1,200 responses, respondents reflect that in 7.8% (n= 94) of cases they are delighted and have a subjective feeling of having enough information; in 13.8% (n= 165) of cases they are satisfied on average; in 17.8% (n= 214) of cases they are somewhat satisfied and have a subjective feeling of lack of information; in 1.2% (n= 14) of cases they are not satisfied and have a subjective feeling of a lack of information. Respondents further reflect that in 59.4% (n= 713) of cases, no education or training takes place at all.

**Table 5: Relationships between education and other variables**

Education category and its independence	Chi-squared statistic	df	p	Significance
Risk management	71,568	20	<0,001	***
Using risk assessment tools	137,478	4	<0,001	***
Using the following steps after a risk assessment	286,251	10	<0,001	***
How to work with results	312,801	12	<0,001	***

Source: Authors' own work

Table 5 shows statistically significant associations between all tested categorical variables. Nurses with higher education are significantly more likely to point out possible risks (especially risk of pressure ulcers, falls, and risk of infection), use assessment tools, record results in documentation, update care plans, and eliminate potential hazards. Nurses with higher professional education and a secondary school education more often draw attention to the risk of injury or do not register the bets, use assessment tools, and only write down the assessment results in the documentation.

#### 4 Discussion

The findings highlight the documentation of risks and subsequent factors as the default part of nursing care and standard risk management practice in other countries. This phenomenon has spread to Czech clinical practice, and nurses use these assessment tools, particularly for risk factor assessment and analysis of problem domains, for example, related to self-care. Based on the qualitative part of the survey, authors also urge health-care facility administrators to actively listen to the requests of staff who work directly with high-risk patients with physical disabilities.

The nurse spends the most time with the patient in clinical practice, monitoring risk factors fixed to the patient's health status and changing over time and disease progression. According to Marcoux et al. (2017), it is necessary for a properly implemented evaluation to use not only the results but also to legally collaborate with the patient in areas where their presence or subjective view is required to monitor for changes present or misrepresentation objectively and to work with the results obtained continuously. The qualitative findings of our study point to improper handling of

obtained results from standardized and non-standardized instruments in patients with physical disabilities.

Farokhzadian et al. (2015) support our findings and suggest that inadequate education about the use of assessment tools or patient access may be one of the reasons nurses use assessment less frequently and prefer non-standardized tools. We conclude that the purpose of the measures and tools used to assess patient risk factors in each domain is not recognized. As a result, some of the nurses reported in open questions that the information provided in the assessment results is unimportant and should only be recorded in the patient's record without further intervention.

Marcoux et al. (2017) contribute to the field of reasons for nursing staff motivation and the development of burnout syndrome. The enthusiasm of each nurse changes with the continuous provision of nursing care, and when nurses have negative emotional experiences or there is an increased accumulation of stress and negative factors in the workplace, they become demotivated to perform their profession and lose interest in doing their job in relation to the standards of care and bringing or adopting innovations.

Education is currently a subject of intense discussion; however, it remains an essential component of every nurse's professional toolkit. Our findings confirm that nurses with a secondary school education (the lowest) do not use or are unaware of the use of assessment tools. The same findings are reflected in the area of working with assessment results, where nurses with secondary education write or do not know the information found in the documentation. Higher-level nurses are more likely to write the information found in the documentation, and in some cases, the care plan is updated. University-educated nurses document the results, update the care plan, and, in some reported cases, perform a simple statistical analysis of the results with a trend evaluation.

De Cordova et al. (2019) investigated the impact of nursing education and confirmed our findings. As healthcare professionals gain more education, there is a growing trend for them to become more involved in active patient care, looking for ways to promote health and prevent the threats and risk factors that we see in healthcare settings. Brown et al. (2016) agree with the preceding viewpoints and add information on error reduction and dealing with stressful situations. Higher-educated nurses are more likely to monitor risks, think critically, and respond more effectively in stressful situations. All of the nurses who took part in the study agreed that nursing is a high-stress profession because human lives are always at stake. In relation to this, it is advisable that the nursing team in acute care be composed mainly of nurses with a university degree.

In the Czech Republic, as of September 1, 2017, it was possible for graduates of secondary medical schools in the field of medical assistant, later practical nurse, to apply for a shortened period of study and obtain professional competence to practice the profession of general nurse after completing at least one year at a higher vocational school in the field of diploma general nurse. This is a potential risk, as nurses who are newly qualified to practice tend to be immature and lack practical experience, as reported by Bvumbwe and Mtshali (2018). They used a similar approach in their study of the level of nursing education in African countries. Their findings indicate inaccuracies and inconsistencies in patient care that are dependent on the experience of nurses. Nurses who were freshly qualified to practice were immature and lacked practical experience. Multiple complications occurred in the context of a low level of mental development unsupported by critical thinking, culminating fatally.

In the context of the constant high demand for nursing staff, it is possible to conclude that, while reducing the period of education for general nurses will satisfy health care institutions in terms of staffing, the level of care provided, which is constantly modernizing, innovating, and progressing,

will stagnate or, in the worst case, decrease. The need to implement risk management tools is of high importance, and more research is needed in this area.

## 5 CONCLUSION

This paper investigated the critical intersection of education and risk management within Czech healthcare facilities, with a particular emphasis on nurses' education about patients' disabilities. Recent crises have highlighted the importance of the healthcare sector, revealing the critical role of education, employee training, and risk management in ensuring patient safety, staff well-being, and overall quality of healthcare services. Various studies have shown that well-educated and trained healthcare professionals are less likely to be involved in risky situations, emphasizing the importance of education as a preventive measure.

The investigation into patients' disabilities and risk management strategies has revealed the multifaceted nature of dealing with disabilities, which includes both traditional functional aspects and social considerations. The International Classification of Functioning, Disability, and Health (ICF) has been recognised as a valuable tool for assessing the overall condition of patients with physical disabilities. However, the study reveals a research gap concerning the relationship between patients' disabilities and risk management, indicating the need for further investigation in this critical area.

Nurses' education emerges as a cornerstone in risk management, influencing not only their emotional stability, critical thinking, and responsibility, but also their ability to effectively manage potential risks. The trend towards simulation and modern teaching methods reflects the changing landscape of nursing education. The study's findings demonstrate the significance of continuous education and its link to improved performance, emphasizing the need for healthcare organizations to support lifelong learning initiatives.

The empirical research conducted in Czech healthcare facilities sheds light on the educational landscape of nurses in relation to risk management. The study emphasizes the importance of nurses' education levels in influencing their risk awareness, use of risk assessment tools, and integration of risk management into their practice. Nurses' involvement in risk documentation and familiarity with assessment tools indicate that risk management practices are becoming more accepted in the clinical setting. However, concerns about the interpretation of assessment results and the subjective perception of information sufficiency point to areas where improvements are needed.

In a broader sense, this study adds to the ongoing debate about the appropriate balance of educational requirements for nursing professionals and the implications for patient care quality. The findings emphasize the potential consequences of shortening nurses' education periods, emphasizing the importance of comprehensive education in fostering critical thinking, effective risk management, and patient-centered care. The paper is intended to serve as a starting point for future discussions and policy considerations in healthcare education and risk management. Further research in this area will undoubtedly contribute to enhancing patient safety, staff competence, and the overall resilience of healthcare systems.

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