

WORK ENVIRONMENT MANAGEMENT AND SENSE OF HEALTH SECURITY AMONG HEALTHCARE PROFESSIONALS

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Purpose: The purpose of this article is to present healthcare professionals' opinions on their sense of health security in relation to their jobs in the pandemic situation and to assess effectiveness of the work environment management.

Design/methodology/approach: Management of Polish healthcare institutions, due to a strategic role of this sector and its connection with public finance, has been a source of numerous problems for many years. All weaknesses of the healthcare system in terms of human resources and organisation have been clearly exposed in the time of COVID-19 pandemic. Being faced with it, healthcare institutions and their employees struggle with problems of a greater work-related burden, arduous working conditions and continued concerns about their health and life. The research was conducted in December 2020 on a representative sample of healthcare professionals with the aim to identify their opinions on functioning in the workplace during the COVID-19 pandemic. For the research purposes, the CATI technique was applied with a Likert scale-based questionnaire.

Findings: The research findings outline the work environments of healthcare professionals during the second wave of COVID-19 pandemic and their effects on the sense of security.

Research limitations/implications: Due to the period of the research conduct, its results have a unique quality and enable depicting the current situation and problems of the medical community as a result of the COVID-19 pandemic. However, as the worldwide scale of the COVID-19 pandemic is an unprecedented situation considering its spread, the use of resources as well as organisational and political solutions, problem research literature on the subject was unavailable in the process of preparing the study.

Practical implication: The conclusions of the research draw attention to the need of using modern technologies in strategic management of internal communication systems, especially during crises such as a pandemic.

Originality/value: The results of the research give a unique picture of healthcare professionals' opinions referring to sense of health security and the state of the health system during the pandemic.

Keywords: work environment, sense of health security, COVID-19 pandemic, healthcare professionals, modern technologies.

Category of the paper: Research paper.

1. Introduction

Regarding management itself, the issues of work environment management are not the most important research areas although economic analyses concerning work conditions and their effects (Pan et al., 2019; Jung-sun, Yangho, 2020) have been conducted for years. Among work-related research priorities, there are studies on shaping of prevention culture through implementation of work environment management, reinforcement of the role of corporate social responsibility as well as dissemination of scientific discoveries and good practice examples.

However, building and maintaining the safety culture at the organisational level remain the basic aims of the work environment management strategy in addition to improvements in material aspects of it.

The term “safety culture” was first formulated by the Atomic Energy Agency in the report related to the nuclear accident in Chernobyl (Mearns, Flin, 1999). The safety culture is perceived as a subtype of the organisational and social culture and it is understood as overall collective activities using organisational and interorganisational practices to protect individual employees and the entire work environment (Gherardi, Niccolini, 2000).

Involvement of the managing staff and employees in activities related to safety in the workplace is the key factor for this culture shaping (Benčíková et al., 2020). It can be assessed based on attitudes and behaviours of members of a specific organisation that depend on the accepted system of values and beliefs as well as compliance with legal standards (Lousada et al., 2020). The term “safety culture” is defined in various ways and it is frequently associated with (Glendon, Stanton, 2000; Lousada et al., 2020; Baggaley et al., 2019; Klusmann et al., 2017; Guldenmund, 2000):

- the employees’ awareness of risks in their work environment,
- the level at which a company and its employees are involved in protection of safe work conditions,
- the employees’ sense of security,
- ensuring safe and hygienic conditions in the workplace,
- ensuring compliance with the applicable regulations concerning occupational health and safety (OHS),
- behaviour patterns, the system of values to shape attitudes to-wards the OHS issues,
- the overall approach to planning, organising, implementing, monitoring and improving OHS activities.

The above terminology highlights the fact that some of these factors open high potentials for implementation of measurable indicators regarding work environment. This primarily refers to material aspects of work conditions (Marklund et al., 2020) that are regulated by e.g. ergonomics in the context of various professions and tasks. A separate group consists of terms based on a subjective employee's feelings about work conditions, e.g. the sense of work safety, including health security. Yet, regardless of the area discussed (material and non-material work environment (Gustafsson et al., 2020)), work conditions constitute an important series of factors influencing work effectiveness, its safety and employee welfare (Mathiassen et al., 2020).

The analysed group of issues is treated in a specific way in the case of healthcare professionals' functioning in the workplace (Laudanski et al., 2020), especially in view of the specific COVID-19 crisis faced by Poland and the whole world (more about crisis situation management in: Thielsch et al., 2020; Bsoul-Kopowska, Karczewska, 2017). All weaknesses of the healthcare system in terms of human resources and organisation have been clearly exposed in the time of COVID-19 pandemic (Rypicz et al., 2020). This occupational group, playing a key role for health security at the national level and being at a particular risk of coronavirus infection due to their job activity, has been a subject of many analyses and debates over the past few months (Bostan et al., 2020; Rind et al., 2020; Monterrosa-Castro et al., 2020).

Along with the announcement of COVID-19 pandemic and depending on the healthcare professionals' employers, specific procedures were defined in each institution based on: the Act of 5 December 2008 on the Prevention and Control of Infections and Infectious Diseases in Humans (Journal of Laws of 2019, item 1239 as amended), the Act of 14 March 1985 on the State Health Inspectorate (Journal of Laws of 2019, item 59 as amended) as well as detailed acts and regulations concerning functioning of individual state sectors. These procedures, developed by the institutional management bodies, are adjusted to the tasks, needs and potentials of individual organisations and therefore, their comparative assessments are difficult. However, the sense of security falls into a subjective category, and regardless of the type of organisation that employs healthcare professionals commonly exposed to the contact with infected or diseased individuals, we feel entitled to compare their opinions. A particular role here is assigned to the employer who creates working environment and comfort through organisation and availability of specific measures and information.

The purpose of the article is to present results of the research concerning healthcare professionals' opinions on their sense of health security in relation to their jobs in the pandemic situation and to assess effectiveness of the work environment managing strategies implemented by employers. The research was conducted immediately after the November peak of infections in Poland in 2020. Thus, the respondents' replies not only enable assessment of their subjective feelings about the situation but also show how Polish healthcare employers managed to function under the serious crisis conditions.

2. Research methodology

The research findings presented here are part of a nationwide quantitative research of healthcare professionals, conducted within the project titled “Research on healthcare professionals’ opinions on their functioning in the workplace during the COVID-19 pandemic”. It was carried out in December 2020 together with the specialist external company DRB Polonia. The research problem of the project was formulated as follows: How healthcare professionals perceive their functioning at work during the COVID-19 pandemic within the following areas:

- work safety,
- work organization,
- employee relations,
- satisfaction and sense of work.

As the worldwide scale of the COVID-19 pandemic, not only limited to Poland, is an unprecedented situation considering its spread, the use of resources as well as organisational and political solutions, problem re-search literature on the subject is unavailable. Therefore, the researchers decided to apply inductive reasoning where specific cases or situations are observed or analysed in order to determine general regularities to be found in the analysed research areas. The study authors are aware that conclusions based on inductive reasoning may be false or apparently true. However, trusting their experience and observations resulting from involvement in the COVID-19 situation, the authors undertook research on the defined problem during the pandemic in December 2020, just after the period of peak infection rates, with an expectation that the research findings would reveal certain interesting regularities regarding functioning of healthcare professionals in their work environments.

Considering the analysis of the sense of security at work, the following assumption was made: The COVID-19 situation has influenced the sense of job-related security among all healthcare professionals.

For the study, the following research question was formulated: How do the surveyed healthcare professionals assess their sense of security at work in the context of functioning of healthcare institutions(employers) during the crisis resulting from the COVID-19 pandemic in Poland?

The research was conducted by means of quantitative methods using the Computer Assisted Telephone Interviewing (CATI) technique. This technique was chosen due to restricted direct contacts associated with the ongoing COVID-19 pandemic in Poland. The research population consist-ed of health professionals classified according to Statistics Poland (GUS, 2018). A randomly selected representative sample of healthcare professionals $N = 384$, determined based on the GUS 2018 Report, was enrolled into the study with the following assumptions:

- research population of healthcare professionals: 400,986,
- proportion of population: 0.5,
- confidence interval: 95%,
- maximum error: 5%.

The research sample was selected for representativeness of the research population in terms of specific occupational groups as per the GUS classification: physicians, dental practitioners, pharmacists, nurses, midwives, physiotherapists, laboratory technicians, paramedics.

A research instrument to be used was a standardised questionnaire comprising closed questions and statements. A Likert scale was applied for the answers (called the Likert scaling technique) which ensures that relative intensities of various answers are determined. This is an own research instrument (questionnaire) which was developed by the research team members i.e. the employees of the Department of Applied Sociology and Human Resource Management, Faculty of Management, Częstochowa University of Technology.

The group of respondents, i.e. 384 healthcare professionals, consisted of: 86 physicians, 12 dental practitioners, 28 pharmacists, 185 nurses, 22 midwives, 26 physiotherapists, 11 laboratory technicians and 14 paramedics. The majority of respondents (331 professionals) reported the employment relationship, including 315 employment contracts, 12 contracts of service and 4 contracts of appointment. The others (53 respondents) are employed on the basis of other legal relationships, including 8 contractors, 32 mandate contractors and 13 apprentices (vocational training or agreements with another service provider). The surveyed group comprised 80.73% of women and 19.27% of men. Such a large proportion of female respondents resulted from nurses and midwives participating in the re-search who represent almost 54% of the general population. Moreover, the occupational groups of physicians, dental practitioners and pharmacists mainly consist of women (57.29%, 74.76% and 82.85%, respectively). The participants also differed in terms of the age with slightly higher numbers of the youngest respondents: 20 to 29 years old (38.54%) and 30 to 39 years old (31.77%). The other age groups were as follows: 40 to 49 years old (16.66%), 50 to 59 years old (10.16%) and over 60 years old (2.86%). There were no participants aged below 20 years in the study group. Professionals with varied overall and healthcare seniorities participated in the survey research.

The respondents were also asked to describe their family situation in two aspects: if they have children below 18 years old and if they are staying with persons whose health is a particular concern to them (e.g. the elderly, dependants, chronically ill patients etc.) during the pandemic. For the first and the latter questions, 58.59% and 57.81% of the respondents gave the answer “yes”, respectively.

Considering the types of organisations, 70.5% and 29.95% of the respondents were employed in public and independent institutions, respectively. They were large (over 250 employees), mid-sized (50 to 249 employees), micro (2 to 9 employees) and small (10 to 49 employees) organisations: 32.29%, 26.65%, 17.97% and 17.40%, respectively. Only 3.6% of

sole organisations were reported. Moreover, the respondents represented various institutions in terms of their activity types. The majority of participants (262, 68.23%) were employed in stationary and 24-hour healthcare institutions: 184 respondents in hospitals, including 80 individuals in coordinating units, i.e. dedicated COVID-19 centres. The other respondents were employed in outpatient healthcare facilities, such as outpatient clinics or diagnostic units (25.26%) and pharmacies (6.5%). The organisations where the surveyed healthcare professionals were employed are located in towns of various sizes that represent all Polish voivodships.

To process the research results, the STATISTICA programme was applied. Significance of differences in the analysed variables was assessed with the use of non-parametric tests: U Mann-Whitney, Kruskal-Wallis (alternative to ANOVA) and chi-square. The publication by A. Stanisiz (2006, pp. 369-391) was used for the analyses of statistical data.

While preparing the research methodology, no research hypotheses were formulated due to the unprecedented nature of the investigated phenomenon and the ongoing pandemic situation as well as no available literature. However, for the purposes of result analyses, a series of statistical hypotheses were developed concerning significant differences in the responders' statements due to their features and the characteristics of the employers. The hypotheses were verified by means of the above statistical tests to ensure rejection of the null hypothesis of no significant differences and to confirm the alternative hypothesis of difference significance. The paper (only/primarily) presents relationships that were verified using the statistical tests which allow concluding the presence of regularities in the re-search population.

3. Results

The surveyed were asked for an overall employer assessment in terms of dealing with the situation of COVID-19 crisis regarding the workplace safety. Most of the respondents positively assessed their employers and 34.37% believed they were coping rather well with functioning under the pandemic conditions. An equal rate of the surveyed expressed a very good opinion on their employers. Negative opinions were expressed by 10.93% of the participants.

In the next step, the respondents presented their opinions on specific procedures and measures taken in the workplace that affected their personal and subjective sense of security. The subjects of assessment were as follows: availability of disinfectants (1 – indicator number), access to personal protective equipment (masks, clothing, disposable gloves etc.) (2), organisation of workspace (3) (sluices, isolation rooms etc.), access to knowledge and information about COVID-19 (4), access to knowledge and information about current legal regulations (5), patients' management procedures (6), risk level for the SARS-CoV-2 infection

(7) and handling other situations in the workplace (8) (general sense of security in the workplace – (9)).

For the purpose of determining the significance of differences between the mentioned security indicators, the STATISTICA programme was applied (Table 1). To assess the significance of differences in the analysed variables, non-parametric tests were used: U Mann-Whitney (UMW), Kruskal-Wallis (alternative to ANOVA) (AKW) and Pearson's chi-squared tests. Moreover, the analysis of two-way contingency tables was applied. The tests of difference significance were used to verify the assumed statistical hypotheses, i.e. to reject the baseline (null) hypotheses of the absence of differences between the indicators due to independent variables such as: the occupational group, type of employment, gender, age, overall work seniority, healthcare seniority, family situation, type of the employer, its size and location (voivodship, town size). The respondents' replies did not reveal any differences in relation to their occupational groups.

Table 1.

Tests of difference significance results ($\alpha = 0.05$)

Independent variables	Indicators describing sense of security in the workplaces								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Gender (UMW)	0.0023	0.0034					0.0374		
Type of employment (AKW, UMW)				0.0259			0.0461		
Family situation (UMW)	0.0378		0.0267				0.0005	0.0273	
Type of the employer (Public/non-public) (UMW)	0.0668	0.0043						0.0129	0.0220
Type of the employer (hospital/other) (AKW)	0.0130	0.0018		0.0124	0.0154	0.0302		0.0122	
Type of the employer (covid hospital/other hospital) (AKW)									0.0206

U Mann-Whitney (UMW), Kruskal-Wallis (alternative to ANOVA) (AKW),

Source: own research.

The type of employment differentiated the respondents' replies in terms of the participants' assessment of the risk level for the SARS-CoV-2 infection (the UMW results ($p = 0.0461$) with the assumed significance level ($\alpha = 0.05$) suggest rejection of the null hypothesis being verified). The types of employment included the employment relationship (employment contract, contract of service, contract of appointment) or another legal relationship (contract, mandate contract, vocational training / agreement with another service provider). Among the respondents with the contract relationship, the largest group comprises those with employment contracts. This factor also affected the replies related to the access to knowledge and information about the COVID-19 pandemic (the AKW results ($p = 0.0259$) with the assumed significance level ($\alpha=0.05$) suggest rejection of the null hypothesis being verified).

The gender influenced differences between the participants' assessments of the access to disinfectants (the UMW results: $p = 0.0023$, $\alpha = 0.05$) and personal protection equipment (the UMW results: $p = 0,0034$, $\alpha = 0,05$) as well as their perception of being exposed to the risk of coronavirus infection (the UMW results: $p = 0.0374$, $\alpha = 0.05$).

Moreover, diverse scores were observed regarding the assessment of the sense of health security associated with the access to knowledge and in-formation about the COVID-19 pandemic in the context of having under-age children (the UMW results: $p = 0.0378$, $\alpha = 0.05$). The fact of staying with individuals whose health the respondents were particularly concerned about differentiated the answers related to: the sense of security in the context of workspace organization (the UMW results: $p = 0.0267$, $\alpha = 0.05$), the risk of coronavirus infection (the UMW results: $p = 0.0005$, $\alpha = 0.05$) and the control over situations in the workplace (the UMW results: $p = 0.0273$, $\alpha = 0.05$).

The statistical analysis also revealed different replies depending on the type of the employer: public or independent organisation.

The employees of independent organisations expressed higher opinions on workplace safety ensured by the employer compared to the respondents employed in public institutions (the UMW results: $p = 0.0220$, $\alpha = 0.05$). It should be noted, however, that a higher rate of the participants from in-dependent organisations (43%) presented definitely positive views compared to the employees of public institutions (31%). The opinions on functioning of the independent employers in the context of ensuring the access to personal protection equipment are similarly positive (the UMW results: $p = 0.0043$, $\alpha = 0.05$; 81% of the independent organisation employees think that the employer successfully deals with this aspect of security protection) and the same refers to the access to disinfectants (despite the fact the results of UMW test ($p = 0.0668$) with the assumed significance level ($\alpha = 0.05$) suggest there are no grounds for rejection of the verified null hypothesis, the analysis of two-way contingency tables demonstrates differences in the replies: 73% and 82% of the surveyed from, respectively, public institutions and independent organisations ex-press positive views).

There are also interesting findings related to the replies declaring a lack of control over situations in the workplace (the UMW results: $p = 0.0129$, $\alpha = 0.05$). These opinions are more clearly expressed by the employees of public institutions (45%) compared to the respondents employed in independent organisations (39%).

Concerning the type of employer (inpatient i.e. hospitals, other than inpatient), diverse scores were observed for the assessment of the employer in the context of workplace safety protection (the AKW results: $p = 0.0026$, $\alpha = 0.05$). Markedly better opinions were presented on outpatient centres (77% of the surveyed group) than on inpatient ones (63%). Similarly, better scores were given to outpatient organisations in relation to the access to disinfectants protection (the AKW results: $p = 0.013$, $\alpha = 0.05$). 81% of the surveyed employees expressed a positive opinion on the subject compared to only 72% of the respondents employed in hospitals. Even more diverse views were presented concerning the access to personal protection

equipment (the AKW results: $p = 0.0018$, $\alpha = 0.05$): 79% of outpatient institution employees expressed positive opinions on their employers versus only 65% of the respondents employed in hospitals.

Also, the access to knowledge and information about COVID-19 was perceived better in the case of outpatient institutions compared to hospitals (the AKW results: $p = 0.0124$, $\alpha = 0.05$) – as many as 78% of the surveyed declared a good access, of whom as many as 53% expressed extremely high opinions. Regarding the employees of inpatient institutions, the corresponding rates were 68% and 34%, respectively. Slightly lower opinions were presented with regard to the access to knowledge and information about current legal regulations by the employees of both types of organisations, although the advantage in favour of outpatient centres remained the same (the AKW results: $p = 0.0154$, $\alpha = 0.05$). As many as 74% of the surveyed from independent organisations expressed positive opinions (with 50% of extremely positive ones) compared to only 65% (30% extremely positive) of the respondents employed in hospitals.

A similar diversity of scores was observed for the procedures initiated in the other workplace situations (the AKW results: $p = 0.0302$, $\alpha = 0.05$). The employees of non-hospital institutions again assessed their sense of security in a considerably more positive manner than the respondents from hospitals (76% and 69%, respectively). The above positive opinions of the outpatient institution employees on the effects on their sense of security have been confirmed by the replies concerning a lack of control in the workplace (the AKW results: $p = 0.0122$, $\alpha = 0.05$). 47% of the hospital employees declare such views compared to only 31% of the respondents from outpatient institutions.

An equally interesting structure of replies was identified for the employees of dedicated COVID-19 centres and the ones employed in so-called non-COVID hospitals regarding the overall assessment of their sense of health security (the AKW results: $p = 0.0083$, $\alpha = 0.05$). Only 61% of the respondents employed in dedicated centres express highly good opinions compared to as many as 80% of the non-COVID institution employees. In view of the above, it may be surprising that the employees of dedicated centres declare a higher sense of security in the workplace than the ones from the other institutions (the AKW results: $p = 0.0206$, $\alpha = 0.05$): 52% and 22% of the positive and negative opinions, respectively, among the COVID centre employees compared to 36% and 31%, respectively, among the respondents from non-COVID hospitals.

4. Discussion

While analysing the structure of respondents' replies concerning individual research aspects, it can be noticed that the surveyed healthcare professionals demonstrate a relatively high sense of security, especially with regard to working conditions that are to be secured by the employer.

The in-depth analysis of difference significance revealed interesting regularities concerning the scores provided by the respondents from dedicated centres and non-COVID hospitals. In many areas of the sense of security, opinions of the employees from dedicated centres were less favourable compared to the other hospital employees. However, this is a reasonable regularity as these professionals almost only work with infected (or recovering) patients so the probability of infection is potentially much higher. In addition, they frequently witness directly or indirectly SARS-CoV-2 infection-related patients' deaths. Such situations trigger the growth of both natural sense of insecurity and stress associated with everyday work duties. The procedures aiming to protect from infection in COVID hospitals and being related to restrictive cleanliness, sterility and necessary protective clothing result in everyday alertness but also in accustoming to work in the environment exposed to high health risks.

The analysis of presented findings leads to interesting considerations about functioning of healthcare professionals and their employers in the situation of COVID-19 pandemic. Firstly, there are no significant differences in replies regarding both the overall sense of security and its individual aspects between the employees belonging to specific occupational groups. Apparently, opinions of the surveyed are shaped to a higher extent by psychological, social and employer-related factors than by the specificity of a profession itself. Here, the opinions were mostly influenced by such indicators as the form of employment or the type of employer as well as by social factors e.g. gender, having children or staying with persons being at a particularly high risk of infection (the elderly or chronically ill patients). Considering the last group of mentioned indicators, a dominant sense of insecurity among women and the fact they are at a higher risk of infection should be associated with them belonging to the most numerous occupational groups among healthcare professionals, i.e. nurses and physicians. These subgroups mainly consist of women. Moreover, they have direct, close contacts with potentially infected or even "COVID" patients due to their job tasks. Thus, it is not surprising that their subjective feelings are stronger compared to the other respondents' attitudes.

A similar situation can be observed in the case of participants staying with individuals to whom the coronavirus infection poses a particularly considerable threat. Their assessment of security is affected by the stress related to the concerns about these persons and a continued responsibility (in the current situation) for their lives – not only for their health and well-being. Interestingly, the test of difference significance (Pearson's chi-squared tests $p = 0,74951$, $\alpha = 0,05$) does not confirm that the surveyed who take care of dependants are mainly women.

Another interesting relationship is that the respondents with children seem to know more and to be better-informed about COVID-19 than the other participants, although it should be noted again that this group does not mainly comprise women, contrary to stereotypical expectations (Pearson's chi-squared tests $p = 0,64896$, $\alpha = 0,05$). Thus, the circumstances of caregiving and combining work with home necessitate updating the current knowledge about the pandemic situation regardless of the gender.

Far more significant effects on the respondents' sense of security were observed for the types of employers, and independent organisations are perceived here in a much more favourable light.

It is worth mentioning that there was no regularity discovered that identifies public institutions as large and independent organisations as smaller units (the AKW results: $p = 0,9220$, $\alpha = 0,05$). In this case, worse opinions on public institutions can be attributed to the scales of their functioning and, therefore, more serious organisational issues. Moreover, no statistically significant differences were found between the division into inpatient and outpatient institutions and their sizes. In both cases, the findings are rather surprising, although their interpretation should probably be based on the fact that smaller healthcare institutions (outpatient clinics, medical centres, pharmacies) very often belong to healthcare networks and, as such, represent large organisations. The employers being non-hospital institutions were definitely better scored by the respondents in terms of the care for employees' sense of security. However, this is probably due to the fact that there is a far lower risk of infection among the staff of independent organisations, which results in less rigorous requirements and restrictions related to everyday functioning in the workplace. Also, an interesting regularity is seen regarding the feeling of lack of control over situations in the workplace which is more often expressed by the employees of independent organisations. A possible reason is the activity of trade unions in hospitals that mostly belong to the group of public institutions in the case of this research.

While analysing the hospitals which were most frequently found at the top of press and media releases during the research period (mainly due to negative situations), definitely worse scores regarding the sense of security were observed among the participants working in COVID centres compared to the other hospital types. Certainly, this regularity primarily results from everyday work with infected patients. As a consequence, these employees are particularly afraid of getting infected in the workplace – even more than in non-professional situations.

5. Conclusions

The above research findings demonstrate that the surveyed healthcare professionals feel relatively safe, particularly in the aspects related to the working conditions that are to be secured by the employer. In the analysis of respondents' replies, the variety of occupational groups represented by healthcare professionals participating in the study and the levels of their exposure to the risk of coronavirus infection should be taken into account as the opinions of nurses from dedicated departments and of pharmacists who work in a relatively safe environment are combined here. However, despite the internally diverse healthcare professional groups, their replies confirm in general that employers are well prepared in the aspect of workplace safety securing. The research was conducted during a difficult period – immediately after the November peak of infections when high COVID-19-related mortality rates also appeared, in view of which the positive opinions on the workplace safety protection are even more interesting. Following the chaos in March associated with complete national lock-down and partially resulting from a lack of knowledge about the virus specificity, its transmission in the social space and the disease course, the second wave of the pandemic was faced by healthcare professionals familiar with functioning in a higher-risk situation and armed with safety procedures and measures. Even though the November infection rate growth revealed, with a full force, all shortages of the healthcare system (particularly at the human resource level), the employers clearly “passed the ex-am”, securing the working conditions to make their professionals' sense of security reach its maximum.

Due to the specificity of the Polish healthcare system, the most difficult task of coping with the pandemic requirements was faced by public institutions which took care of infected patients. Moreover, better scores from the surveyed professionals given to non-public organisations in terms of the sense of security should also be attributed to their higher level of financial independence and partial commercialisation i.e. offloading certain amounts of the increased maintenance costs onto patients.

The results of the research also draw attention to the need of using modern technologies in the strategic management of internal communication systems, especially during crises such as pandemics. The spring pandemic wave in 2020 and its negative reception mostly resulted from the lack of knowledge about the virus itself, treatment procedures, organisation of work processes for healthcare professionals, inadequacy of the legal regulations in view of the situation and a broadly defined information chaos. The autumn growth of infections was faced by healthcare professionals armed with different knowledge about the virus. However, it seems that information about pandemic, the medical and law procedures differ between different groups of healthcare professionals. It seems that the widespread use of modern technologies for internal communication in organizations could significantly increase the sense of security and assessment of the quality of the work environment by respondents.

Nevertheless, regardless of the types of institutions, the research findings confirm employers' significant responsibility for their employees' subjective sense of security, and the existing sense of security declared by the vast majority of Polish healthcare professionals should be considered as a positive fact.

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