

SAĞLIK ÇALIŞANLARINDA KESİCİ-DELİCİ ALET YARALANMALARI VE KAN-VÜCUT SIVILARIYLA TEMASTAKİ 4 YILLIK DENEYİM - PANDEMİNİN ETKİLERİ

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ÖZET

Anahtar Kelimeler

- Kan ve Vücut Sıvılarıyla Temas,
- Kesici Yaralanma
- Pandemi.

Makale Hakkında

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Amaç: Çalışmanın amacı sağlık çalışanlarında kesici delici alet yaralanmalarının nedenlerini ve oranlarını belirlemek, çalışanların kesici delici alet yaralanmalarına yönelik tutumlarını değerlendirmek ve pandemi sürecinin kesici delici alet yaralanmaları üzerindeki etkisine bakmaktır.

Gereç ve Yöntemler: Verilerin toplanmasında, demografik verileri ve yaralanmaya maruz kalma nedenlerini değerlendirmek için 11 soruluk bir anket ve 20 soruluk Kesici Delici Araç Yaralanmalarının Güvenli Kullanımına Yönelik Tutum Ölçeği kullanıldı. Araştırmada elde edilen verilerin değerlendirilmesinde, sayı, yüzdelik dağılım, ortalamalar, Mann-Whitney U, Kruskal-Wallis testi, Spearman korelasyon analizi, grup karşılaştırmalarında ise Ki-kare testi kullanıldı.

Bulgular: Çalışmaya 320 kişi katılmış olup, 53 (29,3%) kişinin 2022 yılında daha fazla yaralandığı tespit edildi. Yaralananlardan %62,0' sinin enjektör iğnesinden, %23,8' ünün ise Hazne ucunu kapağına takmaya çalışırken yaralanmaya maruz kaldığı bulundu. Yaralanmalarla demografik veriler karşılaştırıldığında öğrenci hemşirelerin anlamlı düzeyde daha fazla yaralandığı, Ameliyathane-Doğumhane de çalışanların ve 6-10 arası çalışanların daha az yaralandığı ortaya çıktı ($p < 0,005$). Katılımcıların ölçekten aldıkları puan ortalaması $87,9 \pm 6,3$ (75-130) olarak bulundu.

Sonuç: Yaralanmaların daha fazla görüldüğü grup olan öğrenci hemşire grubunda staja başlamadan önce simülasyon laboratuvarı kurularak öğrencilerin klinik yeterlilikleri artırılmalıdır. Ayrıca hastanelerde kesici-delici alet yaralanması ile ilgili eğitimlerin birim bazlı şekilde kök-neden analizi ile yapılmalıdır.

CUTTING-SHARP INSTRUMENT INJURIES IN HEALTHCARE WORKERS AND 4-YEAR EXPERIENCE IN CONTACT WITH BLOOD-BODY FLUIDS - THE PANDEMIC'S IMPLICATIONS

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ABSTRACT

Objective: The aim of study was to determine the causes and rates of sharp injuries in hospital staff, to evaluate the attitudes of workers towards sharps injuries, and to look at the effect of the pandemic process on sharps injuries.

Materials and Methods: In data collection, an 11-question survey and a 20-question Attitude Scale towards the Safe Use of Sharps Injuries were used to evaluate demographic data and reasons for exposure to injury. In evaluating the data obtained in the study, numbers, percentage distribution, averages, Mann-Whitney U, Kruskal-Wallis test, Spearman correlation analysis were used, and Chi-square test was used for group comparisons.

Results: 320 people participated in the study, and 53 (29.3%) people were found to be injured more in 2022. It was found that 62.0% of those injured were injured by the syringe needle, and 23.8% were injured while trying to attach the chamber tip to the cap. When the injuries and demographic data were compared, it was revealed that student nurses were injured significantly more, while those working in the Operating Room-Delivery Room and those working between 6 and 10 were injured less ($p<0.005$). The average score of the participants from the scale was found to be 87.9 ± 6.3 (75-130).

Conclusion: In the student nurse group, which is the group where injuries are more common, the clinical competencies of the students should be increased by establishing a simulation laboratory before starting their internship. In addition, training on sharps injuries in hospitals should be carried out on a unit basis with root-cause analysis.

INTRODUCTION

Healthcare personnel face many risks that threaten their health in the working environment and despite protective measures, infections caused by occupational contact can be observed. The most important of these is the risk of infection caused by sharps injuries and skin-mucous membrane contact (1,2). Hepatitis B (HBV), hepatitis C (HCV) and human immunodeficiency virus (HIV) are the most commonly transmitted viruses (3). Sharps that can cause penetrating injury to the skin when handled include syringe needles, intravenous access materials, lancets, scalpels and broken glass ampoules. Mucosal transmission may occur as a result of blood splashes on the mucous membranes of the eyes, mouth or nose (4). It is thought that each year in healthcare workers worldwide, sharps injuries cause approximately 66.000 HBV, 16.000 HCV and 200-5000 HIV infections (5). In our country, 12,000 nurses have contracted infectious diseases such as HIV, HCV and HBV as a result of diseases acquired due to injuries caused by sharp and piercing instruments (6).

Centers for Disease Control and Prevention (CDC) has published a guideline on what to do to protect all healthcare workers from exposure to infected blood and body fluids to prevent HIV transmission. According to this guideline, body fluids of all individuals served are considered infected and precautions must be taken before procedures. In addition to using gloves, aprons, masks and goggles should be used to prevent contamination of the skin and mucous membranes (7).

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COVID-19, which started in Wuhan, China in 2019 and affected more than 200 countries, was declared a pandemic in January 2020. Although the use of PPE protects healthcare personnel against COVID-19, it has also caused some injury risks since it causes problems such as limited movement, narrowing of the field of vision, and communication problems (8). Another study reported a decrease in the number of needlestick and sharps injuries among healthcare workers during the COVID-19 pandemic (9). In this context, this study aimed to evaluate the causes and injury rates of sharps injuries in healthcare workers, their attitudes towards sharps injuries, and to look at the effect of the pandemic process on sharps injuries.

METHOD

The study is a descriptive, cross-sectional prospective survey study conducted between 2019-2022 with 320 healthcare professionals working at İnegöl State Hospital who volunteered to participate in the study.

Universe sample

The study included 1002 hospital personnel working at XXX between 2019-2022; Physician, Nurse, Midwife, Cleaning staff, Student, Clinical support (nurse assistant) and other professional groups (Driver, Technician, Security) and constituted the universe of the study. The universe of the study was determined as a minimum of 278 people with the Raosoft Sample Size Calculation program using the unknown sample size formula ($\alpha=0.05$, $1-\beta=0.95$). The sample consisted of 320 people who participated in the survey.

A survey was applied to 181 hospital employees exposed to sharp-piercing injuries and contact with blood-body fluids and 139 hospital employees who were not exposed to injuries between

the specified years (over a 4-year period). In addition, injury data of 181 individuals were obtained from the hospital's employee health unit and evaluated.

Inclusion criteria for the study

Individuals who were employees of İnegöl State Hospital during the specified years, accepted to participate in the study voluntarily, had access to the internet, and answered the survey form and scale completely were included in the study.

Data collection tools

A 7-question survey (gender, age, marital status, education level, profession, unit of employment, total length of service in the profession) was used to assess the demographic data of healthcare professionals, a 4-question survey (year of injury, type of injury, object of injury, procedure of injury) was used to question the causes of injury of those injured, and the 20-question Attitude Scale towards the Safe Use of Sharp Medical Instruments was used to measure attitudes towards sharp instruments. In the study, data were collected electronically via an e-survey created over the internet and Google Form between 01.05.2023 and 01.07.2023. The Google Form included an information page explaining the study, assuring that the participants were volunteers, and included the study permission document and a link directing the person to the online survey. Reminder messages were sent from social media accounts during the data collection process. The application period for the survey, consisting of a total of 31 questions, took an average of 15 minutes, and a two-month period was determined to collect the sample.

Healthcare Workers' Attitude Scale Towards the Safe Use of Sharp Medical Instruments:

It is a 5-point Likert (1=I completely disagree - 5=I completely agree) scale, the validity and reliability of which was made by Nilüfer Uzunbayır (2009). There are 20 items in total and the scale is one-dimensional. The minimum score that can be obtained from the scale is 20, while the maximum score is 100. A low score from the scale indicates that the healthcare worker does not use sharp medical instruments safely, while a high score from the scale indicates that the healthcare worker uses sharp medical instruments safely.

The first half of this scale applied to healthcare workers has a Cronbach's alpha value of 0.72 and the second half has a Cronbach's alpha value of 0.66, providing internal consistency reliability. The Spearman - Brown Prophecy" value (internal consistency coefficient) calculated for the internal consistency reliability of this applied scale was 0.74 (10). (Cronbach's alpha = 0.80). In this study, the total scale Cronbach's alpha value was found to be 0.81.

Data Analysis

The data obtained with the Google Forms survey method was taken from the Excel program and the licensed SPSS IBM 20.0 (SPSS Inc, Chicago, IL) program was used for statistical processing. Number, percentage, mean and standard deviation were used as descriptive statistical methods. The Kolmogrow-Smirnov test was used to evaluate the conformity of the data to normal distribution and since the Sig. value was 0.000, it was determined that the data were not normally distributed. In the evaluation, the non-parametric tests Mann-Whitney U test, Kruskal-Wallis test and the Bonferroni test from the post-hoc test statistics were used to

determine the source of the significant difference between the groups as a result of the analysis and the continuous Spearman correlation analysis was used to examine the relationship between variables, and Chi-square test was used for group comparisons. A $p<0.05$ level was considered statistically significant.

Data collection

Informed consent was obtained from the participants and approval from the ethics committee for this study. The study was conducted in accordance with the principles of the 2008 Helsinki Declaration. This study was approved by the Bursa Yüksek İhtisas Education and Research Hospital Ethics Committee with the protocol number (2011-KAEK-25 2023/03-03) (Date: 22.03.2023). In addition, permission for the use of the scale was obtained via e-mail from Assoc. Prof. Nilüfer UZUNBAYIR.

RESULTS

For the study, a survey was sent to 750 hospital staff who were actively working in the hospital. 332 of them agreed to participate in the study and filled out the survey, but 12 participants were excluded from the study because they answered the survey incorrectly.

Table 1 shows the demographic data of the hospital staff participating in the study and the comparison of these data with the injury exposure status. The mean age of the participants was determined as 33.3 ± 8.8 (17-55). It was found that 62.2% of the participants were female, 55.6% were married, and 63.8% had a bachelor's degree. 169 (53.6%) of the workers were nurses-health officers, which was the occupational group most exposed to injuries ($n=97$). It was determined that 28.8% of the workers were in the internal medicine branch and 48.1% had worked in the profession for 0-5 years. 79.1% of the participants said, 'I do not squeeze the injured area, I wash it with soap and water and go to a healthcare institution'.

A significant difference was found in terms of female gender, intern students and postgraduate graduates being more exposed to injury. In addition, a significant difference was found in terms of less exposure to injury in those who worked in the operating room- delivery room and those who worked between 6-10 years ($p<0.05$). No significant difference was observed in terms of marital status, age factor and exposure to injury ($p>0.05$)

Table 2 shows the data of the people included in the study and exposed to injury. It was determined that 169 (93.4%) of 181 hospital staff were exposed to sharp-piercing instrument injuries, 112 (62.0%) were exposed to injury from the syringe needle, and 43 (23.8%) were exposed to injury due to the process of trying to attach the reservoir tip to the cap. It was also found that 53 (29.3%) people were injured in 2022.

Table 1. Comparison of demographic data of the study participants and their exposure to injury.

Demographic data	Exposed n:181 (56.6%)	Not exposed n:139 (43.4%)	Totally n:320 (100%)	p
Gender				
Female	129 (64.8%)	70 (35.2%)	199 (62.2%)	0.000
Male	52 (43.0%)	69 (57.0%)	121 (37.8%)	Z:-3.82
**Age	30.0 (17-55)	34.0 (18-51)	30.0 (17-55)	0.807
Median (min-mak)				
Marital status				
Married	101 (56.7%)	77 (43.3%)	178 (55.6%)	0.942
Single	80 (56.3%)	62 (43.7%)	142 (44.4%)	Z:-0.72
Education				
Secondary school	17 (54.8%)	14(45.2%)	31 (9.7%)	0.003
High school	32 (55.2%)	26 (44.8%)	58 (18.1%)	Z:-0.38
Associate degree	12 (92.3%)	1 (7.7%)	13 (4.1%)	
Licence	107 (52.5%)	97 (47.5%)	204 (63.8%)	
Graduate	13 (92.9%)	1 (7.1%)	14 (4.4%)	
Occupation				
Physician	12 (6.6%)	10 (7.2%)	22 (6.6%)	0.000
Nurse	97 (53.6%)	72 (51.8%)	169 (53.6%)	Z:-1.19
Midwifery	8 (4.4%)	14 (10.1%)	22 (4.4%)	
Cleaning staff	36 (19.9%)	25 (18.0%)	61 (19.9%)	
Student nurse	20 (11.1%)	6 (4.3%)	26 (11.1%)	
Clinical support (nurse assistant)	2 (1.1%)	2 (1.4%)	4 (1.1%)	
*Others	6 (3.3%)	10 (7.2%)	16 (3.3%)	
Department				
Internal medicine	46 (50.0%)	46 (50.0%)	92 (28.8%)	0.000
Surgery	19 (79.2%)	5 (20.8%)	24 (7.5%)	Z:-1.29
Emergency room	39 (72.2%)	15 (27.8%)	54 (16.9%)	
Operating room-Delivery room	13 (21.7%)	47 (78.3%)	60 (18.8%)	
Blood collection department-laboratory	10 (90.9%)	1 (9.1%)	11 (3.4%)	
Intensive care unit	37 (62.7%)	22 (37.3%)	59 (18.4%)	
Dialysis	5 (71.4%)	2 (28.6%)	7 (2.2%)	
Polyclinic	12 (92.3%)	1 (7.7%)	13 (4.0%)	
Total working time in the profession				
0-5 year	88 (57.1%)	66 (42.9%)	154 (48.1%)	0.000
6-10 year	33 (37.5%)	55 (62.5%)	88 (27.5%)	Z:-1.84
11-15 year	31 (67.4%)	15 (32.6%)	46 (14.4%)	
16-20 year	12 (80.0%)	3 (20.0%)	15 (4.7%)	
Over than 20 year	17 (100.0%)	0 (0.0%)	17 (5.3%)	

*Other: Driver, Technician, Security p: Ki-kare testi Z: Man Whitney U

Table 2. Injury data of those who sustained injuries.

Data of injury	n:181 (100%)
Year of injury	
2019 (Before the pandemic period))	43 (23.7%)
2020 (Pandemic Period)	36 (19.9%)
2021 (Pandemic Period)	49 (27.1%)
2022 (Post-pandemic period)	53 (29.3%)
Type of injury	
Sharp injury	169 (93,4%)
Blood and fluid sample	12 (6,6%)
*Object subjected to injury	
Syringe needle	112 (62.0%)
Needle of the serum set	12 (6.6%)
Anjiyoket- branule	25 (13.8%)
Suture needle	14 (7.7%)
Lanset	18 (9.9%)
*Created process	
Separating the reservoir tip from the syringe	20 (11.0%)
Trying to attach the hopper tip to the lid	43 (23.8%)
Taking a blood sample	7 (4.0%)
Draining blood from syringe into tube	20 (11.0%)
Vascular access	7 (4.0%)
Pharmaceutical applications	12 (6.6%)
Suturing	20 (11.0%)
Contact with someone carrying a cutting tool	10 (5.5%)
Throwing it in the waste bin	8 (4.4%)
While collecting garbage	14 (7.7%)
While cleaning up	20 (11.0%)

The average score of the participants on the attitude scale towards the safe use of cutting-piercing medical tools was 87.9±6.3 (75-130). Comparison of the participants' scale scores and individual characteristics is given in Table 3. According to this; It was determined that males, high school graduates, those who were injured by sharp objects, those who were injured by the serum set needle, and those who tried to cover the tip of the chamber with its lid, received the highest score from the attitude scale towards the safe use of sharp medical instruments.

A significant difference was detected between the scale scores and the gender variable in favor of men. A statistically significant difference was found between the scale score and educational status, unit of employment, exposure to injury, injured object and procedure. The significance determined as a result of the Bonferroni test is due to secondary education and high school ($\chi^2 = 16.75$, $p = 0.002$), in the unit variable they work in, it originates from those working in operating rooms, delivery rooms and internal units ($\chi^2 = 15.59$, $p = 0.049$), and in the injured object variable, the significance is due to exposure to serum set needle. It was determined that it was caused by residue ($\chi^2=26.339$, $p=0.000$) and while trying to attach the chamber tip to the lid ($\chi^2=30.626$, $p=0.049$). When the relationship between the scale scores and marital status, length of employment in the profession, and the application to be made when exposed to sharp object injury was examined, no statistically significant difference was detected ($p>0.05$) (Table 3).

Table 3. The relationship between the participants' individual characteristics and the Attitudes Towards Safe Use of Sharps Scale score.

	Scale Score Ortanca (min-max)	p
Gender		
Female	87.5 (75.00-109.00)	Z=-2.189
Male	88.7 (77.00-130.00)	p=0.029
Marital Status		
Marriage	87.5 (75.00-105.00)	Z=-0.074
Single	88.7 (77.00-130.00)	p=0.941
Education		
Secondary school	85.5 (77.00-100.00)	$\chi^2 = 16.75$ p=0.002
High school	90.5 (76.00-130.00)	
Associate degree	85.3 (79.00-92.00)	
Licence	87.9 (75.00-109.00)	
Graduate	86.4 (75.00-94.00)	
Department		
Internal medicine	88.5 (77.00-101.00)	$\chi^2 = 15.59$ p=0.049
Surgery	89.3 (75.00-130.00)	
Emergency room	87.8 (78.00-105.00)	
Operating room-Delivery room	86.0 (75.00-93.00)	
Blood collection department-laboratory	86.5 (78.00-93.00)	
Intensive care unit	88.3 (76.00-109.00)	
Dialysis	87.3 (84.00-95.00)	
Polyclinic	89.0 (82.00-100.00)	
*Other	95.5 (82.00-104.00)	
Total working time in the profession		
0-5 year	88.7 (78.00-130.00)	$\chi^2 = 2.571$ p=0.632
6-10 year	87.7 (77.00-104.00)	
11-15 year	87.0 (75.00-105.00)	
16-20 year	87.4 (79.00-100.00)	
Over than 20 year	85.6 (75.00-98.00)	
Exposure to injury		
Sharp injury	87.5 (77.00-130.00)	$\chi^2 = 23.456$ p=0.000
Blood and body fluids	83.8 (79.00-94.00)	
Both of them	86.5 (75.00-100.00)	
Object subjected injury		
Syringe needle	86.6 (75.00-109.00)	$\chi^2 = 26.339$ p=0.000
Needle of the serum set	95.5 (85.00-130.00)	
Anjiyoket- branule	87.1 (80.00-105.00)	
Suture needle	86.7 (79.00-91.00)	
Lanset	85.5 (75.00-97.00)	
Created process		
Separating the reservoir tip from the syringe	87.8 (75.00-109.00)	$\chi^2 = 30.626$ p=0.002
Trying to attach the hopper tip to the lid	89.3 (79.00-130.00)	
Taking a blood sample	85.3 (78.00-92.00)	
Draining blood from syringe into tube	85.4 (79.00-95.00)	
Vascular access	89.0 (80.00-105.00)	
Pharmaceutical applications	89.0 (80.00-105.00)	
Suturing	87.2 (83.00-100.00)	
Contact with someone carrying a cutting tool	85.0 (81.00-90.00)	
Throwing it in the waste bin	87.4 (78.00-100.00)	
While collecting garbage	84.7 (77.00-98.00)	
While cleaning up	88.3 (83.00-97.00)	

Z: Mann-Whitney U; χ^2 : Kruskal Wallis *Other: Driver, Technician, Security

DISCUSSION

Healthcare workers are faced with important risks due to the working environment. One of these risks and the most frequently observed one is sharps injuries and contact with blood and body fluids. Each year, approximately 385.000 needlestick and other sharps-related injuries occur in hospitalized healthcare workers (11). Looking at the studies on sharps injuries in healthcare workers, it was found that injuries were more common in the female gender. (13, 14, 15). Kurt et al. (2015) found that 50.7% of the participants were female and the mean age was 34.7 ± 6.6 years (16). Yelgin et al. (2018) found that the age of those exposed to injury was <30 years (12). In our study, 64.8% of the participants who were exposed to injury were women and the mean age was found to be 30.0 ± 9.0 . It is thought that the uneasiness due to inexperience, especially in the younger age group, may increase the exposure to injury.

In previous studies on sharps injuries, it was found that those with more years of employment were more exposed to injury (4, 15, 17). This study was in accordance with the literature and it was found that injuries increased with increasing years of employment and significantly less injuries were observed in those working between 6-10 years. In addition, Cui et al. found a significantly higher incidence of sharps injuries (35.3%) in health care workers with associate degree (18). In our study, in the same direction, it was also found that those with associate's and postgraduate degrees were exposed to significantly more injuries ($p < 0.05$). The reason for this may be the increase in carelessness due to self-confidence as the level of education and years of employment increase.

Many studies have found that nurses are more exposed to sharp object injuries than other occupational groups (2, 17, 18, 19). In our study, although there were more injuries in nurses with 53.6% and in cleaning personnel with 19.9%, it was observed that nursing students constituted the most significant ($p < 0.05$). More injuries may be observed in nurses due to reasons such as increased invasive procedures, workload, lack of attention and lack of compliance with standard protective safety measures. Xu et al. found that 35% of nursing students were exposed to sharp object injuries worldwide (20). This is thought to be due to nursing students being more vulnerable than health professionals due to insufficient knowledge and experience.

Sun et al. (2021) in general wards and operating rooms, Ceylan and Çelik (2022) in emergency departments (21.2%) and blood collection units (17.5%), Huank et al. (2017) in general wards, Yoshikawa et al. (2017) in general wards, Yoshikawa et al. in patient rooms (clinics) and operating rooms, Satılmış and Şahin (2019) found that injuries were more common in operating rooms (37.5%), wards and outpatient clinics (19.5%) and that they were injured while trying to close the cap of the used needle (14, 19, 21, 22). The results of our study were consistent with the literature and it was found that the cause of injury was during 'trying to attach the reservoir tip to the lid' (23.8%) and more injuries were seen in clinics and outpatient clinics. However, unlike other studies, it was found that the significance was due to the fact that those working in the operating room- delivery room units were less exposed to injury. It can be thought that injuries may be less due to more attention to the use of PPE in the operating room-natal unit. The fact that the object causing injury was an injector needle in 62% of the cases and the high rate of injuries due to trying to attach the tip of the container to the cap suggests a lack of knowledge about the use of the sharps bucket.

When looking at the KDAY data during the COVID-19 pandemic, Çalikoğlu et al. (2019) reported this rate as 21.6% in his study (23), while Dağcı and Sayın, who examined KDAY in operating room nurses, reported the injury rate as 68.9% (24). Although coronavirus is a factor that increases the risk of KDAY, which can be transmitted through blood and body fluids, the increase in injury rates during and after the pandemic seems to threaten the health of healthcare personnel (23). As a result of our study, it was determined that KDAY was the least common period in 2020, which was the most intense period of the pandemic, with a rate of 19.9%, and it was determined that injuries decreased as the pandemic decreased.

When comparing the data with the Attitude Scale towards the Safe Use of Sharp Medical Instruments, when the literature is examined; Soylu et al. (2021) found that the mean behavioral subscale scores of women were higher than men in their study on student nurses (25). In their study, Özberk and Kutlu (2021) found that the scale score was significantly higher in people with a working period of <5 years and in nurses-health officers (4). In the study of Bozdemir and Bahar (2023), it was observed that the attitude levels of sharp instruments were higher in people aged 35-39 and in men (6). In his study, Yıldızlı (2020) found that the scale scores of nurses aged 20-29 were higher than those aged over 40 and those with a postgraduate degree were higher than those with an associate degree, that those aged 20-29 used sharp medical instruments more safely in terms of cognition than those aged over 40, and that women used sharp medical instruments more safely in terms of behavior than men (26). As a result of the study by Akça and Aydın (2016), they found that the total score average of the “Attitude Scale of Healthcare Workers Towards the Safe Use of Sharp Medical Instruments” of people with a bachelor's degree was higher than those with a master's degree and associate degree (27). Our study shows results compatible with the literature; it was found that there were fewer injuries in males, injuries decreased with increasing educational status, and the scale score of those exposed to sharps injuries decreased.

Limitations of the Study

In our study, it is important to compare and evaluate the attitude scale of healthcare workers towards the safe use of sharp medical instruments with KDAY for healthcare workers working in hospitals, but multi-center studies are needed. In addition, injury notification rates consist of only those who apply. The possibility of under-reporting should be taken into account, in line with the literature.

CONCLUSION

Injuries were highest in 2022 and lowest in 2020, the most active period of the pandemic. It was determined that sharps injuries were more common than exposure to body fluids and hospital staff were most commonly injured while trying to close the cap of the syringe needle. In the study, the low number of injuries and high scale scores in those working in the operating room-natal room, the high number of injuries in nurses-health officers, but the significance in the number of injuries of intern students was the striking point of the study. The number of injuries was higher in units with a high number of patients (clinics, emergency).

Recommendations

Frequent training of healthcare workers on the use of PPE during the peak of the pandemic, increased accessibility of PPE, and more careful use by healthcare personnel have shown that it is important to prevent sharp-edge injuries. In order to protect intern students from sharp-edge injuries; a simulation laboratory should be established before starting the internship and the clinical competence of the students should be increased. In addition, training on sharp-edge injuries in hospitals should be provided according to the results of root-cause analysis on a unit and occupation basis.

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