

NURSES' INTENTION TO LEAVE THEIR JOBS IN RELATION TO WORK ENVIRONMENT FACTORS IN POLISH HOSPITALS: CROSS-SECTIONAL STUDY

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ABSTRACT

Background: The lack of nursing staff is a current problem not only in Poland, but also in the world. The decision of nurses to leave the workplace, apart from the financial aspect, often results from unfavourable working conditions related to the work environment. **Material and Methods:** The study was multicentre, cross-sectional. The study was conducted among a group of 1509 nurses employed in surgical and internal medicine wards in 21 hospitals in Poland. The key variables of the study were: the intention of the nurses to leave their jobs, the nurses' working environment, the level of satisfaction, the level of occupational burnout and the number of patients cared for on the last shift, the number of nurses on the last shift. The *Practice Environment Scale of the Nursing Work Index* (PES-NWI) and the *Maslach Burnout Inventory* (MBI) questionnaire were used in the research. **Results:** Almost half of the surveyed nurses (48.84%) declared their willingness to leave their current workplace. The statistical analysis showed that nurses declaring their willingness to quit their job in the hospital where they were employed were significantly younger (42.88 vs. 45.04, $p = 0.000$), had shorter total length of service overall (19.96 vs. 23.20), and also in the hospital where they were employed (15.86 vs. 18.50, $p = 0.000$). The increase in the number of patients by one was significantly associated with a 1% increase in the risk of leaving work (OR = 1.01, 95% CI 1.00–1.02). An increase in emotional exhaustion significantly increased the risk of leaving work by 2% (OR = 1.02, 95% CI 0.99–1.03). **Conclusions:** Younger age of nurses, greater workload resulting from more patients and occupational burnout – emotional exhaustion is correlated with the risk of leaving work in the hospital. A lower risk of leaving the job is associated with a higher level of job satisfaction in the hospital, salary and promotion opportunities. *Med Pr Work Health Saf.* 2023;74(5):377–87.

Key words: nurses, work environment, occupational burnout, hospitals, emotional exhaustion, intention to leave work

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INTRODUCTION

The lack of nursing staff is a current problem not only in Poland, but also in the world [1]. According to the report of the Supreme Council of Nurses and Midwives, the largest percentage of nurses employed in Poland is the group between 51 and 60 years of age, which includes 84 444 nurses, which is 36.0% of the number of employees. More than a quarter of the employed nurses are in the age group 61–70 or >70, i.e., 68 905 of all employees. This is a group that, despite acquiring pension rights, is still working in the profession, a high percentage of 29.4% of nurses [2]. According to the data of the World Health Organization, in relation to the demand for care, there is current increasing human resources a shortage of 7.2 million medical personnel in the world [3]. To a large extent, this is related to demographic changes such as the increase in the number of the elderly (>65 years of age) in relation to the general population and the decreasing

birth rate [4]. In European countries, Great Britain is an example of a shortage of nurses, which employs nurses from Central and Eastern Europe, including Poland, and from outside the EU, mainly from India and the Philippines, offering them relatively high salaries and various forms of support [5]. Another country with an increase in the demand for nursing staff is Germany. As many as 50 000 nurses are missing to care for the sick and elderly there [5]. Germany is trying to solve the problem by employing nurses from India and China in addition to economic immigrants from Europe (especially from Poland, Ukraine, Turkey and Croatia) [5]. In Poland, the staff situation was to be improved by a simplified path to obtain the right to practice as a nurse in connection with the armed conflict in Ukraine for people who obtained qualifications outside the EU. However, it turns out that since 2022, the Ministry of Health has received only 432 applications from nurses from outside the EU who would like to obtain permission to work in Poland

in a simplified procedure. Nurses from Ukraine prefer to work in Germany, where the salary is higher [6].

The decision of nurses to leave the workplace, apart from the financial aspect, often results from unfavourable working conditions associated with a working environment in which resources are either limited or inadequately distributed [7]. In health care facilities, 3 factors usually interact that determine the willingness to leave, i.e., [8]:

- lack of human and material resources (insufficient, poorly managed or misused resources),
- lack of recognition (or support) from management or colleagues,
- lack of organizational culture, i.e., putting the immediate benefits of the facility above the well-being of the patient.

The work environment and the stressors present in it have a significant impact on work and satisfaction in medical entities. Working in conditions of constant physical and mental effort, significant workload, the number of staff inadequate to the needs of patients, 12-h shifts, lack of satisfaction and lack of compensation for work increase the risk of burnout [9]. One of the main factors reported in many countries is inadequate policy and planning for the use of human resources, including health personnel [4,10]. The frequent shortage of nurses in the healthcare system can lead to stress and burnout, which can affect nurse performance and increase the risk of medical errors, both in patient treatment, care and diagnostic testing [11,12] and in the rationing of nursing care. Numerous studies confirm that understaffing of nurses is a major factor in nursing care rationing and affects patient satisfaction with care, 30-day mortality, adverse events, and is associated with decreased job satisfaction, increased intention to leave work and high nurse turnover [13].

Numerous studies confirm the relationship between professional burnout of nurses and the quality of care provided and patient safety [14,15]. In the group of nurses who obtained a high level in all 3 dimensions of occupational burnout, the risk of making mistakes in administering drugs was found [15]. The occurrence of occupational burnout among nurses is related to the work environment [15,16]. This situation can potentially be improved not only by increasing human resources (including physicians, nurses), but also by creating a safe working environment, thanks to which nurses will be able to efficiently perform the tasks entrusted to them [16].

Aim of the research

Evaluation of the impact of factors related to the working environment in Polish hospitals on the intention of nurses to leave their jobs. The following research questions were formulated:

- What is the impact of the age of the surveyed nurses on their intention to leave the profession?
- What is the impact of work experience on intention to leave the profession?
- What features of the work environment are associated with the intention to leave the profession (including: number of staff on duty, number of patients under the care of a nurse, job satisfaction, salary, opportunity for promotion)?
- How does burnout affect nurses' intentions to leave their jobs?

MATERIAL AND METHODS

The study was multicentre, cross-sectional and observational in nature.

The study was conducted among a group of 1509 nurses employed in surgical and internal medicine departments in 21 hospitals in Poland, located in various parts of the country according to the administrative division of Poland, i.e., division into 16 voivodeships. At least 1 hospital from a given region was included in the study, only multi-profile, state-owned hospitals with 24-h duty. A total of 2382 sheets were distributed, 1934 were received back. The survey response rate was 81%. The analysis excluded sheets in which the respondents did not answer the questions concerning the intentions of a nurse to leave work in a given hospital, the nurses' working environment, occupational burnout. Therefore, 1509 sheets were finally analysed. All subjects were of Polish nationality. The research was carried out after obtaining the consent of the Bioethics Committee of the Jagiellonian University (KBE UJ) No. 1072.6120.111.2018. The research was conducted in accordance with the principles of the Helsinki Declaration.

This research was carried out in 2019 and was conducted in accordance with the assumptions of the RN4CAST project implemented under the 7th Framework Program of the European Union in the years 2009–2011, in which Poland participated as 1 of the 12 EU countries [17].

The survey questionnaire consisted of:

- *The Practice Environment Scale of the Nursing Work Index* (PES-NWI) [17], containing 32 statements covering 5 aspects of the working environment,

including 3 assessing the hospital in terms of: human and material resource adequacy, cooperation between nurses and physicians, support for nurses by managers and two assessors of the ward in terms of: participation of nurses in hospital management and support for the implementation of high quality standards of nursing care [17]. This part also included questions about satisfaction with work in the hospital, in terms of flexibility in scheduling working time, independence at work, professional status, satisfaction with the level of remuneration, promotion opportunities, and education.

- *Maslach Burnout Inventory* (MBI) used to assessment of occupational burnout, which included statements that form scales measuring 3 dimensions of occupational burnout: emotional exhaustion, personal professional achievement and depersonalization. The questionnaire consists of 22 questions, 9 concern emotional exhaustion, 6 depersonalization and 8 a reduced sense of personal achievement. Questions in the subscales of emotional exhaustion and depersonalization were formulated negatively, and in the subscale of reduced sense of personal achievement – positively. The results should be calculated separately for each of the subscales, for the subscale of emotional exhaustion the maximum range of points is 54 pts, for the subscale of reduced sense of personal achievement – 48 pts, and for depersonalization – 30 pts [18]. A high level of burnout is indicated by high scores on the scale of emotional exhaustion and depersonalization, and low scores on the scale of personal achievement.
- The next part of the survey questionnaire included questions regarding the subjective nurses' assessment of patient safety and the quality of nursing care, information on the last shift performed by nurses. In this part, respondents were asked to indicate the number of patients entrusted to the direct care of one nurse and the total number of patients staying in the ward. The end part of the questionnaire contained demographic and occupational data, nurses were asked to provide: gender, age and seniority [17].

Statistical analysis

The analysis was performed using the TIBCO STATISTICA 13.3 software package (Stat Soft, Inc., Tulsa, USA). Compliance with the normal distribution for quantitative variables was checked using the Shapiro-Wilk test, and the homogeneity of variance was assessed

using the Fisher-Snedecor F or Leven test. Descriptive statistics of quantitative features are presented using the mean (M) and standard deviation (SD), mode. Qualitative variables were characterized by a number of cases (N) and percentage (%). In analyses comparing the quantitative feature between independent groups, depending on their number, the Student's t test was used if there was agreement with the normal distribution in each group and the variances were homogenous, or the non-parametric Mann-Whitney U test, otherwise. The dependence of the analysed dependent variable on qualitative features was assessed using the χ^2 test of independence. Collinearity between independent continuous variables was checked by linear regression where a dichotomous variable was replaced by a normally distributed random variable. Multilevel regression analyses were performed for the variable "intention to leave the hospital due to job dissatisfaction" against a group of sociodemographic variables (8 variables), variables related to job satisfaction (7 variables), variables related to the work environment and occupational burnout (8 variables). For all analyses, the maximum permissible type I error $\alpha = 0.05$ was assumed, while $p < 0.05$ was considered statistically significant.

RESULTS

Characteristics of the study group and intention to leave their jobs

The study group consisted of 1509 nurses, most of them women (N = 1471, 98.32%). The age of the respondents was $M \pm SD$ 43.99 \pm 10.28 years, the total work experience in the profession was $M \pm SD$ 21.67 \pm 11.24 years, and $M \pm SD$ 17.27 \pm 11.73 years in the hospital where the study was conducted. During the last shift, 1 nurse was responsible for an average of 18 patients (mode = 10), with an average of 30 patients in the ward (mode = 30). During the last shift, the surveyed nurses declared the total number of nurses on duty to be 3.75 on average (mode = 3). Among the surveyed nurses, 48.84% (N = 737) declared their willingness to leave the hospital where they worked. On the other hand, the willingness to resign from the nursing profession was shown by 9.01% of the respondents (N = 136), mainly people who wanted to quit working at the hospital (N = 125). The statistical analysis of the research showed that nurses declaring their willingness to stop working at the hospital where they were employed were significantly younger (42.88 vs. 45.04, $p = 0.000$), had shorter total length of service (19.96

Table 1. Characteristics of the study group with respect to the intention to stop working at the hospital among a group of 1509 nurses employed in surgical and internal medicine wards in 21 hospitals in Poland in 2019

Variable	Participants (N = 1509)			P
	intending to stop working at the hospital (N = 737, 48.84%)	not intending to stop working at the hospital (N = 772, 51.16%)	total	
Age [years] (M±SD)	42.88±11.21	45.04±10.25	43.99±10.28	0.000
Gender [n (%)]				0.854
woman	719 (97.56)	752 (97.41)	1471 (97.48)	
man	18 (2.44)	20 (2.59)	38 (2.52)	
Seniority (M±SD)				
total in the nursing profession	19.96±11.16	23.20±11.43	21.67±11.42	0.000
in the hospital where they were employed	15.86±11.37	18.50±11.92	17.24±11.73	0.000
Department type [n (%)]				0.164
internal medicine	392 (53.19)	383 (49.61)	775 (51.36)	
surgical	345 (46.81)	389 (50.39)	734 (48.64)	
Intention to resign from the profession [n (%)]				0.000
yes	125 (16.96)	11 (1.42)	136 (9.01)	
no	612 (83.04)	30 (3.73)	642 (42.54)	
I don't want to answer	0 (0.00)	731 (94.96)	731 (48.44)	
Patients [n] (M±SD)				
for whom one nurse was responsible on the last shift	19.14±11.31	17.41±10.79	18.26±11.08	0.002
in the ward during the last shift	31.17±12.59	29.28±13.20	30.48±0.92	0.013
Nurses in the ward during the last shift [n] (M±SD)	3.65±2.59	3.86±2.61	3.75±2.60	0.002

vs. 23.20), as well as in the hospital where they were employed during the study (15.86 vs. 18.50) in relation to people without such intentions ($p = 0.000$). In addition, nurses declaring their willingness to leave their jobs indicated a statistically significantly higher number of patients for whom one nurse was responsible during the last shift in relation to those nurses who wanted to stay at work (19.14 vs. 17.41). The total number of patients cared for in the ward was also significantly higher (31.17 vs. 29.28, $p = 0.013$). According to the opinions of nurses with intentions to leave their jobs, the total number of nurses in the ward during the last shift was significantly lower than in the wards where people who did not intend to leave worked (3.65 vs. 3.86, $p = 0.002$) (Table 1).

The work environment of nurses

There was a statistical relationship between job satisfaction and the intention to leave the job in the surveyed group of nurses ($p < 0.001$).

The analysis showed that the highest percentage of nurses declaring their willingness to leave the hospital were dissatisfied with their remuneration (75.72%), lack of promotion opportunities in the hospital where they worked (69.74%), lack of education opportunities (54.98%) and professional status (53.61%). Nurses declaring their willingness to leave the hospital were dissatisfied or moderately satisfied with their work in the hospital, 45.18% and 53.05%, respectively. In addition, the respondents were dissatisfied and moderately satisfied with the flexibility of the work schedule, 40.30% and 46.54%, respectively. Nearly half of the respondents were dissatisfied due to the lack of independence in the actions taken within the scope of work duties (49.39%). Despite their willingness to quit their jobs, the nurses assessed the quality of care provided in the ward where they worked as good (50.88%) and considered the safety of patients in the ward as good (49.66%) and very good (17.64%) (Table 2).

Table 2. Nurses' job satisfaction in relation to the intention to leave the hospital from a group of 1509 nurses employed in surgical and internal medicine wards in 21 hospitals in Poland in 2019

Satisfaction level	Participants (N = 1509) [n (%)]	
	intending to stop working at the hospital (N = 737)	not intending to stop working at the hospital (N = 772)
Work in a particular hospital		
dissatisfied	333 (45.18)	91 (11.79)
moderately satisfied	391 (53.05)	547 (70.85)
satisfied	13 (1.76)	134 (17.36)
Work schedule flexibility		
dissatisfied	297 (40.30)	133 (17.23)
moderately satisfied	343 (46.54)	455 (58.94)
very satisfied	97 (13.16)	184 (23.83)
Promotion opportunities		
dissatisfied	514 (69.74)	336 (43.58)
moderately satisfied	210 (28.49)	376 (48.77)
very satisfied	13 (1.76)	59 (7.65)
Independence at work		
dissatisfied	364 (49.39)	211 (27.33)
moderately satisfied	332 (45.05)	443 (57.38)
very satisfied	41 (5.56)	118 (15.28)
Professional status		
dissatisfied	386 (53.61)	221 (29.23)
moderately satisfied	290 (40.28)	435 (57.54)
very satisfied	44 (6.11)	100 (13.23)
Salary satisfaction		
dissatisfied	549 (75.52)	393 (51.44)
moderately satisfied	164 (22.56)	323 (42.28)
very satisfied	14 (1.93)	48 (6.28)
Education opportunities		
dissatisfied	403 (54.98)	218 (28.68)
moderately satisfied	281 (38.34)	390 (51.32)
very satisfied	49 (6.68)	152 (20.00)
Quality of nursing care in the ward		
poor	78 (10.58)	21 (2.72)
sufficient	248 (33.65)	128 (16.58)
good	375 (50.88)	534 (69.17)
very good	36 (4.88)	89 (11.53)
Patient safety in the ward		
insufficient	61 (8.28)	16 (2.07)
poor	180 (24.42)	82 (10.62)
good	366 (49.66)	385 (49.87)
very good	130 (17.64)	289 (37.44)

Table 3. Work environment and occupational burnout of nurses in relation to the intention to leave the hospital by a group of 1509 nurses employed in surgical and internal medicine wards in 21 hospitals in Poland in 2019

Variable	Participants (N = 1509)	
	intending to stop working at the hospital (N = 737)	not intending to stop working at the hospital (N = 772)
Work environment ^a (<i>Practice Environment Scale of the Nursing Work Index – PES-NWI</i>) (M±SD)		
adequacy of human and material resources	1.69±0.63	2.01±0.69
cooperation between nurses and doctors	2.15±0.68	2.55±0.65
support of nurses by managers	2.27±0.73	2.75±0.71
participation of nurses in hospital management	2.00±0.58	2.44±0.62
support for high quality standards of nursing care	2.51±0.56	2.88±0.54
Professional burnout of nurses ^b (<i>Maslach Burnout Inventory – MBI</i>) (M±SD)		
emotional exhaustion	32.01±11.78	23.39±10.48
decreased sense of achievement	25.02±8.30	27.75±8.31
depersonalization	12.55±8.03	8.12±6.50

^a 1–4 scale, a higher score indicates a more positive perception of the dimension.

^b A high level of burnout is indicated by high scores on the scale of emotional exhaustion and depersonalization, and low scores on the scale of personal achievement.

The analysis of the characteristics of the nurses' work environment showed that nurses declaring their willingness to leave the hospital obtained the lowest average results in terms of adequacy of human resources ($M = 1.69$) and material resources, and the highest in terms of support for the implementation of high quality standards of nursing care ($M = 2.51$).

In all assessed aspects of the work environment, i.e., adequacy of human and material resources, cooperation between nurses and physicians, support received by nurses from management, the possibility of nurses participating in hospital management and support for the implementation of high quality standards of nursing care, people declaring their willingness to leave work obtained significantly lower results than nurses declaring their willingness to stay at work ($p < 0.001$) (Table 3).

The surveyed group of nurses declaring a willingness to quit their job obtained statistically significantly higher results in terms of emotional exhaustion and depersonalization than nurses who did not express such an intention. The group expressing the intention to quit their job showed a reduced sense of their own achievements ($p < 0.001$). All the above results indicate a higher incidence of occupational burnout syndrome in the group of nurses who declared the intention to quit their jobs (Table 3).

Factors related to the intention of leaving the job by the surveyed nurses

Regression analysis showed that the age of younger respondents, 1 year older, would still be associated with a 3% increase in the risk of leaving their job (OR = 1.03, 95% CI 1.00–1.06). An increase in seniority in the profession significantly lowered the chance of declaring to leave the job by 6% (OR = 0.94, 95% CI 0.92–0.97). The number of patients greater by one was significantly associated with a 1% increase in the risk of leaving work (OR = 1.01, 95% CI 1.00–1.02). A larger total number of nurses on the ward significantly lowered the odds of declaring to leave by 9% (OR = 0.91, 95% CI 0.85–0.98). A higher sense of job satisfaction in a given hospital significantly reduced the risk of leaving the job by 46% (OR = 0.54, 95% CI 0.47–0.62). Increasing the flexibility of the work schedule in a given hospital significantly reduced the risk of leaving work by 14% (OR = 0.86, 95% CI 0.76–0.98). An increase in promotion opportunities in a given hospital significantly reduced the risk of leaving the job by 19% (OR = 0.81, 95% CI 0.71–0.93). An increase in satisfaction related to salary in a given hospital significantly reduced the risk of leaving the job by 21% (OR = 0.79, 95% CI 0.70–0.90). A higher level of satisfaction with educational opportunities in a given hospital significantly reduced the risk of leaving the job by 12% (OR = 0.88, 95% CI 0.78–0.99). A higher sense

Table 4. Factors related to the intention of leaving work by nurses employed in surgical and internal medicine wards in 21 hospitals in Poland in 2019

Variable	OR (95% CI)
Sociodemographic and occupational	
age	1.03* (1.00–1.06)
gender	0.73 (0.35–1.50)
work experience	
total in the nursing profession	0.94* (0.92–0.97)
in the hospital where the research was conducted	1.00 (0.99–1.01)
department type	0.96 (0.76–1.22)
number of	
patients	
for whom one nurse was responsible on the last shift	1.01* (1.00–1.02)
in the ward during the last shift	1.00 (0.99–1.02)
nurses	
in the ward during the last shift	0.91* (0.85–0.98)
Evaluating job satisfaction	
satisfaction with work in the given hospital	0.54* (0.47–0.62)
work schedule flexibility	0.86* (0.76–0.98)
promotion opportunity	0.81* (0.71–0.93)
independence at work	1.00 (0.87–1.16)
professional status	1.03 (0.89–1.18)
satisfaction with salary	0.79* (0.70–0.90)
education opportunities	0.88* (0.78–0.99)
Evaluating the work environment and occupational burnout of nurses	
<i>Practice Environment Scale of the Nursing Work Index (PES-NWI)</i>	
adequacy of human and material resources	0.94 (0.77–1.15)
cooperation between nurses and doctors	0.91 (0.73–1.13)
support of nurses by managers	0.80* (0.65–0.98)
participation of nurses in hospital management	0.62* (0.47–0.82)
support for high quality standards of nursing care	0.63* (0.48–0.83)
<i>Maslach Burnout Inventory (MBI)</i>	
emotional exhaustion	1.02* (1.01–1.03)
reduced sense of achievement	0.99 (0.98–1.00)
depersonalization	1.00 (0.99–1.01)

* Significance at $p < 0.05$.

of support of nurses by managers in a given hospital significantly reduced the risk of leaving the job by 20% (OR = 0.80, 95% CI 0.65–0.98). Greater opportunities for nurses to participate in hospital management decisions significantly reduced the risk of leaving the job by 38% (OR = 0.62, 95% CI 0.47–0.82).

An increase in the sense of support for the implementation of high quality standards of nursing care in a given hospital significantly reduced the risk of leaving work by 37% (OR = 0.63, 95% CI 0.48–0.83). Higher levels of exhaustion significantly increased the risk of leaving work by 2% (OR = 1.02, 95% CI 0.99–1.01) (Table 4).

DISCUSSION

The intention of nurses to leave their jobs and profession is an issue worldwide and significantly impacts the efficiency, stability and productivity of a health-care facility. It involves the loss of competent and qualified nurses [19]. The intention to leave the profession in the current study was declared by 9.01% of the surveyed nurses, while 48.84% reported the intention to leave work in a given hospital. These results correspond to the results of the RN4CAST study conducted in 2011 among nurses (N = 23 159) working in 385 hospitals located in 10 European countries [20], including Poland, and the methodology of this study is based on the assumptions of that project. The RN4CAST research showed that 9% of nurses intended to leave the profession due to dissatisfaction with their work, and this percentage ranged from 5% (nurses working in hospitals in the Netherlands and Spain) to 17% (nurses working in hospitals in Germany). In these studies, 9% of nurses working in hospitals in Poland declared their willingness to leave the profession, which is the same percentage as in the current study conducted after 12 years. The willingness to leave the hospital was declared by 19% (nurses working in hospitals in the Netherlands) to 49% (nurses working in hospitals in Finland) [20]. Over the decade, an increase in the percentage of nurses declaring resignation from work in a given hospital by nearly 5% was observed in Poland, because in 2011, 44% of nurses working in hospitals [20] declared their willingness to resign, and in the current study it was declared by 48.84%.

In the current study made an attempt to show the factors associated with the intention to leave work. Among the demographic factors that showed a relationship with the intention to leave work in the hospital was the age of nurses, younger people significantly more often declared to leave work. These results are consistent with many studies [21–23], in which junior nurses showed a higher rate of leaving the workplace. In the current study among occupational factors, potentially modifiable, it was shown that the increase in seniority in the profession reduces the risk of leaving the job. In turn, the increase in the workload resulting from the number of patients for whom one nurse was responsible on the last shift contributes to the increase of the intention to leave work. According to the Organization for Economic Co-operation and Development (OECD) report from 2022, there were 5.7 nurses per 1000 inhabitants in Poland, placing

the country in the 26th position out of 38 countries assessed [24]. The number of nurses has remained at a similar level for 2 decades, in recent years a slight increase has been observed, i.e., in 2021 the number per 1000 inhabitants was 5.1. This does not change the fact that the indicator is very low, especially in relation to other countries where this indicator is the highest, e.g., Finland (18.9), Switzerland (18.4) and Norway (18.3) [24]. In Polish hospitals, there are still significant staff shortages of nurses, and a significant percentage of nurses have additional employment [25], therefore the resulting excessive workload, employee fatigue and exhaustion pose a real threat to the safe provision of health services and increase the risk of staff leaving [1].

In the current study, among the factors relating to job satisfaction, it was mainly the increase in overall job satisfaction in a given hospital, the increase in remuneration and the possibility of promotion that correlated with the risk of leaving work in the hospital. The low level of the average remuneration of Polish healthcare workers compared to other OECD countries is confirmed by the indicators published in the International Health Data Comparison [26]. The growing expectations of the nurses' community regarding salaries resulted in relatively frequent strikes and numerous negotiations that forced the government to raise the salaries of all medical workers, including nurses. From July 2022, the Act on the method of determining the lowest basic salary of certain employees employed in healthcare entities has been in force, which defines the salary ratio to the average gross monthly salary in the national economy in accordance with education and profession [27]. According to the opinion of the Supreme Chamber of Nurses and Midwives, in every 5th hospital in Poland, the management did not recognize the qualifications of nurses, and thus did not pay higher salaries [28], causing increasing dissatisfaction in the professional group of nurses.

In the current study has shown that factors of the working environment such as increased opportunities for the nursing community to participate in decisions regarding hospital management, increased support for the implementation of high quality standards of nursing care and increased support for nurses by managers both at the ward (head) and hospital level (management) were correlated with a lower risk of nurses leaving their jobs. These results correspond with the results of Heinen et al. [20], which indicate that, in addition to good relations in the team, important features

of the work environment are the autonomy of the profession and support from the management. These features are often related to employee satisfaction with work and low levels of declarations of leaving the job.

Occupational burnout – emotional exhaustion in this research was significantly associated with a greater declared intention to leave work in the hospital. The burnout results mirror those of studies that also showed a clear link between the intention to leave work and nurse burnout [9,11,15,29]. What is more, burnout was significantly associated with intention to leave the profession at the European level in all 10 countries surveyed in the RN4CAST project [20]. Similar results of research carried out in 2021–2022 were obtained by Bruyneel et al. [30], moreover, they proved the existence of a relationship between occupational burnout and the work environment and the intention to leave the profession.

Limitations of research

The limitations of the presented study are related to the fact that it is cross-sectional, which means that it allows the authors to describe differences in the work environment of nurses and the intentions of nurses to leave work in different hospital facilities and to examine the relationship between variables, but the interpretation of relationships is limited because many other confounding factors may affect it. In addition, the results obtained on the basis of the subjective feelings of nurses should be verified using additional, more objective measures (e.g., what percentage of nurses who report an intention to leave actually leave the job, what is the relationship between a high risk of occupational burnout and clinically diagnosed burnout, whether the working environment perceived by the nurse corresponds to objectively measured indicators). Another limitation of this research is the time of its implementation because this research was conducted before the COVID-19 pandemic, which, as shown in a number of publications [29], contributed to further drastic workload and increased morbidity and mortality among nurses. Therefore, re-examination is currently planned to assess the impact of the pandemic on the intentions of nursing staff to leave their jobs or profession.

CONCLUSIONS

Younger age of nurses, greater workload resulting from more patients and occupational burnout – emotional exhaustion is correlated with the risk of leaving work in the hospital. A lower risk of leaving the job

is associated with a higher level of job satisfaction in the hospital, salary and promotion opportunities. The results of this study may be helpful to key health professionals at the decision-making level in addressing the nursing staff shortage to plan nurse retention mechanisms.

Author contributions

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