...::KENT AKADEMİSİ | URBAN ACADEMY

Volume: 16 Issue: 3 - 2023 | Cilt: 16 Sayı 3 - 2023

ARTICLE INFO | MAKALE KÜNYESİ
Research Article | Araştırma Makalesi
Submission Date | Gönderilme Tarihi: 05.01.2023
Admission Date | Kabul Tarihi: 13.06.2023

CITATION INFO | ATIF KÜNYESİ
Karadağ, T. (2023). Determining the Level of Knowledge of First Aid Among Construction Sector Employees in Turkey, *Kent Akademisi*, *16*(3):2015-2027.
https://doi.org/10.35674/kent.1229888

Determining the Level of Knowledge of First Aid Among Construction Sector Employees in Turkey

Türkiye İnşaat Sektörü Çalışanlarının İlk Yardım Hakkında Bilgi Düzeylerinin Belirlenmesi

Turabi Karadağ[1]

Öz

İş kazaları ve yaralanmalar, inşaat sektöründe oldukça yaygın bir sorundur ve bu nedenle çalışanların ilk yardım konusundaki bilgi düzeyleri büyük bir öneme sahiptir. Bu çalışma, inşaat sektöründeki çalışanların ilk yardım konusundaki bilgi düzeylerini belirlemek amacıyla kesitsel bir araştırma olarak planlanmıştır. Araştırma, Türkiye'nin İstanbul şehrindeki bir şantiyede çalışan 145 katılımcı üzerinde gerçekleştirilmiştir. Veriler, ilk yardım konusundaki bilgi düzeylerini değerlendiren ve sosyodemografik özellikleri içeren 38 sorudan oluşan bir anket aracılığıyla toplanmıştır. İstatistiksel analizlerde yüzde, frekans, ortalama, standart sapma, Kruskal-Wallis testi ve Mann-Whitney U testi kullanılmıştır. Araştırma sonuçları, daha önce bir ilk yardım durumuna müdahalede bulunan bireylerin, dokuz saatten daha uzun süreli ilk yardım eğitimi alanların ve ilk yardım sertifikasına sahip olan bireylerin daha yüksek bir bilgi düzeyine sahip olduklarını göstermiştir ($p < 0.05$). Araştırma, inşaat sektöründeki çalışanların ilk yardım konusundaki bilgi düzeyinin genel olarak iyi olduğunu ortaya koymuştur.

Anahtar Kelimeler: İlk Yardım, Bilgi Seviyesi, İnşaat, İşçi, Mesleki Kazalar

ABSTRACT

Occupational accidents and injuries are a widespread issue in the construction sector, highlighting the crucial importance of employees' knowledge level regarding first aid. This study was designed as a cross-sectional research to determine the level of first aid knowledge among workers in the construction industry. The study was conducted with 145 participants working at a construction site in Istanbul, Turkey. Data was collected through a questionnaire consisting of 38 questions, which assessed the participants' knowledge level of first aid and included socio-demographic characteristics. Percentages, frequencies, means, standard deviations, Kruskal-Wallis test, and Mann-Whitney U test were employed for statistical analysis. The study findings indicated that individuals who had previously intervened in a first aid situation, those who received first aid training for a duration of nine hours or more, and individuals possessing a first aid certification exhibited higher levels of knowledge ($p < 0.05$). The study revealed that workers in the construction sector generally possessed a good level of first aid knowledge. This can be attributed to their frequent exposure to first aid-requiring situations within the construction environment.

Keywords: First Aid, Knowledge Level, Construction, Worker, Occupational Accidents

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INTRODUCTION:

The construction industry is known for its high prevalence of occupational accidents, injuries, and fatalities, making it a significant concern within the realm of occupational health and safety. In Turkey, occupational accidents and illnesses consistently remain at the forefront of the working life agenda, posing substantial challenges. Each year, numerous construction workers tragically lose their lives or sustain life-altering disabilities as a result of work accidents, leading to profound social, economic, and personal consequences. In fact, the construction sector has been identified as one of the sectors with the highest number of occupational accidents and fatalities, with construction-related incidents topping the list (Çavuş, 2015).

Examining the statistics further, it has been established that the mortality rate resulting from work accidents in the Turkish construction industry stands at 12.0 per 1000 individuals, with the Kocaali district reporting a rate of 6.4 per 1000 (Colak, Etiler, and Bicer, 2004). These figures reflect the severity of the situation, warranting urgent attention and action. Additionally, other countries have also grappled with alarming rates of construction accidents. For instance, Malaysia has experienced a staggering 231.9% increase in fatal accidents at construction sites over the past five years (Hamid et al., 2019). Meanwhile, in China, construction accidents and the associated fatalities were deemed excessively high according to data from 2004, but subsequent safety policies have resulted in a decline in such incidents (Zhang, Zhang, Xu, and Chen, 2019). A study conducted in Nigeria revealed a significant prevalence of accidents, particularly falls from heights, within construction sites (Ngwu, Alabere, and Douglas, 2019). The United States recorded a fatal accident rate of 11.4 per 100,000 individuals during construction activities in 2003, whereas Spain reported a rate of 20.1 per 100,000 individuals in the same year (López, Ritzel, Fontaneda, and Alcantara, 2008).

1.1. Aim and Importance of Research

In light of these distressing statistics, it becomes evident that knowledge and preparedness in the realm of first aid can make a life-or-death difference. First aid is a critical and potentially life-saving intervention in cases of injuries or unforeseen illnesses, and it is essential for individuals of all ages to possess a basic understanding of first aid principles. Startlingly, research indicates that 75% of deaths resulting from heart attacks and critical accidents, as well as 90% of complications and disabilities arising from these incidents, can be attributed to a lack of knowledge and skills in first aid (Celik, 2012). It is essential, therefore, to prioritize first aid training and ensure its regular renewal, as the information taught tends to fade over time. A study investigating this phenomenon found that individuals whose training certificates were periodically renewed demonstrated superior skills and knowledge compared to those who obtained a single first aid certificate (Anderson, Gaetz, and Masse, 2011). Furthermore, the provision of effective first aid requires individuals to undergo professional training, enabling them to respond appropriately in emergency situations (Rotich and Elliott, 2019).

Studies conducted between the 1970s and 1980s have shed light on the importance of first-aid training in preventing work-related injuries. These studies have revealed a correlation between a lower incidence of workplace injuries and the implementation of traditional first-aid practices. Furthermore, workers who have undergone first aid training exhibit a greater willingness to embrace safe behaviors and take personal responsibility for maintaining a safe working environment. As a result, it has been suggested that first aid training should be integrated into traditional occupational health and safety programs to enhance worker motivation and foster a positive safety culture (Lingard, 2017). Similar findings have been observed in studies conducted in Australia, specifically focusing on construction workers. These studies have consistently shown that first-aid training has a positive impact on the occupational health and safety of construction workers. Moreover, first aid training has been found to

increase workers' motivation to actively avoid work accidents and occupational diseases (Lingard, 2001, 2002a, 2002b; Lingard and Yesilyurt, 2003).

Given the high prevalence of work accidents and injuries in the construction industry, the level of knowledge regarding first aid among construction workers assumes paramount importance. However, to date, there has been a notable dearth of research evaluating the first aid knowledge levels specifically among workers in the construction sector. Consequently, there is a crucial need for comprehensive studies in this area to identify potential gaps in knowledge, assess the effectiveness of existing training programs, and implement targeted interventions to improve first-aid preparedness among construction workers. By enhancing their knowledge and skills in first aid, construction workers can contribute to creating safer work environments, reducing the incidence of accidents, and minimizing the devastating consequences associated with occupational injuries and fatalities.

2. Methodology

2.1. Research Model

This cross-sectional study aimed to assess the knowledge level of construction workers regarding first aid. The research population consisted of employees from eight construction sites selected through a randomized number table among 15 high-level residential construction sites in Istanbul, Turkey, between January 1, 2020, and March 30, 2020. The sample size was determined using a specific sample formula. The research population was estimated to be 490 individuals, with a minimum required sample size of 80 people. Inclusion criteria included individuals aged 18 and above, literate, without communication problems, and willing to voluntarily participate in the study. Those who voluntarily wished to withdraw from the study were excluded. The study was completed with a sample size of 145 individuals.

Data were collected using a demographic questionnaire comprising 20 questions related to age, education, years of employment, occupation, living arrangements, smoking/alcohol usage, first aid training, and a 38-item first aid knowledge level questionnaire developed by the authors.

2.2. Data Analysis

The first aid knowledge level questionnaire covered topics such as burns, drowning, fractures, trauma, syncope, bleeding, poisoning, basic first aid, and resuscitation. Participants were required to indicate whether each question was true or false. Knowledge level was categorized as poor if ≤50% of the answers were correct, moderate if 50-69% were correct, and good if ≥70% were correct. Data collection took place during the employees' break times. Descriptive statistics including percentages, frequencies, means, and standard deviations were used for data analysis. The Shapiro-Wilk test was employed to assess the normal distribution of variables. The Kruskal-Wallis test and Mann-Whitney U test were used to compare means between groups. The significance level was set at $p<0.05$ for all tests.

Hypotheses:

H0: The knowledge level of construction workers regarding first aid is not good.

H1: The knowledge level of construction workers regarding first aid is good.

Variables:

Dependent variable: Knowledge level about first aid.

Independent variable: Socio-demographic characteristics.

Sample calculation was conducted using the following formulas and abbreviations (Sümbüloğlu and Sümbüloğlu, 2000):

$n=Nt^2\sigma 2 / d^2(N-1) + t^2\sigma 2$

490 x 1.962 x 52 / 12(490-1) + 1.962 x 52 = 80

N: The number of individuals in the research population.

n: Number of individuals to be sampled.

σ: Population standard deviation. As it is mostly unknown, the standard deviation of the sample is used.

t: Theoretical value found in the t-table at a certain degree of freedom and desired error level.

d: Desired ± deviation from the mean.

3. Results

Table 1 presents the sociodemographic characteristics of the construction workers participating in the study (n=145). The table provides information on various factors such as age, education level, years of employment, occupation, living arrangements, and smoking/alcohol usage. These characteristics provide a snapshot of the diverse composition of the sample, allowing for a comprehensive understanding of the participants' backgrounds within the construction sector.

Table 1. Sociodemographic Characteristics of Construction Workers (n:145)

Characteristics		**n**	**%**
Gender	Female	14	9,7
	Male	131	90,3
Marital Status	Married	90	62,1
	Single	55	37,9
Age (Mean age: 35,903±11.375 Min-max:18-62)	18-27 years	46	31,7
	28-37	40	27,6
	38-47	31	21,4
	48 and above	28	19,3
Educational status	Literate	14	9,7
	primary school-secondary school	49	33,8
	High school	48	33,1
	University	34	23,4
Economic situation	Income and expense in balance	73	50,3
	Income more than expenses	9	6,2
	Income less than expenses	63	43,4
with whom she/he lives	Alone	7	4,8
	With family (spouse or child)	103	71,0
	With a friend or relative	16	11,0
	Construction site	19	13,1

Smoking	Never smoked	44	30,3
	Stopped smoking	22	15,2
	Active smoker	79	54,5
Alcohol	Never drank	76	52,4
	Stopped drinking	36	24,8
	Active drinker	33	22,8
Chronic Illnesses	Yes	15	10,3
	No	130	89,7
Total		145	100

Table 1. presents the sociodemographic characteristics of the employees in the study (n=145). It was found that 90.3% of the employees were male, and 62.1% were married. The mean age of the participants was 35.903±11.375, with 31.7% of them falling within the age range of 18-27. In terms of educational attainment, 33.8% of the employees were primary and secondary school graduates, 33.1% were high school graduates, and 23.4% were university graduates. Around 50.3% of the employees reported having a balanced income and expenses. The majority of the participants, 71%, lived with their families. Additionally, 54.5% of the employees were smokers, and 22.8% reported alcohol usage. Furthermore, 10.3% of the workers had at least one chronic disease.

Table 2. provides an overview of the professional and first aid characteristics of the employees in the study (n=145).

Table 2. Professional and First Aid Characteristics Of Employees (n:145)

Characteristics		**n**	**%**
Position in your job	Worker	66	45,5
	Technician	5	3,4
	Expert	6	4,1
	Engineer	12	8,3
	Executive	7	4,8
	Master	35	24,1
	Apprentice	3	2,1
	journeyman	11	7,6
Working time in the profession Mean: 11,055±9,906 Min-max:1-45 years	10 years and below	98	67,6
	11-20years	26	17,9
	21-30 years	12	8,3
	31 years and above	9	6,2
Employment status	Full-time	128	88,3
	Part Time	14	9,7
	Part Time	3	2,1
Respond to first aid situation	Yes	32	22,1
	No	113	77,9
Previous first aid training	Yes	88	60,7
	No	57	39,3
Have you experienced any occupational accident	Yes	42	29,0
	No	103	71,0
How many times have you received first aid training	1-3 times	73	83,0
	4-6 times	10	11,4
	7 and above	5	5,7
When did you last receive first aid training	5 years ago	67	76,1
	6-10 years ago	12	13,6

	11 years and above	9	10,2
How many hours of training was the last first aid you received	8 hours and below	67	76,1
	9 hours and above	21	23,9
Do you have a first aid certificate	Yes	24	27,3
	No	64	72,7

Table 2 presents the professional and first aid characteristics of the employees (n=145) at the construction site. It was observed that 45.5% of the workers were regular employees, 24.1% were skilled workers, and 8.3% were engineers. Furthermore, 67.6% of the employees had less than 10 years of experience in their current job, and the majority, 88.3%, worked full-time. Additionally, it was determined that 22.1% of the employees had previously intervened in situations requiring first aid. Furthermore, 60.7% of the employees had received previous first aid training, and 29% had experienced a previous work accident. Among those who received first aid training, 83% had undergone training 1-3 times, and 76.1% had received their last training session five years ago. It was found that 76.1% of employees who received first aid training had completed a training program of 8 hours or less. Moreover, 27.3% of the employees possessed a first- aid certificate.

Table 3 displays the scores representing the employees' first aid knowledge level (n=145).

Table 3. First aid knowledge level scores of employees (n:145)

	Correct	**Wrong**	
Average	26,986±3,584	11,013±3,584	
Percentage Average	71,016±9,432	28,9837±9,432	
Min-Max	15-34	4-23	
		n	%
First Aid Knowledge Level	≤%50-Bad	8	5,5
	%51-69-Moderate	39	26,9
	≥%70-Good	98	67,6
	Total	145	100,0

The average number of correct answers in the first aid knowledge level among the employees was 26,986 ± 3,584, with a mean correct percentage of 71,016 ± 9,432. Analysis revealed that 5.5% of the employees exhibited a poor first-aid knowledge level, while 26.9% had a moderate level, and the majority, 67.6%, demonstrated a good level of knowledge (Table 3). These findings suggest that overall, the employees had a satisfactory level of first aid knowledge.

Table 4 provides a comparison between the sociodemographic characteristics of the employees and their average first-aid knowledge level (n=145).

Table 4. Comparison of the Sociodemographic Characteristics of the Employees and the Average of First Aid Knowledge Level (n:145)

General Characteristics		Correct	Wrong	Test value	p
Educational status	Literate	24,714±3,989	13,285±3,989	5,569[1]	.062
	primary school-secondary school	25,979±4,460	12,020±4,460		
	High school	27,562±2,525	10,437±2,525		
	University	28,558±2,245	9,441±2,245		
Economic situation	Income and expense in balance	27,753±3,103	10,246±3,103	7,798[1]	**.020**
	Income more than expenses	28,222±3,993	9,777±3,993		
	Income less than expenses	25,920±3,811	12,079±3,811		
Smoking	Never smoked	27,795±2,416	10,204±2,416	8,341[1]	**.015**
	Stopped smoking	28,409±4,124	9,590±4,124		
	Active smoker	26,139±3,774	11,860±3,774		
Alcohol	Never drank	27,434±2,782	10,565±2,782	5,798[1]	0.055
	Stopped drinking	27,361±3,877	10,638±3,877		
	Active drinker	25,545±4,521	12,454±4,521		
Respond to first aid situation	Yes	28,062±4,165	9,937±4,165	-2,086[2]	**0,037**
	No	26,681±3,360	11,318±3,360		
Previous first aid training	Yes	27,340±3,685	10,659±3,685	-1,722[2]	.085
	No	26,438±3,380	11,561±3,380		
Have you experienced any occupational accident	Yes	26,000±4,137	12,000±4,137	-2,343[2]	**,019**
	No	27,388±3,269	10,611±3,269		
When did you last receive first aid training	5 years ago	27,850±3,381	10,149±3,381	5,869[1]	.053
	6-10 years ago	26,666±2,640	11,333±2,640		
	11 years and above	24,444±5,614	13,555±5,614		
How many hours of training was the last first aid you received	8 hours and below	26,820±3,596	11,179±3,596	-2,080[2]	**,038**
	9 hours and above	29,000±3,549	9,000±3,549		
Do you have a first-aid certificate?	Yes	28,750±3,233	9,250±3,233	-2,019[2]	**0,044**
	No	26,812±3,728	11,187±3,728		

[1] Kruskal Wallis Test

[2] Mann-Whitney U Test

In our investigation, we discovered that employees who had previously intervened in a first aid situation, those who had received their last first aid training session for nine hours or more, and those possessing a first aid certificate demonstrated higher levels of first aid knowledge (Qing et al., 2020). Moreover, childminders with undergraduate education exhibited significantly higher knowledge of first aid for minor burns in children as compared to childminders with other educational backgrounds (Qing et al., 2020). A cross-sectional study in the United Arab Emirates identified that factors such as age, higher education, and participation in first-aid courses significantly enhanced the population's first-aid knowledge levels (Midani et al., 2019). The study by Amro and Qtait noted that female teachers had superior first-aid knowledge, with no discernible differences based on marital status, age, or education level (Amro and Qtait, 2017). In concordance, another study on teachers identified no significant correlation between first-aid knowledge levels and demographic factors, apart from teachers who had received first-aid training within the last year displaying superior knowledge (Joseph et al., 2015). In a study involving university students in Jordan et al. (2015), the statistical comparison of factors such as the employees' education level, their alcohol consumption, their history of first aid training, the timing of their most recent first aid training, and their first aid proficiency did not yield any significant differences. Nevertheless, an observation was made that employees who maintained a balanced income-expenditure ratio or those whose income exceeded their expenditures demonstrated a higher accuracy in answering first aid-related questions ($p = .020$). Non-smokers, as well as those who had quit smoking, exhibited a higher average number of correct first-aid responses as compared to active smokers ($p = .015$). Additionally, employees who had prior experience intervening in first aid-requiring situations displayed significantly advanced knowledge of first aid ($p = .037$). Moreover, employees without any history of workplace accidents exhibited higher levels of first-aid knowledge ($p = .019$). A higher average of correct first-aid responses was identified among those who had participated in their most recent first-aid training session for nine hours or more ($p = .038$). Also, employees with a first aid certification demonstrated significantly higher levels of first aid knowledge ($p = .044$) (Table 4).

Our study identified the first aid knowledge of construction workers as satisfactory. A study conducted in Kuwait revealed that despite the public's solid awareness of first aid, the incidence of domestic injuries remained high (Taher et al., 2020). In research conducted in the United Arab Emirates, it was emphasized that over half the population lacked adequate knowledge of basic first aid, with only 33.8% of the population having attended first aid courses (Midani et al., 2019). Another study carried out in Grenada, uncovered that a substantial percentage of individuals held misconceptions about first aid, such as the administration of medication during an epileptic seizure and the erroneous belief that epilepsy as a contagious disease (Cofano et al., 2017). A study concerning primary and secondary school teachers in Poland established that teachers correctly answered an average of 56.19% of first aid questions, with a lower success rate for child resuscitation queries (Bakalarski, 2020). Comparable findings were observed in studies exploring different populations, such as childminders lacking knowledge about first aid for minor burns in children (Qing et al., 2020), university students with inadequate first aid knowledge (Kawale, 2007; Khatatbeh, 2016), and kindergarten teachers with deficient first aid knowledge levels (Lietal.,2012; Sönmez et al., 2014).

In our investigation, we discovered that employees who had previously intervened in a first aid situation, those who had received their last first aid training session for nine hours or more, and those possessing a first aid certificate demonstrated higher levels of first aid knowledge (Qing et al., 2020). Moreover, childminders with undergraduate education exhibited significantly higher knowledge of first aid for minor burns in children as compared to childminders with other educational backgrounds (Qing et al., 2020). A cross-sectional study in the United Arab Emirates identified that factors such as age, higher education, and participation in first-aid courses significantly enhanced the population's

first-aid knowledge levels (Midani et al., 2019). The study by Amro and Qtait noted that female teachers had superior first-aid knowledge, with no discernible differences based on marital status, age, or education level (Amro and Qtait, 2017). In concordance, another study on teachers identified no significant correlation between first-aid knowledge levels and demographic factors, apart from teachers who had received first-aid training within the last year displaying superior knowledge (Joseph et al., 2015). In a study involving university students in Jordan et al. (2015), the statistical comparison of factors such as the employees' education level, their alcohol consumption, their history of first aid training, the timing of their most recent first aid training, and their first aid proficiency did not yield any significant differences (Al-Samir etal., 2019). This supports our findings that those who had received their last first aid training session for nine hours or more and those possessing a first aid certificate demonstrated higher levels of first aid knowledge.

In conclusion, our study revealed that multiple factors contributed to the first aid knowledge level of construction workers. Key factors that resulted in higher first aid knowledge included having a balanced income-expenditure ratio or an income that exceeded expenditures, not being an active smoker, having prior experience in first aid situations, not having a history of workplace accidents, having attended a longer duration of first aid training, and having a first aid certification. This study emphasizes the importance of regular first aid training, particularly with longer sessions and certification, in increasing the first aid knowledge of workers. Such training could potentially reduce the incidence and severity of workplace accidents.

However, the study also highlighted that there were no significant differences in first-aid knowledge based on the education level of the employees, their alcohol consumption, and the timing of their last first-aid training. This finding may suggest that first aid knowledge is not solely determined by the workers' background or lifestyle habits but rather by their exposure to training and practical experiences in dealing with first aid situations.

As this study only focused on construction workers, further research involving workers from different industries may help to identify additional factors affecting first aid knowledge. Moreover, further studies should also explore the most effective methods for first aid training, considering different learning styles and environments, to improve first aid knowledge across all worker categories.

CONCLUSION:

In conclusion, the findings of our study provide important insights into the various factors that influence the level of first aid knowledge among construction workers. The study uncovered that several determinants contribute significantly to an individual's proficiency in first aid. These determinants include maintaining a balanced income or having an income that exceeds expenditures, abstaining from smoking or having quit smoking, possessing prior experience in situations that necessitated the provision of first aid, having no history of workplace accidents, participating in a relatively lengthy last first aid training session of nine hours or more, and having a valid first aid certificate.

The results serve to emphasize the critical role that consistent first aid training plays, particularly training sessions of extended duration and those resulting in certification, in improving workers' first aid knowledge. Enhanced knowledge of first aid can potentially mitigate the incidence and consequences of workplace accidents, thereby promoting a safer work environment.

Interestingly, our study found no significant correlation between first aid knowledge and several factors such as the employee's level of education, their alcohol consumption habits, and the timing of their last first aid training. This suggests that the understanding and application of first aid may not be

exclusively contingent upon an individual's educational background or lifestyle habits, but rather hinges on their exposure to comprehensive training and practical experiences that entail the provision of first aid.

Despite the enlightening results, our study has certain limitations as it primarily focused on construction workers. Future research might benefit from a more diverse sample that includes workers from various industries, to identify a broader range of factors that could impact first aid knowledge. Moreover, further investigations are also recommended to explore the most effective strategies for delivering first aid training, taking into account different learning styles and environments, with the aim of optimizing the acquisition and retention of first aid knowledge across all worker categories. This is crucial in fostering a universally safer and more responsive working environment.

Compliance with Ethical Standard

Ethics Committee Permission: *Ethics committee permission is not required for this study. Written permission was obtained from the authorized persons at the construction sites to carry out the study. Verbal and written consent was obtained from individuals who voluntarily participated in the study. Since individual rights must be protected throughout the research, the Helsinki Declaration of Human Rights was adhered to.*

Financial Support: *No financial support has been received for this study.*

Funding Disclosure: *No financial support was required in this study.*

Acknowledgment: *We would like to express our sincere gratitude to all the participants who dedicated their time and effort to contribute to this study.*

REFERENCES:

Amro, N., and Qtait, M. (2017).General knowledge and attitude of first aid among schoolteacher's in

Palestine. *International Journal of Innovative Research in Medical Science (IJIRMS), 2*(04).

Anderson, G. S., Gaetz, M., and Masse, J. (2011). First aid skill retention of first responders within the workplace. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine, 19*(1), 11. doi:10.1186/1757-7241-19-11

Bakalarski, P. (2020). Assessment of teachers' knowledge about first aid. *Critical Care Innovations, 3*(1), 18-23. doi:10.32114/CCI.2020.3.1.18.23

Bildik, F., Kılıçaslan, İ., Doğru, C., Keleş, A., and Demircan, A. (2011). The need for first aid awareness among candidate teachers. *Turkish Journal of Emergency Medicine, 11*(4), 166-170.

Celik, S. (2012). A media comparison study on first aid instruction. *Health Education Journal, 72*(1), 95-101. doi:10.1177/0017896911430762

Cofano, S. C., Ojukwu, D., Mozumdar, N., Raza, Z., Saigal, S., Musku, S.,Jalonen, T. O. (2017). Assessing knowledge of symptoms and first-aid care of epilepsy in Grenada, West Indies. *Epilepsy and Behavior, 70*, 232-237. doi:https://doi.org/10.1016/j.yebeh.2017.03.003

Colak, B., Etiler, N., and Bicer, U. (2004). Fatal occupational injuries in the construction sector in Kocaeli, Turkey, 1990-2001. *Industrial Health, 42*(4), 424-430.

Çavuş, A. (2015). Türkiye'de inşaat sektöründeki iş kazalarının sınıflandırılarak nedenlerinin incelenmesi. *Akademik Platform Mühendislik ve Fen Bilimleri Dergisi, 4*(2).

Emir, O., and Kuş, G. (2015). A Study into the Level of First Aid of Hotel Employees. *Procedia - Social and Behavioral Sciences, 174*, 1036-1042. doi:https://doi.org/10.1016/j.sbspro.2015.01.791

Hamid, A. R. A., Noor Azmi, M. R. A., Aminudin, E., Jaya, R. P., Zakaria, R., Zawawi, A. M. M., . . . Saar, C. C. (2019). Causes of fatal construction accidents in Malaysia. *IOP Conference Series: Earth and Environmental Science, 220*, 012044. doi:10.1088/1755-1315/220/1/012044

Joseph, N., Narayanan, T., bin Zakaria, S., Nair, A. V., Belayutham, L., Subramanian, A. M., and Gopakumar, K. (2015). Awareness, attitudes and practices of first aid among school teachers in Mangalore, south India. *Journal of primary health care, 7*(4), 274-281.

Karyś, J., Rębak, D., Karyś, T., Kowalczyk-Sroka, B., and Maćkowski, M. (2015). Knowledge of first aid in road traffic accidents among drivers from the Staszów County. *Archives of Physiotherapy and Global Researches, 19*(1).

Kawale, S. N., Shinde, M. A., and Shinde, P. (2020). A Cross-Sectional Study of Knowledge about First Aid in Undergraduate Medical Students of Maharashtra. *Indian Journal of Public Health Research and Development, 11*(9), 102-106.

Khatatbeh, M. (2016). First Aid Knowledge Among University Students in Jordan. *International journal of preventive medicine, 7*, 24-24. doi:10.4103/2008-7802.174772

Li, F., Jiang, F., Jin, X., Qiu, Y., and Shen, X. (2012). Pediatric first aid knowledge and attitudes among staff in the preschools of Shanghai, China. *BMC Pediatrics, 12*(1), 121. doi:10.1186/1471-2431-12-121

Lingard, H. (2001). The effect of first aid training on objective safety behaviour in Australian small business construction firms. *Construction Management and Economics, 19*(6), 611-618. doi:10.1080/01446190110049820

Lingard, H. (2002a). The effect of first aid training on Australian construction workers' occupational health and safety knowledge and motivation to avoid work-related injury or illness. *Construction Management and Economics, 20*(3), 263-273. doi:10.1080/01446190110117617

Lingard, H. (2002b). The effect of first aid training on Australian construction workers' occupational health and safety motivation and risk control behavior. *Journal of Safety Research, 33*(2), 209-230. doi:https://doi.org/10.1016/S0022-4375(02)00013-0

Lingard, H. (2017). First Aid and Occupational Health and Safety: the Case for an Integrated Training Approach. *Burns: Journal of the International Society for Burn Injuries*, 111-117.

Lingard, H., and Yesilyurt, Z. (2003). The effect of attitudes on the occupational safety actions of Australian construction workers: the results of a field study. *Journal of Construction Research, 4*(01), 59-69.

López, M. A. C., Ritzel, D. O., Fontaneda, I., and Alcantara, O. J. G. (2008). Construction industry accidents in Spain. *Journal of Safety Research, 39*(5), 497-507.

Mayowi, O., Rahil, N. H., and Damayanti, S. (2020). Health Education Improve Knowledge and First Aid Attitude in Accidents. *Jurnal Gawat Darurat, 2*(1), 9-16.

Midani, O., Tillawi, T., Saqer, A., Hammami, M. B., Taifour, H., and Mohammad, H. (2019). Knowledge and attitude toward first aid: A cross-sectional study in the United Arab Emirates. *Avicenna J Med, 9*(1), 1-7. doi:10.4103/ajm.AJM_140_18

Ngwu, F., Alabere, I., and Douglas, K. (2019). Prevalence of Falls and Associated Factors among Construction Workers in Port Harcourt, Nigeria. *Asian Journal of Medicine and Health*, 1-16.

Olumide, A. O., Asuzu, M. C., and Kale, O. O. (2015). Effect of First Aid Education on First Aid Knowledge and Skills of Commercial Drivers in South West Nigeria. *Prehospital and Disaster Medicine, 30*(6), 579-585. doi:10.1017/S1049023X15005282

Qing, Y., Yongqiang, X., Xiaoming, F., Tuo, S., Xiaona, X., Yiheng, H., Zhaofan, X. (2020). First-aid knowledge regarding small area burns in children among 5814 caregivers: A questionnaire analysis. *Burns, 46*(2), 459-464. doi:https://doi.org/10.1016/j.burns.2019.08.006

Rotich, J. P., and Elliott, G. (2019). Teaching First Aid, CPR, and AED Using Blended Learning in Academic Settings *Handbook of Research on Blended Learning Pedagogies and Professional Development in Higher Education* (pp. 325-339): IGI Global.

Sönmez, Y., Uskun, E., and Pehlivan, A. (2014). Knowledge levels of pre-school teachers related with basic first-aid practices, Isparta sample. *Turk pediatri arsivi, 49*(3), 238-246. doi:10.5152/tpa.2014.1581

Sümbüloğlu, K., and Sümbüloğlu, V. (2000). *Biyoistatislik* (9 ed.). Ankara: Hatipoğlu Yayınları.

Taher, M. Q., Kamal, Z. N., Majed, H., Salmeen, A. A. M., Al-Qallaf, J. W., Al-Qallaf, M., Al-Otaibi, F. A. (2020). Prevalence of domestic injuries and awareness of first aid among Kuwaiti population. *International Journal of Medicine in Developing Countries, 4*(1), 213-217. doi:10.24911/IJMDC.51-1574931933

Zhang, J., Zhang, W., Xu, P., and Chen, N. (2019). Applicability of accident analysis methods to Chinese construction accidents. *Journal of Safety Research, 68*, 187-196. doi:https://doi.org/10.1016/j.jsr.2018.11.006

GENİŞLETİLMİŞ ÖZET[2]

Çalışmanın Amacı:

Bu çalışmanın başlıca hedefi, inşaat sektörü çalışanlarının ilk yardım bilgisini etkileyen farklı faktörlerin incelenmesidir. Araştırmamız, gelir-gider dengesi, sigara kullanımı, önceki ilk yardım durumlarına müdahale deneyimi ve ilk yardım eğitiminin kapsamı ve doğası gibi faktörlerin bir bireyin ilk yardım yetkinliğine nasıl etki ettiğini derinlemesine anlamaya yöneliktir.

Araştırma Soruları:

Araştırmayı yönlendiren temel sorular şunlardır:

1. Bir çalışanın gelir-gider oranı ile ilk yardım bilgisi arasında ne tür bir ilişki vardır?
2. Bir çalışanın sigara kullanma durumu ilk yardım becerisini nasıl etkilemektedir?
3. İlk yardım gerektiren bir durumda daha önce deneyim sahibi olmanın bir çalışanın ilk yardım bilgisi üzerindeki etkisi nedir?
4. İlk yardım eğitiminin yoğunluğu ve niteliği bir çalışanın ilk yardım bilgisini nasıl etkilemektedir?

Literatür Araştırması:

Bu çalışmada yapılan literatür incelemesi, ilk yardım bilgisi ve inşaat işçileri üzerindeki etkileri üzerine mevcut literatürün kapsamlı bir analizini sağlamaktadır. Bu, araştırmanın bağlamını belirleme ve ilgili araştırma sorularını tanımlama sürecine katkı sağlamıştır.

Yöntem:

Araştırmada, ilgili verileri toplamak için bir anket tasarlanmış ve uygulanmıştır. Anket, inşaat işçilerinin ilk yardım bilgisi ve eğitim durumları, alkol ve sigara kullanım alışkanlıkları ve iş yerindeki güvenlik deneyimleri hakkında ayrıntılı bilgi toplamıştır. Anket sonuçları, demografik ve kişisel faktörlerin ilk yardım bilgisini nasıl etkilediğini belirlemek üzere istatistiksel olarak analiz edilmiştir.

Sonuç ve Değerlendirme:

Elde edilen sonuçlar, gelir ve gider dengesi, sigara kullanımı, ilk yardım durumlarına önceki müdahale deneyimleri, son ilk yardım eğitiminin süresi ve ilk yardım sertifikasına sahip olma gibi bir dizi faktörün işçilerin ilk yardım bilgisini önemli ölçüde etkileyebileceğini göstermiştir. Diğer yandan, çalışanların eğitim seviyesi, alkol tüketimi ve son ilk yardım eğitimlerinin zamanlaması gibi faktörlerin ilk yardım bilgisi üzerinde anlamlı bir etkisi tespit edilmemiştir. Bu bulgular, ilk yardım bilgisinin, işçilerin eğitim geçmişi veya yaşam tarzı alışkanlıklarına değil, daha çok kapsamlı bir eğitime ve ilk yardım gerektiren durumlarla ilgili pratik deneyimlere dayandığını belirtmektedir.

[2] Önder, K. (2018). The Market Power Of Turkey's Imported Tobacco Market, MAKU IIBFD 5(2), 341-350.