Kultura sigurnosti bolesnika u vrijeme COVID-19 pandemije u Klinici za infektivne bolesti „Dr. Fran Mihaljević“

Patient safety culture during the COVID-19 pandemic at the University Hospital for Infectious Diseases „Dr. Fran Mihaljević“

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Sažetak

Uvod: Svjetska zdravstvena organizacija definira sigurnost pacijenata kao „prevenciju, otklanjanje i unapređenje zaštite od neželjenih događaja tijekom procesa zdravstvene skrbi“. Sigurnost bolesnika važno je javnozdravstveno pitanje i najpouzdaniji indikator kvalitete zdravstvenog sustava.

Ispitanici i metode: U istraživanju je sudjelovalo ukupno 228 ispitanika – stopa odgovora iznosi 61,13 %. Upitnik korišten u ovom radu jest Upitnik o kulturi bolesnikove sigurnosti u bolnici. Upitnikom se ispituju stavovi zdravstvenih djelatnika o bolesnikovoj sigurnosti, pogreškama u liječenju te o izvještavanju o neželjenim događajima u bolnici. Distribucije kvantitativnih podataka analizirane na normalnost Smirnov-Kolmogorovljevim testom pokazale su da distribucija nije normalna, stoga su u analizi korišteni neparametrijski analitički postupci. Distribucije kvalitativnih podataka analizirane su Fisherovim egzaktnim testom. Rezultati su interpretirani na 5 %-tnoj razini značajnosti.

Rezultati: Na razini Klinike, većina dimenzija imala je visoku razinu, osim dimenzije Popunjenost osobljem. Najviša je izmjerena snaga u dimenzijama Timski rad unutar odjela i Očekivanja rukovoditelja i aktivnosti koje promiču bolesnikovu sigurnost.

Rasprava: Iako se kao Klinika za infektivne bolesti pronašla na prvoj liniji obrane od novog koronavirusa, zajedno sa svojim djelatnicima pokazala je izvrsnost u novonastaloj situaciji borbe s novom bolesti.

Zaključak: Visoka je razina sigurnosti bolesnika u Klinici za infektivne bolesti „Dr. Fran Mihaljević“. Osim kontinuiranog truda da se visoka razina i dalje održava, važno je zapošljavanje zdravstvenih djelatnika kako bi se poboljšala popunjenost osobljem.

Ključne riječi: kultura bolesnikove sigurnosti, COVID-19, HSOPSC upitnik

Kratki naslov: Kultura sigurnosti bolesnika

Abstract

Introduction: The World Health Organization defines patient safety as a health care discipline that aims to prevent and reduce risks, errors, and harm that occurs to patients during the provision of health care. Patient safety is an important public health issue and the most reliable indicator of the quality of the healthcare system.

Participants and Methods: A total of 228 respondents participated in the study with a response rate of 61.13%. The questionnaire used in this paper is the Hospital Survey on Patient Safety Culture reporting in the hospital. The questionnaire examines the attitudes of health professionals about patient safety, treatment errors, and reporting on adverse events in the hospital. Distributions of quantitative data analyzed for normality by the Smirnov-Kolmogorov test showed that the distribution was not normal, therefore, nonparametric analytical procedures were used in the analysis. The results were interpreted at a 5% level of significance.

Results: At the Clinic level, most dimensions had a high level of patient safety culture, except for the dimension Staffing. The most measured strength is in dimensions of Teamwork within units, Supervisor/manager expectations, and actions promoting safety.

Discussion: Although a Clinic for Infectious Diseases found itself on the front line of defense against the new coronavirus, together with its staff, it has shown its excellence in the emerging situation of fighting the new disease.

Conclusion: There is a high level of patient safety in the University Hospital for Infectious Diseases „Dr. Fran Mihaljević“. In addition to continuous efforts to keep the high level at bay, it is important to recruit health professionals to improve staffing.

Keywords: patient safety culture, COVID-19, HSOPSC questionnaire

Running head: Patient safety culture

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Uvod

Svjetska zdravstvena organizacija (SZO) definira sigurnost pacijenata kao „prevenciju, otklanjanje i unapređenje za-

Introduction

The World Health Organization (WHO) defines patient safety as “the prevention, elimination, and improvement of protec-

štite od neželjenih događaja tijekom procesa zdravstvene skrbi" [1]. Posljednjih godina sve je veći fokus stavljen na pitanje sigurnosti pacijenata te se postavlja kao prioritet i dužnost zdravstvenih djelatnika i institucija u kojima rade. Bolesnikova sigurnost i bolesnik u središtu imperativ su kvalitetne zdravstvene skrbi i prioritetno područje interesa u svim razvijenim zemljama i zemljama u razvoju. Poimanje bolesnikove sigurnosti podrazumijeva nastojanja i aktivnosti koje se poduzimaju kako bi svi postupci i okruženje u pružanju zdravstvene skrbi osigurali željeni ishod bolesnikova liječenja [2]. Sigurnost bolesnika važno je javnozdravstveno pitanje i najpouzdaniji indikator kvalitete zdravstvenog sustava. S povijesne strane, sigurnost bolesnika spominje se već u 4. stoljeću prije Krista gdje grčki liječnik Hipokrat s Kosa spominje frazu „Primum non nocere" što u prijevodu znači 'najprije ne naškoditi'. Tijekom godina, brojne teoretičarke zdravstvene njege poput Florence Nightingale, Nancy Rooper i Virginie Henderson osvrću se na pitanje važnosti sigurnosti bolesnika i kvalitete zdravstvene njege. Abraham Maslow, američki psiholog i tvorac humanističke i kasnije transpersonalne psihologije, dijeli ljudske potrebe u 6 kategorija među kojima se nalazi i potreba za sigurnosti. Tehnološkim i znanstvenim napretkom medicine dolazi do aktivnijeg praćenja sigurnosti bolesnika. Prvi ozbiljniji pristup ovoj tematici započinje 1990. godine nakon izvještaja iz nekoliko zemalja koje su ukazivale na veliki porast komplikacija liječenja, kao i smrtnih ishoda zbog direktnih posljedica pogrešaka u liječenju [3]. Svjetski dan sigurnosti pacijenata proglašen je 17. rujna, a sigurnost pacijenta prepoznaje se ne samo kao zajednička dimenzija kvalitete skrbi već i kao važan čimbenik organizacijske učinkovitosti, dok nedovoljna sigurnost pacijenata predstavlja ozbiljan javnozdravstveni problem i visok trošak za ionako ograničena sredstva za zdravstvo. Prema literaturnim podacima prosječno 15 % bolničkog troška izravno je rezultat neželjenih događaja, što najčešće uključuje venski trombolitički incident, dekubitus i bolničke infekcije [4]. Napredak tehnologije u medicini, porast suvremenih dijagnostičkih postupaka, složenost operativnih zahvata, primjena brojnih lijekova i porast intervencija koje se provode kod bolesnika dovode do povećanja mogućnosti pojave neželjenih učinaka. Isto tako, sama organizacija zdravstvene njege, prekovremeni rad i preopterećenost medicinskih sestara / tehničara, njihov nedovoljan broj, nedostatak opreme i neadekvatna oprema zdravstvenih ustanova također mogu znatno utjecati na sigurnost bolesnika [5]. Svjetska zdravstvena organizacija (SZO) 11. ožujka 2020. godine novu bolest koronavirusa, COVID-19, proglasila je pandemijom. Pandemija je vrlo brzo napredovala stvarajući pritisak zdravstvenim djelatnicima i cijelom sustavu, a u Republici Hrvatskoj počela je krajem veljače 2020. godine. Novi koronavirus koji je otkriven u Kini krajem 2019. godine nazvan je SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus-2). Radi se o novom soju koronavirusa koji prije nije bio otkriven kod ljudi. COVID-19 naziv je bolesti uzrokovane virusom SARS-CoV-2 [6].

Iako je potekao od životinja, širi se vrlo lako od čovjeka do čovjeka kapljičnim putem pri kihanju, kašljanju, šmrcanju, kao i indirektno putem neopranih i kontaminiranih ruku izlučevinama oboljele osobe. Pandemija koronavirusa ši-

tion against adverse events during the health care process" [1]. In recent years, an increasing focus has been placed on the issue of patient safety and is set as a priority and duty of health professionals and institutions in which they work. Patient safety and patient focus are imperatives for quality health care and an area of priority interest in all developed and developing countries. Understanding patient safety implies efforts and activities undertaken to ensure that all procedures and the environment in the provision of health care ensure the desired outcome of the patient's treatment [2]. Patient safety is an important public health issue and the most reliable indicator of the health system's quality. Historically, patient safety has been mentioned since the 4th century BC, when the most famous Greek physician, Hippocrates of Kos, mentioned the phrase "Primum non nocere", which means „first do no harm". Over the years, many healthcare theorists such as Florence Nightingale, Nancy Rooper, and Virginia Henderson have addressed the importance of patient safety and health care quality. Abraham Maslow, the American psychologist, and creator of humanistic and later transpersonal psychology, divides human needs into six categories, including the need for safety. Technological and scientific advances in medicine are leading to more active monitoring of patient safety. The first serious approach to this topic began in 1990 after reports from several countries indicated a large increase in treatment complications as well as deaths due to the direct consequences of treatment errors [3]. World Patient Safety Day was declared on September 17, and patient safety is recognized not only as a common dimension of care quality but also as an important factor in organizational efficiency, while insufficient patient safety is a serious public health problem and poses high costs for already limited health care resources. According to the literature, an average of 15% of hospital costs are directly the result of adverse events, most commonly including venous thrombolytic incidents, pressure sores, and nosocomial infections [4]. Advances in technology in medicine, the increase in modern diagnostic procedures, the complexity of surgical procedures, the use of numerous drugs, and the increase in interventions performed on patients lead to an increase in the possibility of side effects. In the same way, the organization of health care itself, overtime and overburdening of nurses/technicians, their insufficient number, lack and inadequate equipment of health care institutions can also significantly affect patient safety [5]. On March 11, 2020, the World Health Organization (WHO) declared a new coronavirus disease, COVID-19, a pandemic. The pandemic progressed very quickly, putting pressure on health workers and the entire system. In the Republic of Croatia, the pandemic began at the end of February 2020. The new coronavirus, which was discovered in China in late 2019, is called SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus-2). It is a new strain of coronavirus that has not been previously detected in humans. COVID-19 is the name of a disease caused by the SARS-CoV-2 virus [6].

Although it originated from animals, it spreads very easy from person to person by droplets when sneezing, coughing and indirectly through unwashed and contaminated hands with the secretions of a sick person. The coronavirus pandemic around the world represents an unprecedented clinical, organizational and systemic challenge for health systems

rom svijeta predstavlja neviđeni klinički, organizacijski i sistemski izazov za zdravstvene sustave i djelatnike, a poseban izazov predstavljala je potreba za novim smjernicama upravljanja i varijacija u praksi. Brojne su bolnice promijenile strukturu odjela te povećale kapacitete kako bi uspješno mogle zbrinjavati pacijente oboljele od koronavirusa. Povećan kapacitet pacijenata iziskivao je preraspodjelu osoblja koje je bilo nužno educirati za rad u takvim uvjetima. Ove okolnosti pandemije pojačale su fizičku iscrpljenost i emocionalno izgaranje zdravstvenih djelatnika. Pritom je ključno održavanje adekvatne radne snage u zdravstvu, kako količinski (odgovarajući broj djelatnika), tako i kvalitetom. Svaki od gore navedenih nedostataka može se negativno odraziti na sigurnost pacijenta, kao i zadržavanje djelatnika. Općeprihvaćena je strategija pokušati ne dozvoliti širenje zaraze unutar zdravstvene ustanove te osigurati dovoljne kapacitete za zbrinjavanje pacijenata [7]. Pandemijom je istaknuto u kojoj je mjeri zaštita zdravstvenih djelatnika ključna za osiguranje funkcioniranja zdravstvenog sustava i funkcioniranje društva.

Hipoteza i ciljevi

Hipoteza: U vrijeme COVID-19 pandemije kultura bolesnikove sigurnosti u Klinici za infektivne bolesti „Dr. Fran Mihaljević" visoke je razine.

Opći cilj: Istražiti i usporediti razine kulture bolesnikove sigurnosti u Klinici za infektivne bolesti „Dr. Fran Mihaljević".

Specifični ciljevi:

1. istražiti i usporediti razine kulture bolesnikove sigurnosti na odjelima Klinike za infektivne bolesti „Dr. Fran Mihaljević";
2. ispitati koliko je izvještaja o neželjenim događajima ispunjeno i poslano u posljednjih 12 mjeseci;
3. ispitati razinu bolesnikove sigurnosti.

Ispitanici i metode

Tijekom ožujka i travnja 2021. godine provedeno je presječno istraživanje u Klinici za infektivne bolesti „Dr. Fran Mihaljević" na temu *Kultura sigurnosti bolesnika u vrijeme COVID-19 pandemije u Klinici za infektivne bolesti „Dr. Fran Mihaljević"*. Upitnik korišten u ovom radu jest Upitnik o kulturi bolesnikove sigurnosti u bolnici (Hospital Survey on Patient Safety Culture – HSOPSC) razvijen u okviru Agencije za istraživanje i kvalitetu zdravstvene skrbi. Ovo istraživanje dobilo je dopuštenje Etičkog povjerenstva Klinike za infektivne bolesti „Dr. Fran Mihaljević" i Etičkog povjerenstva Medicinskog fakulteta Sveučilišta u Zagrebu.

Ispitanici su odrasle osobe, doktori medicine i medicinske sestre / medicinski tehničari svih stručnih razina, a sudjelovanje u anketi bilo je anonimno i dobrovoljno. Upitnik je riješilo 228 ispitanika – stopa odgovora iznosi 61,13 %. Na početku istraživanja, doktori medicine i medicinske sestre / medicinski tehničari bili su usmeno informirani o istraživanju i pozvani na anonimno ispunjavanje upitnika. Rješavanje upitnika bilo je moguće *online*. Sudionici su pristupili obrascu za suglasnost i upitniku upisujući poveznicu na

and staff. Furthermore, particular challenge was the need for new management guidelines and variations in practice. Numerous hospitals have changed the structure of departments and increased their capacity to successfully care for coronavirus patients. The increased capacity of patients required a reassignment of staff that needed to be trained to work in such conditions. These unprecedented circumstances of the pandemic intensified the sources of physical exhaustion and emotional burnout of health workers. In this scenario, it is crucial to maintain an adequate workforce in the health care system, both in terms of quantity (appropriate number of employees) and quality. Each of the above deficiencies can have a negative impact on patient safety as well as employee retention. The generally accepted strategy is to try to prevent the spread of the infection within the health institution and to provide sufficient capacity to care for patients [7]. The pandemic emphasized the extent to which the protection of health professionals is key to ensuring the functioning of the health system and society.

Hypothesis and objectives

Hypothesis: At the time of the COVID-19 pandemic, the patient safety culture at the University Hospital for Infectious Diseases „Dr. Fran Mihaljević" is at a high level.

General objective: Investigate and compare the levels of patient safety culture in the University Hospital for Infectious Diseases „Dr. Fran Mihaljević".

Specific objectives:

1. to investigate and compare the levels of patient safety culture in the departments of the University Hospital for Infectious Diseases „Dr. Fran Mihaljević";
2. examine how the number of reports adverse events filed and reported in the last 12 months;
3. examine the level of patient safety.

Respondents and methods

In March and April 2021, a cross-sectional study was conducted at the University Hospital for Infectious Diseases „Dr. Fran Mihaljević" on the topic of *Patient safety culture during the COVID-19 pandemic at the University Hospital for Infectious Diseases „Dr. Fran Mihaljević"*. The questionnaire used in this paper is the Croatian version of Hospital Survey on Patient Safety Culture (HSOPSC) developed by the Agency for Healthcare Research and Quality. The Croatian version is validated and has been used in previous research. This research was approved by the Ethics Committee of the University Hospital for Infectious Diseases „Dr. Fran Mihaljević" and the Ethics Committee of the Faculty of Medicine, University of Zagreb.

Respondents were adults, medical doctors, and nurses/technicians of all professional levels, and participation in the survey was anonymous and voluntary. The questionnaire was completed by 228 respondents, and the response rate is 61.13%. At the beginning of the research, doctors and nurses/technicians were orally informed about the research and invited to fill in the questionnaire anonymously. Questionnaires could also be completed online. Respondents accessed

upitnik u internetski preglednik pametnog telefona / računala. Odabirom DA na kraju ispunjavanja upitnika ispitanici su iskazali suglasnost za upotrebu prikupljenih podataka u istraživačke svrhe. Pisani upitnici za one koji nisu mogli ili nisu bili voljni rješavati upitnik *online* bili su podijeljeni po odjelima Klinike u neoznačenim kuvertama. Informirani pristanci također su prikupljeni u posebnoj neoznačenoj kuverti odvojeno od upitnika kako bi se sačuvala anonimnost ispitanika. Svaki je ispitanik potpisao informirani pristanak čiju je kopiju dobio tijekom idućih dana.

Upitnik se sastoji od 42 pitanja dizajnirana tako da mjere 12 dimenzija kulture bolesnikove sigurnosti [8]. Upitnik je razvila *Agency for Healthcare Research and Quality* u Sjedinjenim Američkim Državama. Preveden je, validiran i standardiziran za hrvatski jezik [9]. Distribucije kvantitativnih podataka analizirane na normalnost Smirnov-Kolmogorovljevim testom pokazale su da distribucija nije normalna, stoga su u analizi korišteni neparametrijski analitički postupci. Distribucije su opisane konvencionalnim mjerama deskriptivne statistike (medijan, minimalna i maksimalna vrijednost te interkvartilni raspon), a analizirane su Kruskal-Wallisovim testom. Distribucije kvalitativnih podataka analizirane su Fisherovim egzaktnim testom. Rezultati su interpretirani na 5 %-tnoj razini značajnosti.

Rezultati

U istraživanju je sudjelovalo ukupno 228 ispitanika, od toga 185 (81,1 %) medicinskih sestara / tehničara i 43 doktora medicine (18,9 %). Većina doktora medicine odgovorila je da radi 1 – 5 godina u ovoj Klinici (22/43; 51,2 %), dok je najveći broj medicinskih sestara / tehničara odgovorio da radi u ovoj bolnici 21 godinu i više (75/185; 40,5 %). Najveći broj doktora medicine radi na trenutnom odjelu 1 – 5 godina (25/43; 58,1 %), kao i medicinskih sestara / tehničara (59/185; 31,9 %). Većina ispitanika u neposrednom je kontaktu s pacijentima (221/228; 96,9 %), odnosno 7 medicinskih sestara / tehničara nije. Većinom medicinske sestre i doktori medicine rade 40 – 59 sati tjedno (192/228; 84,2 %).

Opći cilj: Istražiti razine kulture bolesnikove sigurnosti u klinici za infektivne bolesti „Dr. Fran Mihaljević".

Na razini Klinike većina dimenzija pokazala je snagu, odnosno vrijednosti iznad 3. (Tablica 1.). Najviše su izmjerene vrijednosti u dimenzijama *Timski rad unutar odjela* (M = 4; 3,5 – 4,5), *Očekivanja rukovoditelja i aktivnosti koje promiču bolesnikovu sigurnost* (M = 4; 3,2 – 4,5) i *Primopredaja službe i premještaji bolesnika unutar* bolnice (M = 4; 3,5 – 4,5). Najniža vrijednost, ujedno i slabost, nađena je za dimenziju *Popunjenost osobljem* (M = 2,8; 2,2 – 3).

Specifični ciljevi: 1. Istražiti i usporediti razine kulture bolesnikove sigurnosti na odjelima Klinike za infektivne bolesti „Dr. Fran Mihaljević"

Razina kulture sigurnosti izmjerena je na 11 odjela u 11 dimenzija: Više različitih odjela / ni jedan posebno, Zavod za akutne respiratorne infekcije, Zavod za urogenitalne infekcije, Zavod za infekcije probavnog sustava, Odjel za infekci-

the consent form and the questionnaire by typing a link to the questionnaire in the internet browser of the smartphone/computer. By selecting YES at the end of completing the questionnaire, the respondents agreed to the use of the collected data for research purposes. Written questionnaires, for those who could not or were not willing to complete the questionnaire *online*, were distributed by departments of the Clinic in unmarked envelopes. Informed consents were also collected in a special unmarked envelope separate from the questionnaire to preserve the anonymity of the respondents. Each respondent signed informed consent, a copy of which he received in the following days.

The questionnaire consists of 42 questions designed to measure 12 dimensions of patient safety culture [8]. The questionnaire was developed by the Agency for Healthcare Research and Quality in the United States. It has been translated, validated, and standardized for the Croatian language [9]. Distributions of quantitative data analyzed for normality by the Smirnov-Kolmogorov test showed that the distribution is not normal, therefore, nonparametric analytical procedures were used in the analysis. Distributions were described by conventional measures of descriptive statistics (median, minimum, and maximum value, and interquartile range) and analyzed by the Kruskal-Wallis test. Distributions of qualitative data were analyzed by Fisher's exact test. Results were interpreted at a 5% significance level.

Results

A total of 228 respondents participated in the study, of which 185 (81.1%) were nurses/technicians, and 43 were medical doctors (18.9%). Most medical doctors answered that they have been working in this Clinic for 1-5 years (22/43; 51.2%), while the largest number of nurses/technicians answered that they have been working in this hospital for 21 years and more (75/185; 40, 5%). Most medical doctors work in the current department for 1-5 years (25/43; 58.1%), as well as nurses/technicians (59/185; 31.9%). The majority of respondents are in direct contact with patients (221/228; 96.9%), i. e. 7 nurses/technicians are not. Most nurses and doctors work 40-59 hours per week (192/228; 84.2%).

General objective: Investigate patient safety culture levels at the University Hospital for Infectious Diseases „Dr. Fran Mihaljević"

At the level of the University Hospital, most of the dimensions showed strength, i. e. values above 3. (Table 1.) The most measured values are in the dimensions of *Teamwork within the department* (M = 4; 3,5-4,5). *Expectations of managers and activities that promote patient safety (M = 4; 3.2-4.5) and Shift handover and relocation of patients within the hospital (M = 4; 3.5-4.5*). The lowest value, as well as weakness, was found for the *Staffing* dimension (M = 2,8; 2,2-3).

Specific objectives: 1. Investigate and compare the levels of patient safety culture in the departments of the University Hospital for Infectious Diseases „Dr. Fran Mihaljević"

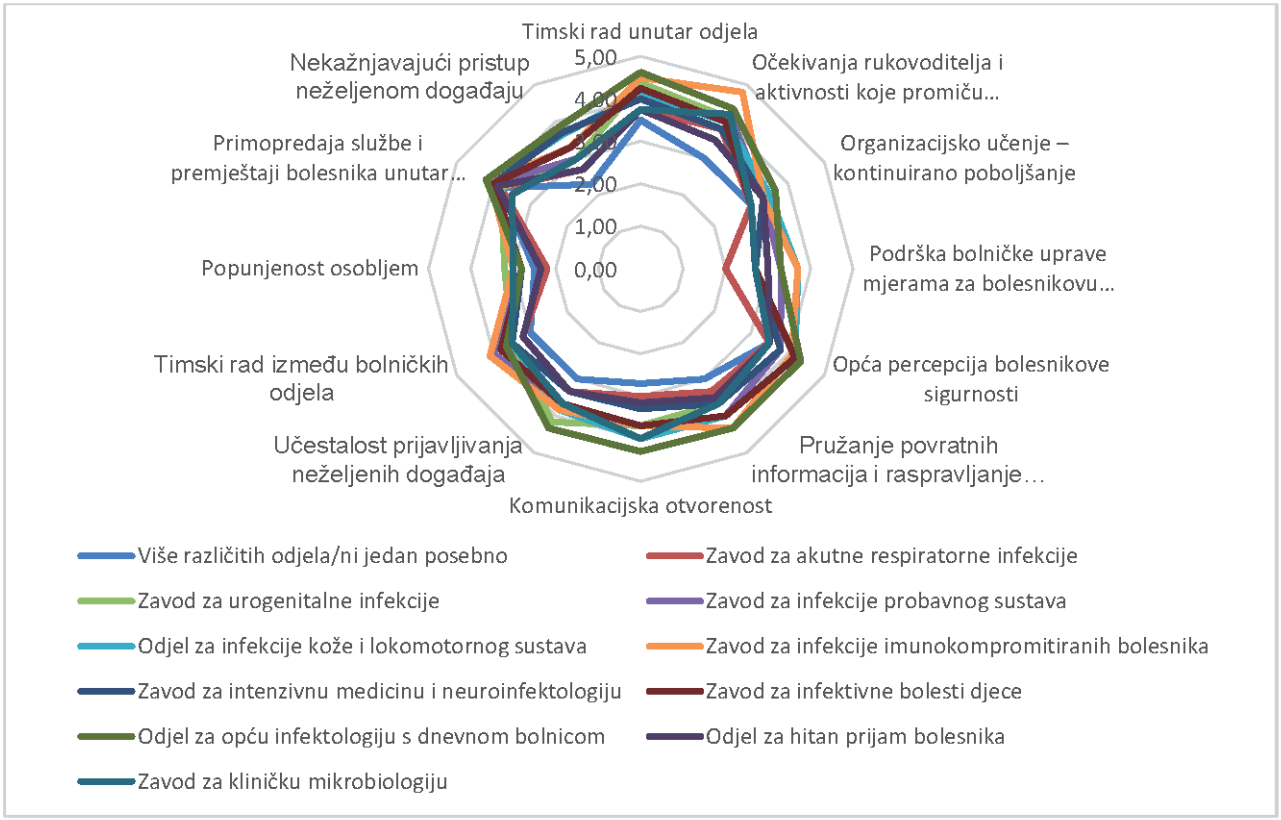
The level of safety culture was measured in 11 departments and in 11 dimensions: Several different departments/none

Tablica/ Table 1. Prikaz dimenzija kulture bolesnikove sigurnosti s izračunatim minimumom, 25. percentilom, medijanom, 75. percentilom i maksimumom / Overview of patient safety culture dimensions with the calculated minimum, 25th percentile, median, 75th percentile, and maximum.

Dimenzija	Minimum	25. percentil	Medijan	75. percentil	Maksimum
1. Primopredaja službe i premještaji bolesnika unutar bolnice	2	3,5	4	4,5	5
2. Popunjenost osobljem	1	2,2	2,8	3	4
3. Podrška bolničke uprave mjerama za bolesnikovu sigurnost	1	2,3	3	3,7	5
4. Nekažnjavajući pristup neželjenom događaju	1	2,7	3	3,7	5
5. Učestalost prijavljivanja neželjenih događaja	1	3	3,67	4,33	5
6. Pružanje povratnih informacija i raspravljanje o neželjenom događaju	1	3	3,67	4,33	5
7. Komunikacijska otvorenost	1	3	3,3	4	5
8. Timski rad unutar bolničkih odjela	2	3,5	4	4,5	5
9. Organizacijsko učenje – kontinuirano poboljšanje	1	2,75	3,33	3,67	5
10. Očekivanja rukovoditelja i aktivnosti koje promiču bolesnikovu sigurnost	1	3,2	4	4,5	5
11. Opća percepcija bolesnikove sigurnosti	1	3,5	3,8	4,43	5
12. Timski rad između bolničkih odjela	1	3	3,5	4	5

je kože i lokomotornog sustava, Zavod za infekcije imunokompromitiranih bolesnika, Zavod za intenzivnu medicinu i neuroinfektologiju, Zavod za infektivne bolesti djece, Odjel za opću infektologiju s dnevnom bolnicom, Odjel za hitan prijam bolesnika i Zavod za kliničku mikrobiologiju. Razine dviju dimenzija kulture bolesnikove sigurnosti, *Organizacijsko učenje – kontinuirano poboljšanje* i *Primopredaja službe i premještaji bolesnika unutar bolnice*, nisu se razlikovale između pojedinih odjela. Za preostalih devet dimenzija kulture bolesnikove sigurnosti nađene su statistički značajne razlike. Vrijednosti dobivenih dimenzija izražene medijanom interpretirane su na način da 3 < slabost, 3 = neutralno, > 3 snaga. Najviše su izmjerene vrijednosti u dimenzijama *Timski rad unutar odjela* (M = 4, 3,5 – 4,5), *Očekivanja rukovoditelja i aktivnosti koje promiču bolesnikovu sigurnost* (M = 4; 3,2 – 4,5) i *Primopredaja službe i premještaji bolesnika unutar bolnice* (M = 4; 3,5 – 4,5). Najniža vrijednost, ujedno i slabost, nađena je za dimenziju *Popunjenost osobljem* (M = 2,8; 2,2 – 3). Najviše vrijednosti dimenzije *Popunjenost osobljem* zabilježene su na Zavodu za akutne respiratorne infekcije (M = 2,2), *Odjelu za hitan prijam bolesnika* (M = 2,3), *Zavodu za infekcije probavnog sustava* (M = 2,8), *Zavodu za intenzivnu medicinu i neuroinfektologiju* (M = 2,8*), Zavodu za infektivne bolesti djece* (M = 2,8) i *Odjelu za opću infektologiju s dnevnom bolnicom* (M = 2,8). Na ovim odjelima popunjenost osobljem slabost je tih odjela. Zbog specifičnosti rada, dobivene vrijednosti razlikuju se od odjela do odjela.

in particular, Department of Acute Respiratory Infections, Department of Urogenital Infections, Department of Digestive System Infections, Department of Skin and Locomotor Infections, Department of Immunocompromised Patients, Department of Intensive Care Medicine and Neuroinfectology, Department of Infectious Diseases of Children, Department of General Infectious Diseases with Day Hospital, Department of Emergency Admission and Department of Clinical Microbiology. The levels of the two dimensions of patient safety culture, *Organizational Learning - Continuous Improvement* and Shift *handover and Relocation of Patients within the Hospital*, did not differ between departments. Statistically significant differences were found for the remaining nine dimensions of patient safety culture. The values of the obtained dimensions, expressed as the median, were interpreted as 3 < weakness, 3 = neutral, > 3 strength. The highest measured values are in the dimensions of *Teamwork within the department* (M = 4, 3.5-4.5), *Expectations of managers and activities that promote patient safety* (M = 4; 3.2-4.5), and *Shift handover of services and relocation of patients within the hospital* (M = 4; 3.5-4.5). The lowest value, as well as weakness, was found for the dimension *Staffing* (M = 2.8; 2.2-3). The highest values of the *Staffing* dimension were recorded at the *Department of Acute Respiratory Infections* (M = 2.2), the *Department of Emergency Admission* (M = 2.3), the *Department of Gastrointestinal Infections* (M = 2.8), the *Department of Intensive Care medicine and neuroinfectology* (M = 2.8), the *Department of Infectious Diseases of Children* (M = 2.8) and the *Department of General Infectious Diseases with Day hospital* (M = 2.8). In these departments, staffing presents a weakness. Due to the specifics of the work, the values obtained vary from department to department.



Slika/Figure 1. Dimenzije kulture bolesnikove sigurnosti po odjelima / Dimensions of patient safety culture by departments

Rasprava

U Klinici za infektivne bolesti „Dr. Fran Mihaljević", bez obzira na neviđene okolnosti COVID-19 pandemije, većina ispitanika razinu bolesnikove sigurnosti ocjenjuje jako dobro (vrlo dobro i odlično). Najveću snagu pokazale su dimenzije *Timski rad unutar odjela*, *Očekivanja rukovoditelja i aktivnosti koje promiču bolesnikovu sigurnost* i *Primopredaja službe i premještaji bolesnika unutar bolnice* što je i više nego značajno za Kliniku. Za vrijeme COVID-19 pandemije zdravstveni djelatnici izloženi su fizičkoj iscrpljenosti i velikom emocionalnom stresu, a podrška kolega i razumijevanje rukovoditelja bitan su faktor za suzbijanje profesionalnog sindroma izgaranja. Također, ne smije se isključiti da u doba novonastale situacije postoji puno prostora za pogreške. Pravilna komunikacija unutar odjela i među odjelima, konkretna predaja službe i razmjena podataka temelj su za očuvanje dobre i sigurne zdravstvene njege.

Specifični cilj: 2. Ispitati koliko je izvještaja o neželjenim događajima ispunjeno i poslano u posljednjih 12 mjeseci

Najveći broj doktora medicine nije ispunio i poslao ni jedan izvještaj o neželjenim događajima u posljednjih 12 mjeseci (24/43; 55,8 %), kao i najveći broj medicinskih sestara / tehničara (119/185; 64,3 %). Međutim, 16 doktora medicine poslalo je 1 – 2 izvještaja, 2 doktora medicine poslala su 3 – 5 izvještaja i jedan 5 – 10 izvještaja. Ukupno 42 medicinske sestre poslale su 1 – 2 izvještaja, 17 medicinskih sestara 3 –

Discussion

In the University Hospital for Infectious Diseases „Dr. Fran Mihaljević", regardless of the unprecedented circumstances of the COVID-19 pandemic, the level of patient safety was rated very good by most respondents (very good and excellent). The greatest strength was shown by the dimensions of *Teamwork within the department*, *Expectations of managers, and activities that promote patient safety* and *Shift handover and relocation of patients within the hospital*, which is very important for the University Hospital. During the COVID-19 pandemic, health professionals are exposed to physical exhaustion and great emotional stress, and the support of colleagues and the understanding of managers are important factors in combating occupational burnout syndrome. Also, it should not be ruled out that, nowadays, there is a lot of room for error. Proper communication within and between departments, concrete shift handovers, and data exchange are the basis for maintaining good and safe health care.

Specific objective: 2. Examine how many reports of adverse events have been filled and submitted in the last 12 months

The majority of medical doctors did not fill in and send any reports of adverse events in the last 12 months (24/43; 55.8%), as well as the largest number of nurses/technicians (119/185; 64.3%). However, 16 medical doctors sent 1-2 reports, 2 medical doctors sent 3-5 reports, and one sent 5-10

5 izvještaja, 5 sestara 6 – 10 izvještaja te dvije sestre 11 – 20 izvještaja. Nije nađena statistički značajna razlika.

Specifični cilj: 3. Ispitati razinu bolesnikove sigurnosti

Ukupno 64 ispitanika ocijenilo je razinu bolesnikove sigurnosti kao odličnu (28,1 %), 94 ispitanika ocijenilo ju je vrlo dobrom (41,2 %), 43 prihvatljivom (18,9 %) te 27 ispitanika smatra ju lošom (11,8 %). Nije nađena statistički značajna razlika.

Zaključak

Najveću slabost pokazala je dimenzija *Popunjenost osobljem*. Poznat je podatak da sve više medicinskih sestara odlazi u mirovinu, a procjenjuje se da će do 2030. godine u mirovinu otići između pet i sedam tisuća medicinskih sestara [10]. Također, sve je veći trend zapošljavanja mladih medicinskih sestara / tehničara u drugim financijski atraktivnijim državama. Dobar kadar osoblja nužan je za rasterećivanje obujma posla zdravstvenih djelatnika, smanjenje rizika od pogrešaka i neželjenih događaja te veće zadovoljstvo naših bolesnika.

Najveći broj doktora medicine i medicinskih sestara / tehničara nije ispunio i poslao ni jedan izvještaj o neželjenim događajima u posljednjih 12 mjeseci. Prijava pogrešaka bitan je faktor za analizu situacije, razumijevanje uzroka i učinkovito rješavanje problema. Neotkrivene greške mogu uzrokovati neželjeni događaj i dugoročno ugroziti sigurnost bolesnika. Pozitivan trend prijave neželjenih događaja bitno je zadržati.

Bez obzira na zahtjevna vremena nove COVID-19 pandemije, većina ispitanika razinu bolesnikove sigurnosti u Klinici za infektivne bolesti „Dr. Fran Mihaljević" ocjenjuje jako dobro. Zdravstveni, kao i nezdravstveni djelatnici Klinike, svakodnevno prelaze svoje granice i ulažu maksimalan napor kako bi se što više posvetili svojim pacijentima. Unatoč velikim organizacijskim promjenama, fizičkoj iscrpljenosti i emocionalnom izgaranju djelatnika, nije se dozvolilo da razina brige o bolesniku padne. Iako se kao Klinika za infektivne bolesti pronašla na prvoj liniji obrane od novog koronavirusa, zajedno sa svojim djelatnicima pokazala je svoju izvrsnost u novonastaloj situaciji borbe s novom bolesti.

Zahvala

Svim kolegama Klinike za infektivne bolesti „Dr. Fran Mihaljević" velika hvala zbog odaziva i sudjelovanja u istraživanju.

Nema sukoba interesa

reports. A total of 42 nurses sent 1-2 reports, 17 nurses sent 3-5 reports, 5 nurses sent 6-10 reports, and 2 nurses sent 11-20 reports. No statistically significant difference was found.

Specific objective: 3. Examine the patient's level of safety

A total of 64 respondents rated the level of patient safety as excellent (28.1%), 94 respondents rated it as very good (41.2%), 43 respondents stated that it was acceptable (18.9%), and 27 respondents stated that it was poor (11.8%). No statistically significant difference was found.

Conclusion

The greatest weakness was shown by the Staffing dimension. It is a well-known fact that more and more nurses are retiring, and it is estimated that between 20,000 and 7,000 nurses will retire by 2030 [10]. Also, there is a growing trend of hiring young nurses/technicians in other more financially attractive countries. Competent staff, i. e., healthcare workers, are necessary to relieve the workload of fellow health professionals, reduce the risk of errors and adverse events and increase the satisfaction of our patients.

Most doctors and nurses/technicians did not fill in and send any reports of adverse events in the last 12 months. Reporting errors is an essential factor for analyzing the situation, understanding the causes, and effectively resolving the problem. Undiscovered errors can cause an adverse event and endanger patient safety in the long run. It is important to maintain the positive trend of reporting adverse events.

Regardless of the demanding times of the new COVID-19 pandemic, the level of patient safety at the University Hospital for Infectious Diseases „Dr. Fran Mihaljević" was rated very good by most respondents. The health as well as non-health employees of the Hospital exceed their boundaries every day and make every effort to dedicate as much as possible to their patients. Despite major organizational changes, physical exhaustion, and emotional burnout of employees, the level of patient care was not allowed to drop. Although the University Hospital for Infectious Diseases has found itself on the front line of defense against the new coronavirus, together with its staff it has shown its excellence in the emerging situation of fighting the new disease.

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Authors declare no conflict of interest

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