



# Absenteeism and Fluctuation of Nursing Staff in Health-care Settings

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## Abstract

**Edited by:** Mirko Spiroski  
**Citation:** Starc J, Fabjan TR. Absenteeism and Fluctuation of Nursing Staff in Health-care Settings. Open Access Maced J Med Sci. 2023 May 28; 11(E):326-337. https://doi.org/10.3889/oamjms.2023.11653  
**Keywords:** Absenteeism; Fluctuation; Absence from work; Sick leave; Personnel movement; Outgoing employees  
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**Received:** 17-Apr-2023  
**Revised:** 17-May-2023  
**Accepted:** 18-May-2023  
**Copyright:** © 2023 Jasmina Starc, Tanja Regina Fabjan  
**Funding:** This research did not receive any financial support  
**Competing Interests:** The authors have declared that no competing interests exist  
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**BACKGROUND:** Absenteeism and fluctuation of nursing staff negatively affect the quality of care, increase the costs of health-care facilities, and increase the workload of the remaining nursing staff. To identify which measures can be effective in retaining care staff in the profession and reducing their sickness absence, we need to continuously monitor the organizational climate and update the organizational culture of health-care facilities. In this way, we can identify and mitigate the causes of absenteeism and fluctuation in a timely manner, while at the same time creating working conditions that enable care staff to meet their personal needs, expectations, and goals, leading to a productive working environment and thus to quality healthcare.

**AIM:** The aim of this study was to identify and analyze the causes and determinants of absenteeism and fluctuation and to define the consequences of absenteeism and fluctuation in healthcare settings.

**METHODS:** We used a quantitative method. Data were collected with questionnaires and analyzed with Pearson Chi-square test, Kolmogorov–Smirnov test, Shapiro–Wilkov test, and Mann–Whitney U test using Statistical Package for the Social Sciences 24.0.

**RESULTS:** A survey of nursing staff ( $n = 178$ ) showed that, apart from annual leave, sickness is the most common reason for absenteeism, but there are no statistically significant differences by gender ( $\chi^2 = 2.695$ ; sig. = 0.610). Respondents state that they are absent because they are aware that their own health is an important value ( $\bar{x} = 4.0$ ) and that they try to maintain their health as much as possible ( $\bar{x} = 4.0$ ). A good half of them (54%) believe that absenteeism leads to a loss of control at work. The most important influences on turnover are stressful situations (91%), unpleasant situations (83%), and monthly income (73%). About 35% are thinking about changing jobs, with men thinking about it more ( $R = 72.92$ ) than women ( $R = 64.19$ ). About 69% are satisfied with their job security, but more so for those aged 46 and over ( $R = 66.85$ ) than those under 45 ( $R = 64.79$ ).

**CONCLUSION:** The priority for health organizations should not be to prevent absenteeism, but to create the conditions to ensure that sickness absence does not occur at all or to the minimum extent possible. Sustained success in improving retention of nursing staff in the profession and thus reducing fluctuation depends on a number of measures such as appropriate financial and non-financial incentives, “family friendly” policies, opportunities for professional development, access to training, productive working conditions, job mobility, and responsive leadership. Particular emphasis should be placed on occupational safety training and the provision of organized seminars and courses on healthy lifestyles. Prolonged overworking of nursing staff puts their mental, physical, and social health at risk, resulting in staff leaving for other jobs.

## Introduction

Absenteeism is absence from work, sickness absence due to illness, and to a greater extent due to working and social conditions at work [1]. Absenteeism is extremely negatively affected by the presence of stress factors [2]. Poor health and ill-being at work represent higher social costs of absenteeism and presenteeism [3]. The study of absenteeism due to health reasons is based on the negative consequences, due to the increase of costs in the organization where the employee works and, last but not least, to return the absent employee to work as soon as possible with the least possible consequences. Health absenteeism is often associated with something that is not good – it is bad and should be avoided [2].

In recent years, the absenteeism rate in healthcare institutions has decreased, but the presenteeism rate has increased. However, in times of economic crisis, experts warn that it is impossible to study these two phenomena separately. It can be concluded that absenteeism increases when the number of sickness absences decreases and the duration of absenteeism increases [3]. Absenteeism as a phenomenon is more easily observed, measured, monitored, and eliminated, whereas presenteeism is more difficult to detect, evaluate, or assess, due to reduced work efficiency. It is important to remember that, in addition to attendance at work, performance is also important [4]. In any case, the aim of all attendance at work is to exploit the employee’s potential and to achieve the company’s objectives [5]. There are several definitions of absenteeism, but it is usually a comprehensive absence from the workplace.

These include absenteeism, tardiness, absenteeism, and absenteeism from work [6]. Absenteeism is essentially just a technical term for sickness absence and is defined as the absence of employees from the workplace [7]. It is therefore any absence from the workplace, regardless of the forms, causes, and duration of absenteeism. Absenteeism due to illness, injury, or caring for a family member is called sickness absence and lasts for a limited period of time [8]. Sickness absence does not include only temporary absences due to illness or injury or other medical reasons. Recently, there has been particular attention to the broader perception of absenteeism, due to unpleasant work environments, dissatisfaction with working conditions and already established absenteeism behaviours and norms [5]. Zupan *et al.* [9] explain the concept of absenteeism as absence from work for various reasons, usually related to job dissatisfaction. Reflecting dissatisfaction in the workplace can lead to inappropriate individual behaviour, can be manifested by a decline in work enthusiasm, inhibition of the work process, use of sick leave, and can also have a negative impact on other employees [10]. In the case of changes in the workplace (working conditions, additional work/responsibilities, etc.), absenteeism may be a reaction of dissatisfaction [11]. Absenteeism in healthcare has been the subject of research over the last decades, with researchers looking at why and how absenteeism affects work. The factors influencing absenteeism are related to the health, socioeconomic, and social status of the population itself. Various studies have shown that men are absent from work less frequently, but for longer periods of time [12]. Absenteeism is primarily a health problem and ultimately an economic problem.

A review of the literature reveals different models to explain absenteeism. Understanding the different causes and recognizing that they are interlinked and intertwined is a key to addressing and solving the problem. In the following, we present Briner's explanatory models of absenteeism, which are based on empirically investigated links between individual variables and absenteeism. Each of them explains, separately from the others, the link between a specific cause and absenteeism [13], [14], [15], [16], [17], [18], [19]:

- the health model, which explains that absenteeism is most often caused by illness or injury
- The deviance model, which sees absenteeism as the result of differences between individuals. Those who are absent from work more often have more negative personality traits such as emotional instability, laziness, lack of belonging, and lack of desire to succeed
- The withdrawal model states that absenteeism is the result of dissatisfaction with work or withdrawal from unpleasant working conditions
- The economic model assumes that individuals assess the value of time spent at work compared to time away from work. Those who

place a higher value on leisure activities are more likely to choose to be absent from work

- The cultural model looks for the causes of absenteeism in the social and normative influences of society on the individual. Social and societal norms are linked to the culture in which the individual lives and works. In this context, we trace the concept of "absence culture," defined as a set of generally accepted norms, behaviors, and rules in a given environment by which people act
- A model of stress theory that encompasses medical, psychological, and sociological perspectives on stress and related absenteeism. It is the study of various one-off stressful events in an individual's life, or prolonged stressful situations in work or private life, which result in absenteeism. It is a model of stress theory that encompasses medical, psychological, and sociological perspectives on stress and related absenteeism.

The models described above only examine one possible contributing factor to the phenomenon of absenteeism. They show that absenteeism does not have a single cause, but is the result of a variety of interrelated factors.

Fluctuation is a hot topic in these turbulent times. We are aware that healthcare will always be a necessary and important industry in terms of maintaining health and preventing illness and other health conditions. The consequences of psychosocial risks are not only visible in the health of the employee, but also in the work organization. Staff/employee fluctuation defines the staff that come and go in work organizations, and these employees need to be replaced [20]. In other words, fluctuation can be described as the loss of employees due to a number of different causes. A fluctuation employee who intends to take up employment in another work organization consequently represents a replacement need for the organization [6]. The reasons for fluctuation are either objective or subjective. Basically, fluctuation is the departure of an employee from the company, but in a broader sense, it is an organizational movement of personnel [7]. A higher percentage of the reasons for fluctuation are associated with personnel who do not feel a sense of belonging to the organization in which they are employed. Fluctuation results in reduced control over the organization of the work itself and reduced traceability of the quality of the work performed. The departure of a highly qualified healthcare worker is not only difficult for the institution where the worker is employed to accept, but also for the patients themselves and, last but not least, for the whole team, where there is a feeling of team disconnection and an increase in the workload of other colleagues [21]. A worker who intends to leave a work organisation is looking for a solution and a way out of the situation.

The reasons for fluctuation vary according to personal interests, life priorities, needs to be met and anomalies in the work, work group, work organization, or life in general. Effective action by the work organization is based on retaining staff, resolving problems and conflict situations, and preventing departures [22]. Čemažar [23] defines the causes of fluctuation as internal (internal) and external (external). Internal triggers are caused by the organization itself, external factors are beyond the organization's control and cannot be prevented by the organization itself. It has a negative impact on the quality of healthcare, rising costs within healthcare institutions and the workload of the remaining employees [24]. Employees leave with their own knowledge, skills, and abilities, which contribute to the quality of the work organization. Recently, non-monetary incentives (praise, improvement of working conditions, etc.) have become increasingly important.

For many years, the study of fluctuation was the preserve of economists, who looked at it from the point of view of its harms and benefits. With the development of the organizational sciences, psychologists have also become interested in the study of fluctuation. Attention has turned to the orientation of employees and the psychological process of individual decision-making about leaving an organization. The last scientific discipline to become involved in the study of turnover was sociology. It introduced the so-called "structural variables," which are directly related to the organizational structure and the work environment [25]. Explanatory models of fluctuation include:

- Economic: From an economic perspective, an individual makes the decision to leave an organization based on the benefits or detriments of doing so. The decision is the result of three external factors: Salary or material benefits, labor market conditions, and type of education. Economists consider the salary and material benefits of working for another organization to be the most important determinant of fluctuation. An individual will be more likely to leave if he or she receives a higher salary and other related material benefits for the same or similar work in another organization. Labor market conditions are also important. If the supply/demand ratio is in favor of supply, then fluctuation will also be high, especially if there are attractive and well-paid jobs available. A final factor that has no less influence on the decision to fluctuation than those already mentioned is the type of education. Individuals who have a more general education are more likely to fluctuate than individuals who have acquired a specific education and are only qualified for specific jobs in a particular organization;
- The psychological aspect, which is based on the individual's subjective assumptions about the congruence between the works he or

she is doing and the expectations he or she had of it before starting to do it. According to psychologists, individuals enter an organization with certain expectations, both at the macro level (the organization as a whole) and at the micro level (the workplace). If the discrepancy between expectations and reality is large, then individuals very often decide to leave the organization. The realization or non-realization of expectations is manifested in a direct or indirect way through job satisfaction and loyalty to the organization. Unrealized expectations may lead to the individual perceiving his/her job as uninteresting and unnecessary. All of this in turn has an impact on job dissatisfaction and the resulting consequences. Unrealized expectations also affect loyalty to the organization: The individual's behavior rejects loyalty to the organization, which is no longer an instrument for the fulfillment of his or her needs and desires;

- A sociological perspective based on the concept of fluctuation as a form of mobility and its determinants. Although the sociological perspective also addresses the economic and psychological determinants of fluctuation, it pays particular attention to the structural conditions of work, the characteristics of employees, and the external factors that influence fluctuation. From a sociological perspective, the structural conditions of work are of interest in terms of employees' attitudes toward the work environment in which they work and the various forms of social interaction. From an economic point of view, an individual will choose to fluctuate when there is a large supply of well-paid jobs on the labor market, with high material benefits, and which do not require specific skills acquired in particular organizations, but rather general skills acquired through general education. The sociological aspect of the study of fluctuation focuses on relations within work groups, structural working conditions, autonomy at work, power distribution, the possibility of working in another organization, etc.

To fully understand fluctuation as a complex social phenomenon, it is therefore necessary to study it from different societal perspectives. Each perspective will provide new insights that will also influence, directly or indirectly, our understanding of why people decide to leave an organization.

Due to the marked increase in the overwork of nursing staff in the post-COVID era and thus the increased incidence of absenteeism and fluctuation, the aim of the study was to define and analyze the causes and determinants of absenteeism and fluctuation among nursing staff in primary, secondary, and tertiary health-care settings. The objectives of the research are to find out the most common causes and factors leading to

absenteeism and fluctuation among nursing staff in health-care settings and the consequences of absenteeism and fluctuation of nursing staff in health-care facilities.

## Methods

### Study design

The research was based on a descriptive and causal non-experimental work method. Quantitative data were collected using an anonymous online survey. The questionnaire was designed using the literature reviewed [10], [11], [20], [26], partially reproduced from the National Institute of Public Health questionnaire [27] and the OPSA questionnaire for the assessment of psychosocial strain and absenteeism in selected health and social care activities [28].

The first part of the questionnaire relates to demographic data, length of service, education, workplace, and level of the respondent's employment. The remaining part relates to the fluctuation and the absenteeism of the work environment, where respondents indicate their level of agreement with the given statements using a 5-point Likert scale, ranging from 1 to 5, with 1 meaning "disagree very much," 2 "disagree," 3 "don't know, can't decide," 4 "agree," and 5 "agree very much."

### Participants

The survey was conducted among 178 nursing staff (91% women and 9% men). The majority of respondents are aged 26–35 (47%), 24% are aged 36–45, 19% are aged 25–25, 7% are aged 46–55, and 3% are aged 56+. More than half of the respondents (61%) have up to 10 years of working experience, 20% of the respondents have 11–20 years of working experience, 10% of the respondents have 21–30 years of working experience, and 8% of the respondents have 31–40 years of working experience. More than half of the respondents (51%) are registered nurses/nursing technicians, 46% are registered nurses/nursing technicians and 3% have a master's degree in various health and nursing disciplines. More than half of the respondents (56%) are employed at primary health care level, 30% are employed at secondary health-care level, and 13% are employed at tertiary health care level. The respondents work in various jobs, in outpatient clinics (general, referral, dental, gynecological, pediatric dispensary, health education center, prevention – health promotion, and patronage service) in a health centre, a senior citizens' home, general hospitals and clinics (surgery, vascular, visceral, gynaecological, paediatric, neurology, intensive care and therapy, nursing, internal medicine, emergency, operating theater, endoscopy, anesthesiology, surgical emergency, psychiatric, nursing, otorhinolaryngology, and dialysis), maternity, health, rehabilitation, and spa.

### Data analysis

The survey was conducted online using the sampling method for social networks-snowball sampling. The method's strength lies in the fact that it is the best and cheapest way to contact the target population. All respondents participated voluntarily and anonymously.

The reliability of the instrument was acceptable ( $\alpha = 0.768$ ). Data were coded and analyzed using SPSS 24.0. The statistical treatment of the results depended on which variables were measured. Pearson's Chi-square test was used to investigate the correlation between two nominal types of variables (absenteeism and age; absenteeism; and sex). The Kolmogorov–Smirnov test and the Shapiro–Wilk test were used to test the normality of the distribution of the variables and thus to test whether the variables follow a given distribution in the population. The Mann–Whitney U test was used to compare two independent samples, as the variables studied were not normally distributed. It was used to detect differences between two means for two independent samples (male and female; age up to and including 45 years and 46 years and over; professional title: Secondary nurse/technician and registered nurse/health professional and over).

### Ethical considerations

The research complies with the ethical principles of researching and protecting collected data (the personal data of respondents were not connected with the answers, which prevented us from identifying them with the published results; moreover, the data were used solely for research purposes and not for subsequent non-research purposes which would violate the dimension of information privacy).

### Limitations

This study has certain limitations, as a result of which its results cannot be generalized to the entire population of nursing staff in primary, secondary, and tertiary health-care levels; the nursing staff who participated were defended in a way that does not guarantee representativeness; however, the research findings can serve as a starting point for other researchers in this field.

## Results

Table 1 shows absenteeism from work over the past 12 months. The highest proportion of respondents was absent from work due to annual leave or sickness absence. It can be seen that 25% of respondents were absent for more than 31 days due to annual leave, 13%



due to sickness absence, and 17% due to maternity leave.

**Table 1: Absenteeism in the past 12 months**

Type of absenteeism in the past 12 months	Without absence (%)	1–10 days (%)	11–20 days (%)	21–30 days (%)	>31 days (%)
Annual leave	7	19	20	29	25
Sick leave	37	34	12	5	13
Maternity leave	79	2	1	1	17
Study leave	89	10	0	1	0
Caring for a family member	81	12	4	1	2
Absences from duty	51	47	2	0	0
Day off after on-call time	77	17	4	1	1
Unexcused absence	100	0	0	0	0
Other forms of absence	95	5	0	0	0

Table 2 shows the descriptive statistics for the statements related to the causes and determinants of absenteeism. We used a five-point Likert scale of attitudes, where 1 means “strongly disagree” and 5 means “strongly agree.”

Table 2 shows that respondents adhere to the principle that their own health is an important value ( $\bar{x} = 4.0$ ; Standard deviation [SD] = 1.02) and that they try to live a healthy lifestyle to maintain their health as much as possible ( $\bar{x} = 3.9$ ; SD = 0.76). In the work organizations where they are employed, they often undertake training and further training ( $\bar{x} =$  They also note that in cases of absenteeism, there is a loss of control over work ( $\bar{x} =$  Respondents are not late for work ( $\bar{x} = 1.3$ ; SD = 0.72), in case, they have not had annual leave, they have not used sick leave ( $\bar{x} = 1.4$ ; SD = 0.79). They also do not use sick leave when absenteeism is not due to illness or injury ( $\bar{x} = 1.5$ ; SD = 0.83).

In Table 3, we show the normal distribution tests (Kolmogorov–Smirnov test and Shapiro–Wilk

test) for the statements related to absenteeism. The Shapiro–Wilk test and the Kolmogorov–Smirnov test are statistically significant ( $p < 0.05$ ), which means that the statements related to absenteeism are not normally distributed.

In Table 4, we show a contingency table for sickness absence by sex. It can be seen that 38.2% of women have no absenteeism, 33.3% of women are absent due to illness for 1–10 days, 11.8% for more than 31 days, 10.8% for 11–20 days, and 5.9% for 21–30 days. The highest proportion of men (40%) were absent due to illness for 1–10 days, while 20% were either absent for no days, 11–20 days, or more than 31 days.

**Table 4: Contingency table for sickness absence by sex**

Sick leave	Gender, frequency (%)		Total
	Woman	Men	
Without absence	38.2	20.0	36.6
1–10 days	33.3	40.0	33.9
11–20 days	10.8	20.0	11.6
21–30 days	5.9	0.0	5.4
>31 days	11.8	20.0	12.5
Total	100.0	100.0	100.0

In Table 5, we show the Pearson’s Chi-square for absenteeism due to illness by sex. The value of the Pearson’s Chi-square ( $\chi^2 = 2.695$ ; sig. = 0.610) is not statistically significant, meaning that there are no statistically significant differences for sickness absence by sex.

**Table 5: Pearson’s Chi-square for sickness absence by sex**

Statistics	Value	df	Significant
Pearson Chi-square	2.695	4	0.610
The Kullback test	3.196	4	0.526
Linear connectivity	0.833	1	0.361
n	178		

Source: Own source, 2020.

**Table 2: Causes and determinants of absenteeism**

Claims	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	$\bar{x}$	SD
I missed work because I was overworked	46	23	14	14	2	2.0	1.16
I missed work because of stress	42	31	9	13	4	2.1	1.21
I missed work because of burnout	40	36	8	12	4	2.0	1.17
In a work organisation, employees are frequently trained and developed	4	16	31	41	8	3.3	0.96
Absenteeism leads to a loss of control over work	9	17	21	45	9	3.3	1.12
In the workplace, the manager takes into account the wishes of the employees, so there is satisfaction	10	20	35	31	4	3.0	1.04
If I have not been granted annual leave, I have taken sick leave	69	22	5	3	1	1.4	0.79
Despite my absence due to medical absenteeism, I am expected to take annual leave within my work organisation	12	16	34	32	6	3.1	1.1
I also use sick leave when absenteeism is not due to illness or injury	68	22	5	4	1	1.5	0.83
I am often late for work (from a few minutes to an hour)	82	11	4	2	1	1.3	0.72
I hold the principle that my own health is an important value	4	4	18	39	35	4.0	1.02
For myself, I try to live a healthy lifestyle to maintain my health as much as possible	0	4	21	55	20	3.9	0.76
The health organization provides opportunities for employees to take part in physical activities (organized exercise, yoga, free visits to spas, or health resorts)	31	23	14	24	7	2.5	1.34
In the workplace, employees have enough support in difficult and stressful situations	18	32	29	19	3	2.6	1.07

SD: Standard deviation.

**Table 3: Normal distribution test for absenteeism claims**

Claims	Kolmogorov–Smirnov			Shapiro–Wilk		
	Statistics	df	Significant	Statistics	df	Significant
I missed work because I was overworked	0.274	178	0.000	0.800	178	0.000
I missed work because of stress	0.256	178	0.000	0.802	178	0.000
I missed work because of burnout	0.274	178	0.000	0.798	178	0.000
In a work organization, employees are frequently trained and developed	0.245	178	0.000	0.887	178	0.000
Absenteeism leads to a loss of control over work	0.276	178	0.000	0.869	178	0.000
In the workplace, the manager takes into account the wishes of the employees, so there is satisfaction	0.202	178	0.000	0.899	178	0.000
If I have not been granted annual leave, I have taken sick leave	0.401	178	0.000	0.616	178	0.000
Despite my absence due to medical absenteeism, I am expected to take annual leave within my work organization	0.204	178	0.000	0.898	178	0.000
I also use sick leave when absenteeism is not due to illness or injury	0.395	178	0.000	0.624	178	0.000
I am often late for work (from a few minutes to an hour)	0.477	178	0.000	0.462	178	0.000
I hold the principle that my own health is an important value	0.252	178	0.000	0.827	178	0.000
For myself, I try to live a healthy lifestyle to maintain my health as much as possible	0.301	178	0.000	0.832	178	0.000
The health organization provides opportunities for employees to take part in physical activities (organized exercise, yoga, free visits to spas, or health resorts)	0.197	178	0.000	0.862	178	0.000
In the workplace, employees have enough support in difficult and stressful situations	0.200	178	0.000	0.902	178	0.000

In Table 6, we show the Pearson's Chi-square values for the reasons for absenteeism by age. It can be seen that respondents under 35 years of age were most often absent due to annual leave (91.2%) and sick leave (70.6%), and least often absent due to study leave (7.4%) and other forms of absence (4.4%). Respondents aged 35 years and over were most likely to be absent for annual leave (95.5%) and sick leave (61.4%), and least likely to be absent for maternity leave (93.2%), and other forms of absence (93.2%). Pearson's Chi-square values are not statistically significant, meaning that there are no statistically significant differences between the reasons for absenteeism and age. Statistically significant differences only exist for annual leave ( $\chi^2 = 18.367$ ; sig. = 0.001), which means that there are statistically significant differences for annual leave according to age (younger than 35 and older than 36).

**Table 6: Pearson's Chi-square for reasons for absenteeism by age**

Variables	Age (recoded), frequency (%)		Total	$\chi^2$ (significant)
	35 years or younger	36 years or older		
Annual leave				
Without absence	8.8	4.5	7.1	18.367 (0.001)
1–10 days	22.1	13.6	18.8	
11–20 days	19.1	20.5	19.6	
21–30 days	38.2	15.9	29.5	
>31 days	11.8	45.5	25.0	
Sick leave				
Without absence	29.4	47.7	36.6	7.523 (0.111)
1–10 days	41.2	22.7	33.9	
11–20 days	14.7	6.8	11.6	
21–30 days	4.4	6.8	5.4	
>31 days	10.3	15.9	12.5	
Maternity leave				
Without absence	70.6	93.2	79.5	8.702 (0.069)
1–10 days	2.9	0.0	1.8	
11–20 days	1.5	0.0	0.9	
21–30 days	1.5	0.0	0.9	
>31 days	23.5	6.8	17.0	
Study leave				
Without absence	92.6	84.1	89.3	2.838 (0.242)
1–10 days	7.4	13.6	9.8	
21–30 days	0.0	2.3	0.9	
Caring for a family member				
Without absence	82.4	79.5	81.3	3.124 (0.537)
1–10 days	8.8	15.9	11.6	
11–20 days	4.4	4.5	4.5	
21–30 days	1.5	0.0	0.9	
>31 days	2.9	0.0	1.8	
Absences from duty				
Without absence	58.8	38.6	50.9	4.357 (0.113)
1–10 days	39.7	59.1	47.3	
11–20 days	1.5	2.3	1.8	
Day off after on-call time				
Without absence	76.5	77.3	76.8	5.950 (0.203)
1–10 days	14.7	20.5	17.0	
11–20 days	7.4	0.0	4.5	
21–30 days	1.5	0.0	0.9	
>31 days	0.0	2.3	0.9	
Unauthorised absence				
Without absence	100.0	100.0	100.0	0
Other forms of absence				
Without absence	95.6	93.2	94.6	0.305 (0.581)
1–10 days	4.4	6.8	5.4	
11–20 days	0.0	0.0	0.0	
21–30 days	0.0	0.0	0.0	
>31 days	0.0	0.0	0.0	

Table 7 shows the average ranks for short-term absenteeism by gender. It can be seen that women

**Table 7: Mean ranks for short-term absenteeism by gender**

Gender:	n	Average rank	Sum of ranks
I am often late for work (from a few minutes to an hour)			
Woman	162	56.38	5750.50
Men	16	57.75	577.50
Total	178		

Source: Own source, 2020.

( $R = 56.38$ ) are less likely to agree with the statement I am often late for work (from a few minutes to an hour) than men ( $R = 57.75$ ).

In Table 8, we show the Mann–Whitney test for short-term absenteeism by sex. The value of the Mann–Whitney test for “I am often late for work (from a few minutes to an hour)” ( $U = 497.500$ , sig. = 0.848) is not statistically significant, which means that there are no statistically significant differences in the frequency of absenteeism according to the gender of the respondents.

**Table 8: Mann–Whitney test for short-term absenteeism by sex**

Statistics	I am often late for work (from a few minutes to an hour)
Mann–Whitney U	497.500
Wilcoxon W	5750.500
z	-0.191
Significant	0.848

Source: Own source, 2020.

In Table 9, we show (dissatisfaction with) the factors influencing fluctuation among nursing staff. We have used a 5-point Likert scale of attitudes, where 1 means “strongly disagree” and 5 means “strongly agree.”

Respondents consider their work to be responsible ( $\bar{x} = 4.6$ ;  $SD = 0.58$ ), that they face stressful situations at work ( $\bar{x} = 4.3$ ;  $SD = 0.81$ ), that work is done in teams ( $\bar{x} = 4.1$ ;  $SD = 0.79$ ), and that they encounter unpleasant situations at work ( $\bar{x} = 4.1$ ;  $SD = 0.81$ ). The lowest level of agreement with the statement that the monthly income is adequate in relation to the responsibility of health professionals at work ( $\bar{x} = 2.1$ ;  $SD = 1.09$ ). A good third of respondents (35%) are considering changing jobs. These are all reasons that can lead to fluctuation in the work environment. On the other hand, some respondents also note that they are less stressed compared to other colleagues and therefore do not want to change jobs ( $\bar{x} = 2.6$ ;  $SD = 1.10$ ), that supervisors try to implement most of the appropriate measures to help reduce the experience of stress at work ( $\bar{x} = 2.8$ ;  $SD = 1.11$ ), and that employees are similarly motivated to do their job ( $\bar{x} = 2.9$ ;  $SD = 1.11$ ).

In Table 10, we show the normal distribution tests (Kolmogorov–Smirnov test and Shapiro–Wilk test) for the claims related to fluctuation. The Shapiro–Wilk test and the Kolmogorov–Smirnov test are statistically significant ( $p < 0.05$ ), indicating that the fluctuation-related claims are not normally distributed.

Table 11 shows the average ranks for the statement related to fluctuation by age. For the purpose of the analysis, we recoded the age variable into two values: 1 – younger than 45 years and 2 – older than 46 years. It can be seen that respondents over 46 years of age are more satisfied with their job security ( $\bar{R} = 66.85$ ) than respondents who are younger than 45 years ( $\bar{R} = 64.79$ ).

In Table 12, we show the Mann–Whitney test for the statement related to age-related fluctuation.

**Table 9: Evaluation of claims related to fluctuation**

Claims	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	$\bar{x}$	SD
I am satisfied with my job security	2	7	22	53	16	3.7	0.90
It gives employees the opportunity to progress	5	18	30	43	5	3.2	0.96
There are appropriate interpersonal relationships in the workplace	9	21	25	38	8	3.2	1.11
I have the possibility to work independently	2	9	13	57	19	3.8	0.92
Work is done in teams	0	7	7	58	28	4.1	0.79
Employees are similarly motivated to get the job done	10	30	27	26	7	2.9	1.11
A manager tries to be fair to all employees	9	24	19	33	15	3.2	1.21
Although I work in shifts, this is not a barrier to my work-life balance	12	24	19	33	11	3.1	1.23
I face stressful situations at work	1	5	3	43	48	4.3	0.81
I have less workload than other colleagues. So I don't want to change jobs	16	37	24	18	5	2.6	1.10
I face unpleasant situations at work	1	4	12	53	30	4.1	0.81
Supervisors try to implement most of the appropriate measures to help reduce the experience of stress at work	12	33	25	26	5	2.8	1.11
The monthly income is appropriate to the responsibilities of health professionals at work	36	37	12	12	2	2.1	1.09
The reason for fluctuation from your current job would be mostly related to a higher income	5	16	26	40	13	3.4	1.07
In the healthcare institution where I work. There is often fluctuation	3	15	28	41	13	3.5	1.00
I am thinking of changing jobs	15	21	29	26	9	2.9	1.20
The work I do is responsible	0	1	2	34	63	4.6	0.58
The work I am doing now is fulfilling. I want to keep doing my job for at least the next 10 years or more	8	16	32	29	15	3.3	1.14
A leader has a positive influence on colleagues and encourages us to learn and improve	7	22	26	35	9	3.2	1.10
My work organization mostly allows me to take annual leave as I wish and need it	5	13	18	45	19	3.6	1.08
The distance from home to my work organization is not a barrier to the quality of my work	6	12	7	40	34	3.8	1.20
Progression in our organization is optimally organized	8	24	33	31	5	3.0	1.03
I do not wish to change my current job because of the relevant feedback on the work I have done	11	19	35	29	5	3.0	1.07
Differences between colleagues arise in the work environment	2	9	19	43	27	3.9	0.98

SD: Standard deviation.

**Table 10: Normal distribution test for fluctuation claims**

Claims	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	df	Significant	Statistics	df	Significant
I am satisfied with my job security	0.305	178	0.000	0.843	178	0.000
It gives employees the opportunity to progress	0.256	178	0.000	0.871	178	0.000
There are appropriate interpersonal relationships in the workplace	0.235	178	0.000	0.894	178	0.000
I have the possibility to work independently	0.336	178	0.000	0.811	178	0.000
Work is done in teams	0.325	178	0.000	0.769	178	0.000
Employees are similarly motivated to get the job done	0.192	178	0.000	0.910	178	0.000
A manager tries to be fair to all employees	0.222	178	0.000	0.900	178	0.000
Although I work in shifts, this is not a barrier to my work-life balance	0.219	178	0.000	0.899	178	0.000
I face stressful situations at work	0.274	178	0.000	0.718	178	0.000
I have less workload than other colleagues. So I don't want to change jobs	0.233	178	0.000	0.898	178	0.000
I face unpleasant situations at work	0.291	178	0.000	0.807	178	0.000
Supervisors try to implement most of the appropriate measures to help reduce the experience of stress at work	0.208	178	0.000	0.905	178	0.000
The monthly income is appropriate to the responsibilities of health professionals at work	0.260	178	0.000	0.831	178	0.000
The reason for fluctuation from your current job would be mostly related to a higher income	0.241	178	0.000	0.895	178	0.000
In the healthcare institution where I work. There is often fluctuation	0.246	178	0.000	0.892	178	0.000
I am thinking of changing jobs	0.164	178	0.000	0.913	178	0.000
The work I do is responsible	0.388	178	0.000	0.660	178	0.000
The work I am doing now is fulfilling. I want to keep doing my job for at least the next 10 years or more	0.181	178	0.000	0.911	178	0.000
A leader has a positive influence on colleagues and encourages us to learn and improve	0.217	178	0.000	0.904	178	0.000
My work organization mostly allows me to take annual leave as I wish and need it	0.283	178	0.000	0.866	178	0.000
The distance from home to my work organization is not a barrier to the quality of my work	0.298	178	0.000	0.808	178	0.000
Progression in our organization is optimally organized	0.190	178	0.000	0.903	178	0.000
I do not wish to change my current job because of the relevant feedback on the work I have done	0.201	178	0.000	0.904	178	0.000
Differences between colleagues arise in the work environment	0.265	178	0.000	0.858	178	0.000

**Table 11: Average ranks for the statement related to fluctuation by age**

Age-recoded	n	Average rank	Sum of ranks
I am satisfied with my job security			
Under 45 years	160	64.79	7516.00
Over 46 years	18	66.85	869.00
Total	178		

Source: Own source, 2020.

**Table 12: Mann-Whitney test for the statement related to fluctuation by age**

Statistics	I am satisfied with my job security
Mann-Whitney U	730.000
Wilcoxon W	7516.000
Z	-0.205
Significant	0.838

Source: Own source, 2020.

The value of the Mann-Whitney test for "I am satisfied with my job security." ( $U = 730.000$ , sig. = 0.838) is not statistically significant, which means that there are no statistically significant differences according to the age of the respondents.

In Table 13, we show the average ranks for the statement related to gender fluctuation. We can see

**Table 13: Average ranks for the statement related to fluctuation by gender**

Gender	n	Average rank	Sum of ranks
I am thinking of changing jobs			
Woman	162	64.19	7510.00
Men	16	72.92	875.00
Total	178		

that men are more likely to consider changing jobs ( $\bar{R} = 72.92$ ) than women ( $\bar{R} = 64.19$ ).

In Table 14, we show the Mann-Whitney test for the statement related to gender fluctuation. The value of the Mann-Whitney test for "I am thinking of changing jobs." ( $U = 607.000$ , sig. = 0.428) is not statistically significant, which means that there are no statistically significant differences according to the gender of the respondents.

**Table 14: Mann-Whitney test for the statement related to gender fluctuation**

Statistics	I am thinking of changing jobs
Mann-Whitney U	607.000
Wilcoxon W	7510.000
Z	-0.793
Significant	0.428

Source: Own source, 2020.

Table 15 shows the average ranks for the statement related to fluctuation by professional title. For the purpose of the analysis, we recoded the professional title variable into two values: 1 – registered nurse/medical technician and 2 – registered nurse/medical graduate or MSc/MSc in different fields of health and nursing. “Compared to other colleagues, I am less stressed, so I do not want to change jobs.” nurses/medical technicians ( $\bar{R} = 59.46$ ) as registered nurses/nursing technicians or masters/master’s degree holders in various health and nursing disciplines ( $\bar{R} = 69.11$ ).

**Table 15: Average ranks for the statement related to fluctuation by professional title**

Professional title – recodified	n	Average rank	Sum of ranks
I have less workload than other colleagues, so I don't want to change jobs			
paramedic/medical technician	82	59.46	3270.50
Registered nurse/registered health professional or masters/master's degree in various health and nursing disciplines	96	69.11	5114.50
Total	178		

Source: Own source, 2020.

In Table 16, we show the Mann–Whitney test for the statement related to fluctuation by professional title. The value of the Mann–Whitney test for “Compared to other colleagues, I am less stressed, so I do not want to change jobs.” ( $U = 1730.500$ , sig. = 0.132) is not statistically significant, which means that there are no statistically significant differences according to the respondents’ professional title.

**Table 16: Mann–Whitney test for the statement related to fluctuation by professional title**

Statistics	I have less workload than other colleagues, so I don't want to change jobs
Mann–Whitney U	1730.500
Wilcoxon W	3270.500
z	-1.508
Significant	0.132

Source: Own source, 2020.

## Discussion

De Raeve [29], Secretary General of the European Federation of Nurses’ Associations, said in an interview in November 2022 that nurses gave 200% in 2020 and 2021 and are now in a situation where things are even worse than they were before COVID. They are leaving the profession because of overwork and burnout in the workplace. The nurse-to-patient ratio is deteriorating markedly. Working conditions have also changed. Nurses are with patients seven days a week, around the clock. There are no longer the usual shifts; there is a lot of overtime. The result of all this is a higher rate of absenteeism and fluctuation in healthcare institutions.

In a survey of 178 nursing staff in health-care settings, we asked about the most common causes of absenteeism and fluctuation in the post-visit period. About 63.4% of the respondents had been absent from work in the last year, mainly due to overwork (16%),

stress (17%) and burnout (16%). In their study, Kralj *et al.* [30] identified the reasons for sickness absence of employees as: 20.5% due to respiratory problems, 9.7% due to work-related injuries, 9% due to musculoskeletal problems, 8.7% due to injuries outside work, and 8.3% due to caring for a family member. Pavli [31] found in his study that stress, overwork, job dissatisfaction, and inadequate interpersonal relationships are the main reasons for the occurrence of absenteeism. He also found that there is no direct correlation between the working conditions and safety and health of the respondents and the number of days of sickness absence. de Arruda Leitão *et al.* [21] found that most of the causes are related to injuries or diseases of the musculoskeletal system, due to direct work with patients (lifting, changing positions in bed, moving, etc.). Mastnak [32] found in his study that the satisfaction of nursing staff with regard to working conditions, safety, and health at the workplace, does not statistically prove the causes of absenteeism. Rešetič [33] found that increased mental and physical strain, increasing length of service and consequent late retirements, are leading to an increase in health problems. Workplace overloads are leading to an increase in sickness absenteeism and the number of people with disabilities, including younger employees.

There are no differences in the duration of sickness absence between male and female respondents. The results showed that 34% of women were absent due to illness for 1–10 days, 13% for more than 31 days, 12% for 11 to 20 days, and 5% for 21–30 days. The highest proportion of men (40%) was absent due to illness for 1–10 days, 20% for 11–20 days or for more than 31 days. In a foreign study by Halepota *et al.* [34] of 3117 employees in healthcare institutions, they found that men were on average less likely to be absent from work due to sickness than women. In their study, Demšar [35] found that differences in absenteeism were found between occupational groups, irrespective of the sex of the respondents. The majority of nurses were carers, 24% of whom had been absent 1–2 times for a longer period and 8% 1–3 times for a shorter period (<2 weeks) due to low back pain. About 90% of nurses had never taken sick leave due to low back pain, but 5% of them had taken sick leave 1–2 times for a longer period. Mrak [36], based on respondents in Slovenian psychiatric hospitals, also finds no statistical correlation between the sexes of healthcare workers in terms of absenteeism.

Researchers who have studied absenteeism for several decades confirm that absenteeism is less common among older employees, that non-smokers are absent less than smokers, that employees who are more physically active are absent less than those who are inactive, that employees who are dissatisfied with their jobs are absent more, that absenteeism decreases during times of higher unemployment, and that the rate of absenteeism decreases during times



of higher unemployment. The culture of absenteeism in an institution is more related to employees' attitudes towards the phenomenon [37]. Our study showed that respondents under 35 years of age were most often absent due to annual leave (91.2%) and sick leave (70.6%), and least often absent due to study leave (92.6%) and other forms of absence (95.6%). However, those aged 35 and over were most likely to be absent due to annual leave (95.5%) and sick leave (61.4%), and least likely to be absent due to maternity leave (93.2%) and other forms of absence (93.2%). Pearson's Chi-square values are not statistically significant, which means that there are no statistically significant differences between the reasons for absenteeism and age. Statistically significant differences only exist for annual leave, which means that there are statistically significant differences in the take-up of annual leave according to age between those aged 35 and over and those aged 36 and over. Mrak [36], in his study involving six Slovenian psychiatric hospitals, also found no statistical association between different ages of health professionals and the incidence of absenteeism. Rešetič [33], however, in his study conducted at tertiary level of healthcare, found that a higher proportion of women choosing to become nurses is associated with higher rates of absenteeism due to maternity leave, social transfers, and sick leave for accompanying or caring for a child.

From the survey, we can say that there are no statistically significant differences between male and female health workers surveyed in terms of short-term lateness. Buzeti [38] found in a survey that women were more absent (due to illness or injury) than men in the past year. However, almost half of all absentees (46%) were employees. Mrak [36] found no statistical correlation between the sexes of health-care employees with regard to absenteeism, based on respondents in Slovenian psychiatric hospitals. However, in the same study, she found that women were more likely to be absent than men (4.4%), at a rate of 19.9%, due to caring for a family member. de Arruda Leitão *et al.* [21] also found that, in terms of absenteeism, there are more employees with lower education than those with higher education. The absenteeism rate is a disruptive factor in the organization of work and has a negative impact on the patients themselves and on the other employees, who are overworked and consequently more likely to fall ill or even be injured. At the same time, it has been observed that, given the adapted working conditions in a suitable working environment, medical absenteeism is more acceptable to the employee than prolonged sickness absence. The health effects of medical presenteeism are related to work environment factors (favorable or unfavorable) [39].

The main factors that lead to fluctuation are overwork and responsibility at work, and encountering unpleasant and stressful situations. The majority of respondents claim that although their superiors are trying

to improve working conditions to relieve the pressure and reduce stress at work, one of the main reasons for changing jobs or work organizations is the monthly income, which is not adequate in terms of job responsibility. Magdalenić [40], in his study, compared with the results of our study, found a higher percentage of absenteeism, as 78% of the health professionals surveyed considered that their poor working conditions were mainly due to a lack of staff and that the reasons for fluctuation were 73% due to job stress, 70% due to burnout, 68% due to overwork, and 53% due to poor salary.

The most important factors influencing fluctuation are personal (gender, age, duration of employment, personal attachment to the work organization, marital status, and personality traits), organizational (workplace conditions, interpersonal relationships, monthly income, promotion opportunities, and size of the work organization) and external (human capital in the labor market) [10]. In a study by Heinen *et al.* [41] of 23,159 healthcare workers employed in hospitals in 10 European countries (Belgium, Finland, Germany, Ireland, the Netherlands, Norway, Poland, Spain, Switzerland, and the United Kingdom), they found that 33% of the employees intended to leave the nursing profession and 9% intended to change jobs. Factors of potential fluctuation were mainly doctor-nurse relationships, due to management, activities in hospital affairs, age of respondents, female gender, full-time working hours, and burnout. The fluctuation rate of the countries participating in the survey ranged between 5 and 17%.

In a study by Aiken *et al.* [42] involving 12 European countries (England, Belgium, Finland, Germany, Greece, Ireland, the Netherlands, Norway, Poland, Spain, Sweden, and Switzerland), one in five (11–56%) nurses was found to be dissatisfied with their job, especially with regard to pay, training opportunities and promotion. Furthermore, worrying is the high level of potential fluctuation, which varied between the countries surveyed, ranging from 19% to 49% (the percentage of employed health professionals who intended to change jobs). The concerns of the health workers surveyed were not only related to patients, but also to the organization of work, the deployment of staff and the use of adequate funds and other resources. The health workers surveyed also reported that they were unable to carry out all the necessary health interventions due to lack of time, and as a consequence, adverse events were more likely to occur. The 2010/2011 survey found that fluctuation was not a particular problem in the companies surveyed. A higher proportion of fluctuation occurs due to older employees retiring and younger and educated employees with short-term employment leaving the organization, for a fixed-term contract or to find a more suitable job, in terms of level and direction of education and to find new business opportunities [30].

We would also highlight the survey result that older employees aged 46 and over are more satisfied

with their job security than their younger colleagues, but this is not statistically significant, which means that there are no differences in satisfaction with job security and the age of the respondents. Rogelj [43] found in her study that 96% of respondents consider job security and permanence of permanent employment to be an important factor. Job security is not only influenced by the employer, but also by the state (restrictions on recruitment and wage cuts). She adds that satisfaction with the head of department and the quality of interpersonal relations is positively correlated. In reality, job security and occupational health in work organizations mean much more than just reducing labor costs.

Job security is also becoming increasingly important as working lives increase and the retirement age rises. The frequency and severity of accidents, injuries, and ill-health are quantitative measures for comparison and for assessing the organization and quality of work in a work organization. In successful companies, occupational health and safety are one of the first principles of good corporate governance [11]. The link between the results of our study and the study by Kralj *et al.* [30] can be partially confirmed by the satisfaction of employees who are more educated that younger employees are now more educated due to better access to study programs than in the past. A study examining employee satisfaction in health-care facilities in China statistically demonstrated a close association between high fluctuation rates and job security [44]. However, an older study conducted at the primary health-care level confirms that job security, with a mean score of 4.44, represents the highest satisfaction, independent of the age of the healthcare workers surveyed [45].

The main limitation of our study is that it only involved nursing staff. The results can only give us an insight into current developments and the opinion of nursing staff in healthcare institutions that are slowly reorganizing and trying to re-establish themselves without restrictions in the post-holiday period, on the presence of causes and factors for absenteeism and fluctuation in their working environments.

## Conclusion

Given that each organization, health system and country have its own priorities and challenges in terms of retaining nurses in the profession, the survey does not attempt to offer universal solutions that are readily available. Policy makers and national nursing associations need to develop an understanding of their own situation and priorities and identify the best policy mix to address their own challenges in retaining nurses in the profession.

Every organization, health system, and country should develop and agree on a sustainable, strategic approach to nursing workforce. This approach should have a clear vision in principle, be aligned with overall health system plans and priorities, be patient/consumer-centered, involve nursing staff and national nursing associations as key stakeholders, and be evidence and analysis-based without being too rigid – it should be flexible and adaptable [46].

So how to achieve lasting effects on the employment continuity of care workers? Every national nursing association and nurse retention policy makers face the challenges of a holistic approach to introduce measures aimed at ensuring the continuity of employment of nursing staff. If they have access to data and information that helps them to determine the extent of the problem of absenteeism and turnover, they can see how it is changing, identify the causal factors and determine which measures would be most appropriate. At the individual level, it is necessary to analyze the state of the nursing workforce and assess trends and standards of variation, to analyze the impact of the working environment on nurses, to carry out surveys and interviews when staff leave to identify causal factors and, given that absenteeism and turnover affect the provision of health care, to analyze data on patients' satisfaction with the quality of healthcare. At the organizational level, the employer must have accurate and complete data on the nursing workforce to educate, engage, recruit, and deploy a sufficient number of competent nurses who have adequate resources and whose work is regulated by professional guidelines. In addition, to support professional nursing associations and involve them in nursing development and planning in a way that supports and establishes mechanisms to increase the overall level of involvement of nurses in policy-making and decision-making in all the main areas of action planning, management, education and human resource management in nursing. All this must be followed by building political support at country level at the highest levels of health systems and within civil society to ensure the achievement of universal health coverage and the Sustainable Development Goals, integrated into people-centered nursing activities.

Providing a safe, healthy and quality workplace is becoming an increasingly important value for nursing staff and society, as well as for the healthcare institution where the individual works. The reasons for establishing a health and safety policy in healthcare institutions are linked to the requirements of legislation and also to the economics of doing business, which means fewer accidents and illnesses and, consequently, less sickness absence, and a more stable quality of work. We urgently need to ensure that, as soon as possible, countries and health systems are able to assess current and future losses of nurses more accurately and more quickly, as this information can be used as a basis for taking measures to protect nursing workers, planning

future nursing workforce needs and taking action to reduce the shortage of nurses.

Societal developments and increasing patient needs are placing increasing demands on nursing staff, exacerbating the current staffing crisis, and frustration among nursing staff [47]. Nursing staff shortages result in reduced quality of care and poorer patient outcomes, as well as increased nursing costs [48]. At the same time, nursing staff shortages can lead to reduced job satisfaction among staff, which can be followed by absenteeism and staff turnover. Measures related to financial satisfaction of staff alone will not be enough. Particular attention must be paid to the health of nursing staff and to ensuring a working environment that enables staff to achieve their full working life. Monitoring the factors influencing nursing employment and working together will help to ensure the quality and safety of nursing care.

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