Research Article

Researches on Multidisiplinary Approaches 2025, 5(2): 359-374 ISSN:2791-9099

A Research on the Determination of First Aid Knowledge Levels and Knowledge Resources of Tourist Guiding Students

Ayla Solmaz Avcıkurt* / Assoc. Prof. Dr.
Balıkesir University, Faculty of Medicine, Department of Medical Biology
aylaavcikurt@hotmail.com

Özlem Köroğlu / Prof. Dr.
Balıkesir University, Faculty of Tourism, Department of Tourism Guidance
okoroglu@balikesir.edu.tr

*Corresponding Author

Abstract

The purpose of this study was to explore both the first aid knowledge levels and the information sources used by students enrolled in tourism guidance department. In this study carried out on Balıkesir University Tourism Faculty Tourism Guidance Department students, 295 students were included by deliberate sampling method. A questionnaire form with 45 questions was prepared for data gathering. The students' total first aid knowledge level was calculated out of 40 points, with 1 point awarded for each correct answer in a 40-question test. The first aid total score of the students is calculated on the basis of 40 points. 51.2% of the students evaluated their own first aid knowledge level as "low". The mean of first aid knowledge total score of the students was 29.26±3.48 on the basis of 40 points. It was determined that the knowledge about first aid was obtained mostly via school (88.5%), internet (63.7%) and television (53.2%). Poisoning knowledge ($p=0.02<0.05$), burn knowledge ($p=0.000<0.05$), general first aid knowledge ($p=0.000<0.05$), fracture-dislocation knowledge $P=0.000<0.05$) and total knowledge scores ($p=0.000<0.05$) were statistically significantly different between the students at different classes. There were significant differences found between the students with different ages in terms of cardiac massage knowledge, artificial respiration knowledge ($p=0.033<0.05$) and fracture-dislocation knowledge ($p=0.02<0.05$). It was found that the majority of the students find themselves inadequate for first aid, but their first aid knowledge levels above the median. As class level increases, the first aid knowledge score decreases and the most important knowledge sources are school, internet and television.

Keywords: Tourist Guiding, Students, First Aid, Knowledge Sources.

JEL Codes: L83, I10, P46

Citation: Solmaz Avcıkurt, A., & Köroğlu, Ö. (2025). A research on the determination of first aid knowledge levels and knowledge resources of tourist guiding students. *Researches on Multidisciplinary Approaches (ROMAYA Journal), 5*(2), 359–374.

Submission Date : 30.06.2025
Acceptance Date : 04.09.2025

1. Introduction

First aid is practiced in any accident or in a situation where the life is in danger, the health officers are on the spot, immediately, without wasting time and at the scene. Environmental facilities and the materials at the scene of the accident are used. It is defined as practices that help people who suddenly get sick, injured or have an accident without the use of medical equipment, to avoid further complications and safeguard their lives (Köksoy et al., 2012; Nayir et al., 2011, Örsal et al., 2011, Şirin & Kaya, 2006, Duman et al., 2013, Gülser Uruk & Erdoğan, 2022).

10% of deaths after serious injuries and accidents occur in the first 5 minutes while 50% of them occur in the first half hour. In such cases, "lost time" increases the mortality rate (Dereli et al., 2010) and the time of the intervention to survivor or injured person should be as short as possible (Uskun et al., 2008). Timely first aid has an important place in the prevention of disability and in the process of healing by providing basic life support and preventing death and further damage (Erkan & Göz, 2006; Şirin & Kaya, 2006; Duman et al., 2013; Sönmez et al., 2014). However, it is not always possible to find a person who have health education or first aid knowledge within the required time or to access a hospital (Dündar et al., 1999; Uskun et al., 2008; Çakallıoğlu et al. 2021). Almost everyone encounter some situations that require first aid and it reveals the necessity to intervene with injuries (Dinçer et al., 2000; Duman et al., 2013). For this reason, first aid is a collection of practices that all individuals in society must carry out under all circumstances, whether they receive or not receive health education (Vaizoğlu et al., 2003; Duman et al., 2013). In particular, the first person who intervene in the event of an accident or illness is a firefighter, police officer, coach, group leader or tourist guide, ambulance crew or similar persons who are at the scene and witness the situation (Altıntop et al., 2000: 53; Akgün et al., 2023). It is of great importance that university students who will work as tourist guides after completing their education possess the necessary knowledge and skills in first aid. Due to their professional roles, tourist guides work in the field with large groups of tourists, participate in adventure tours that may pose health risks, and undertake long journeys. In emergencies, tourist guides are often among the first to respond to tourists, and therefore must be equipped with appropriate first aid knowledge and skills. For this reason, first aid courses are included as compulsory subjects in the curricula of tourism guidance departments in Türkiye. There are numerous studies in the literature that examine the importance and impact of first aid training for various professional groups such as healthcare professionals, teachers, and drivers, and assess their levels of knowledge. However, no study has been found that evaluates the first aid knowledge levels of tourism guidance students or investigates whether first aid courses in tourism guidance programs achieve their intended outcomes. Therefore, this research, which focuses on the first aid knowledge of tourism guidance students, is expected to fill a significant gap in the literature.

This study also examines the relationship between tourist guides' professional roles and their first aid knowledge, offering a theoretical framework that highlights the critical importance of first aid not only in health-related professions but also in all field-based occupations. In this context, the study aims to provide a multidisciplinary contribution to the fields of tourism, tour guiding, and health education.

It is anticipated that the findings of this research will serve as a basis for recommendations aimed at improving tourism guidance curricula, not only at the academic level but also in practical application. In a people-centered and risk-prone sector like tourism, enhancing emergency response capacity is expected to offer significant societal benefits in terms of both tourist safety and the country's international image.

2. Conceptual Framework

Tourist guides are not only information providers in the tourism industry; they also directly impact tourist satisfaction and the overall travel experience by presenting this information in an effective and engaging manner. Therefore, tourist guides are among the most important front-line actors in the tourism industry. Through their ability to convey a destination's culture and attractions, their knowledge, communication skills, and the service they provide, guides can transform an ordinary trip into an unforgettable experience (Ap and Wong, 2001).

Tourist guides undertake duties and responsibilities in a wide variety of areas, not just nature and adventure tours, but also cultural tours, city tours, religious tourism, health and thermal tourism. While emergency situations are more common in adventure tours that involve high-risk activities like rafting, mountaineering, and diving, unexpected health problems, accidents, or situations requiring emergency intervention can occur in any tour organization (Turner, 2003; Öter, 2007).

The vast majority of tours in Türkiye are long-time Anatolian tours which need long trips (Köroğlu & Köroğlu, 2011). In some cases, especially during peak tourism seasons or long-distance tours, tourist guides may work up to 15 hours a day, including travel, guiding, and coordination tasks. These long and tiring tours -such as climbing to the Nemrut Tumulus- can be physically demanding. Additionally, tourists tend to engage in more risk-taking behaviors during holidays, including excessive consumption of alcohol, cigarettes, and drugs (Bellis et al.,

2007; Hesse et al., 2008). Constant changes in accommodation, eating in unfamiliar restaurants, and prolonged exposure to sunlight further increase health risks. As a result, tourist guides may face various first aid situations, including traffic accidents, blood pressure issues, heart attacks, brain hemorrhages, food poisoning, fractures, fainting, falls, and foreign body penetration (Köroğlu & Köroğlu, 2011: 76). These situations can occur not only in extreme conditions or on tours, but also during city walking tours, ancient city tours, eco-tours, or museum visits.

Tourist guides have important responsibilities such as to create safe and reliable environments for tourists, to cope with illnesses, injuries and deaths in a calm manner and to keep other tourists calm, and guide candidates who will fulfill these responsibilities in the future by doing this profession have to have a good level of first aid knowledge (Howard et al., 2001; Güdü Demirbulat et al., 2017). According to the conducted studies, the tourist guides should have security, health and first aid knowledge and they have to have first aid certificates (Weiler & Davis, 1993; Black et al., 2001; Christie & Mason, 2003, Wong & McKercher, 2012; Carmody, 2013).

The tourist guide profession is not limited to simply conveying information; it encompasses multifaceted responsibilities such as security, crisis management, and emergency response. Therefore, first aid knowledge is not only a fundamental requirement for guides, but also a vital competency that must be constantly updated and reinforced. Especially on group tours involving long and challenging routes, or in areas with limited access to healthcare, a guide's prompt and accurate response is crucial. First aid training not only enhances guides' individual competencies but also contributes to ensuring tourist safety and enhancing the quality of the tour experience. In this context, first aid knowledge and training should be considered an integral part of the tourist guide profession, requiring continuous improvement. A trained guide is the foundation for both safer and more professional service. Furthermore, further scientific research on the first aid competence of tour guides is necessary to expand existing knowledge in this field, more accurately identify needs, and develop effective training programs.

While discussing the importance of tourist guides having first aid knowledge and conducting research on this subject, it is quite striking that there is no other study conducted in the tourism sector except for a study measuring the first aid knowledge level of hotel employees in Türkiye (Emir and Kuş, 2015) and a study conceptually examining the necessity of first aid training in tourism guidance (Güdü Demirbulat et al., 2017).

On the other hand a number of studies have been conducted in Türkiye to determine the levels of knowledge on first aid for people from different fields. Table 1 shows the studies on first aid knowledge levels in Türkiye. In Türkiye, there are also studies that measure "first aid knowledge level and attitudes" (Polat & Turacı, 2003; Şirin & Kaya, 2006; Nayir et al., 2011; Usta et al. 2017), "the necessity of first aid education" (Bildik et al., 2011), "the factors affecting first aid knowledge level" (Duman et al., 2013) and "first aid knowledge and skill level" (Emir & Kuş, 2015) besides the studies that measure only "first aid knowledge levels" (Özçelikay et al., 1996; Çullu et al., 1998; Dündar et al., 1999; Altıntop et al., 2000; Dinçer et al., 2000; Vaizoğlu et al., 2003; Erkan & Göz, 2006; Başer et al., 2007; Bölükbaş et al., 2007; Coşkun et al., 2008; Bakar & Maral, 2010; Dereli et al., 2010; Metin & Mutlu, 2010; Köksoy et al., 2012; Sönmez et al., 2014; Bozkurt et al., 2015; Altındiş et al., 2017; Yetiş & Gürbüz, 2018; Aktaş et al., 2019; Orhan & Aydın, 2020; Çakallıoğlu et al., 2021; Demirci Güler & Alptekin, 2021; Gülser Uruk & Erdoğan, 2022; Karaman Özlü et al., 2022; Akgün et al., 2023; Işık Demiraslan et al., 2023; Ak et al., 2023; Solmaz et al.,2024; Yüksel Çaylak et al., 2024; Doğanç et al., 2025). There are also studies measuring the level of knowledge for a specific situation which required first aid. For example, Uskun et al. (2008), Örsal et al. (2011), Serinken et al. (2011) and Aslan et al. (2015) was conducted the studies about the knowledge levels of first aid for home accidents while Göktaş et al. (2014) was conducted the studies about the knowledge levels of first aid for poisoning cases and Göktaş et al. (2015) for epilepsy. It was observed that most of the students and teachers who were studying at different subjects and at different levels were selected as the study group in order to measure first aid knowledge levels. These two study groups are the most studied sample for research may be due to the majority of accidents occurred in schools and during childhood (Nayir et al., 2011; Bakar & Maral, 2010; Karaman Özlü et al., 2022). In addition to these two working groups, there are also studies on people in which different sectors (drivers, employees, assistants, health personnel, traffic policemen, mothers, housewives, women, prisoners and hotel employees) were selected as the sample. Although the results of the conducted studies show that first aid knowledge is moderate (Şirin & Kaya, 2006; Bölükbaş et al., 2007; Nayir et al., 2011; Aslan et al., 2015; Usta et al., 2017; Aktaş et al., 2019; Demirci Güler & Alptekin, 2021; Karaman Özlü et al., 2022; Solmaz et al., 2024) and good (Dündar et al., 1999; Uskun et al., 2008; Dereli et al., 2010; Örsal et al., 2011), the results of the majority of studies show that the level of first aid knowledge in Türkiye is inadequate (See Table 1).

The literature frequently examines whether there are significant differences in first aid knowledge levels based on participant demographics. The primary goal of these studies is to identify which groups require more intensive training by demonstrating

the impact of variables such as age, gender, education level, and professional experience on first aid knowledge. This allows for more targeted, effective, and comprehensive training programs. For example, some studies (Oysa Şirin & Kaya,2006; Nayir et. al., 2011; Emir & Kuş, 2015; Orhan &Aydın, 2020; Yüksel Çaylak et al. 2024) have found that women have higher levels of first aid knowledge than men. This can be explained by their higher interest and responsibility in health matters, their more developed risk perception, their encounters with more first aid-requiring situations than men, and their greater tendency to participate in training in this field (Orhan and Aydın, 2020). Some studies have found differences between participants' age and first aid knowledge levels. Some studies have found that knowledge scores decrease as participants age (Şirin ve Kaya, 2006; Başer et. al., 2007, Coşkun et. al., 2008, Örsal et. al., 2011), while others have found that knowledge scores increase with age (Dereli et. al. 2010).

Table 1. The Demographic Variables of the Study Participants

Year	Researcher	Subject of The Study	n	Sample Group	Conclusion
1996	Özçelikay et al.	First aid knowledge levels	333	University students	The findings indicate that students possess an inadequate level of first aid knowledge.
1998	Cullu et al.	First aid knowledge levels	300	Drivers	Findings indicated that drivers lack adequate first aid knowledge and practical skills.
1999	Dündar et al.	First aid knowledge levels	172	Allied health personnels	It was found that healthcare personnel had a good level of knowledge on most first aid topics, although their understanding of cardiac and respiratory procedures was insufficient.
2000	Altıntop et al.	First aid knowledge levels	275	Traffic police	It was determined that knowledge of traffic police is inadequate before the training and knowledge levels after training increased significantly.
2000	Dinçer et al.	First aid knowledge levels	138	Pre-school educators	It was determined that the educators do not find their knowledge on first aid as adequate and their first aid knowledge scores increases as the learning status increases.
2003	Polat & Turacı	First aid knowledge levels and attitudes	342	Police school students	It was determined that the knowledge and attitudes of the students on first aid are insufficient.
2003	Vaizoğlu et al.	First aid knowledge levels	231	Primary school students	The findings indicate that students possess a notably low level of first aid knowledge.
2006	Erkan & Göz	First aid knowledge levels	149	Teachers	The study revealed that teachers' knowledge regarding first aid is insufficient.
2006	Şirin & Kaya	First aid knowledge levels and attitudes	422	Physical education teachers	It was found that teachers possessed a moderate level of first aid knowledge, with female teachers demonstrating higher knowledge levels compared to their male counterparts. Additionally, first aid knowledge tended to decline with increasing age, while it improved as the level of education increased.
2007	Başer et al.	First aid knowledge levels	312	Teachers	It was found that teachers have insufficient first aid knowledge, and that this knowledge tends to decline with increasing age.
2007	Bölükbaş et al.	First aid knowledge levels	80	High school students	The students' first aid knowledge was found to be at a moderate level, with school being their primary source of information.
2008	Coşkun et al.	First aid knowledge levels	219	Mothers	It was determined that the majority of the mothers have low levels of first aid knowledge. The knowledge scores decreases with age and increases with education level.
2008	Uskun et al.	First aid knowledge levels for house accidents	180	Housewives	It was found that housewives' first aid knowledge scores are at a good level and knowledge scores increases as their education level increases.

2010	Bakar & Maral	First aid knowledge levels	3775	High School Students	It was observed that students possess a limited level of first aid knowledge.
2010	Dereli et al.	First aid knowledge levels	772	Mothers	It was found that mothers have adequate first aid knowledge, with knowledge levels improving alongside increases in age and educational attainment.
2010	Metin & Mutlu	First aid knowledge levels	134	College of Health students	It was concluded that the students possess an inadequate level of first aid knowledge.
2011	Bildik et al.	Necessity of fisrt aid training	88	Faculty of Education students	It was concluded that the students possess an inadequate level of first aid knowledge.
2011	Nayir et al.	First aid knowledge levels and attitudes	364	Teachers	It was observed that teachers demonstrated moderate levels of first aid knowledge, with female teachers scoring higher than their male counterparts.
2011	Örsal et al.	First aid knowledge levels for house accidents	400	Women	About two-thirds of women had enough first aid knowledge for home accidents. Their knowledge decreased as they got older. Women with higher education learned mostly from TV and the internet.
2011	Serinken et al.	First aid knowledge levels for house accidents	1017	Women	It was found that women with high education level have high first aid knowledge level and they obtain knowledge about first aid from television.
2012	Köksoy et al.	First aid knowledge levels	482	Prisoners	It was determined that about half of the prisoners have a low level of knowledge about first aid. The level of education increases, the success grade increases.
2013	Duman et al.	First aid knowledge levels and the factors that affect it	247	University students	It was found that most students hold misconceptions and incorrect practices regarding first aid.
2014	Göktaş et al.	First aid knowledge levels for poisoning cases	936	University Students	It was found that university students in health-related fields have better knowledge about first aid for poisoning, whereas students from other departments lack sufficient knowledge on this topic.
2014	Sönmez et al.	First aid knowledge levels	110	Pre-school teachers	It was determined that pre-school teachers' first aid knowledge is not sufficient.
2015	Aslan et al.	First aid knowledge levels for house accidents	351	Mothers	It was found that mothers have a moderate level of first aid knowledge, which improves as their educational level rises.
2015	Bozkurt et al.	First aid knowledge levels	128	Teachers	It was determined that the teachers are most knowledge about hot stroke and epilepsy and they don't have adequate knowledge about cardiac massage, artificial respiration and foreign body prick.
2015	Göktaş et al.	First aid knowledge levels for epilepsy	629	Nursing students	As the level of education of the students increases, the first aid knowledge increases, and the first aid knowledge sources are determined as university and driving courses.
2015	Emir & Kuş	First aid knowledge and skill levels	340	Hotel employees	It was determined that women have more first aid knowledge than men.

2017	Usta et al.	First aid knowledge levels and attitudes	243	Vocational school students	The students demonstrated a moderate level of first aid knowledge, with 55.2% showing interest in receiving training and engaging in related educational programs.
2017	Altındiş et al.	First aid knowledge levels	1167	University Students	Most participants were found to have inadequate first aid knowledge, with gaps even in fundamental topics.
2018	Yetiş & Gürbüz	First aid knowledge levels	432	Vocational school students	The study revealed that students of the Vocational School of Health Services generally felt inadequate in first aid, and prior training significantly contributed to both their confidence and the accuracy of their knowledge.
2019	Aktaş et al.	First aid knowledge levels	116	Teachers	Teachers were found to possess a moderate level of first aid knowledge. As age increased, their scores tended to decline, whereas those who had undergone first aid training achieved higher scores compared to those without such training.
2020	Orhan & Aydın	First aid knowledge levels	2038	Pre-service teacher	It was found that pre-service teachers lacked sufficient knowledge about first aid and acknowledged this deficiency by indicating a need for further education.
2021	Çakallıoğlu et al.	First aid knowledge levels	71	School bus drivers	It was determined that school bus drivers lacked sufficient knowledge of first aid.
2021	Demirci Güler & Alptekin	First aid knowledge levels		Pre-service teacher	The study concluded that the preservice primary school teachers had a moderate level of basic first aid knowledge.
2022	Gülser Uruk & Erdoğan	First aid knowledge levels	302	Underground Mine Workers	The study found that over 40% of the employees had misconceptions regarding essential first aid procedures, including bleeding control, cardiac massage, and artificial respiration.
2022	Karaman Özlü et al.	First aid knowledge levels	291	Teachers	While individuals who had received first aid training demonstrated higher self-efficacy scores, teachers' overall first aid knowledge was assessed as moderate.
2023	Akgün et al.	First aid knowledge levels	60	Preschool Teachers	Preschool teachers' knowledge of first aid was determined to be insufficient in terms of the expected competency level.
2023	Işık Demiraslan et al.	First aid knowledge levels	122	Employees	The study found that employees working in the industrial site of Artvin province had low levels of first aid knowledge, indicating a need for improvement in this area.
2023	Ak et al.	First aid knowledge levels	300	University Students	It was determined that students have insufficient knowledge of first aid practices.
2024	Solmaz et al.	First aid knowledge levels	205	University Students	Students enrolled in the Child Development Program were found to possess a moderate level of first aid knowledge.
2024	Yüksel Çaylak et al.	First aid and basic life support knowledge levels	224	High school students	Sports high school students were found to have low levels of first aid and BLS knowledge, with an awareness of their own inadequacy.
2025	Doğanç et al.	First aid knowledge levels	200	University Students	Findings of the study point to a deficiency in first aid knowledge among students in elementary teacher education programs.

* It is limited to accesible resources. This table was prepared as part of a bibliometric review to highlight the lack of research directly involving tourist guides and tourism guidance students on the topic. It also aims to contribute to the conceptual framework of the study by identifying gaps in the existing literature.

Some studies have found a positive correlation between education level and first aid knowledge, with individuals' first aid knowledge increasing as their level of education increases (Dinçer et al., 2000, Şirin & Kaya, 2006, Coşkun et al. 2008, Uskun et al., 2008, Dereli et al., 2010, Örsal et al., 2011, Köksoy et al., 2012, Aslan et al., 2015 and Göktaş et al., 2015). This may be due to the fact that individuals with higher education have more learning opportunities, are more aware of health issues, and are more motivated to participate in first aid training. Based on these results, the following hypotheses were formulated in the study:

H_1: *There is a significant difference between students' gender and first aid knowledge level.*

H_2: *There is a significant difference between students' age and first aid knowledge level.*

H_3: *There is a significant difference between students' grade level and first aid knowledge level.*

Considering the critical responsibilities of tourist guides and the research conducted on first aid, determining the level of first aid knowledge of tourist guide candidates/students while they are still in the training phase is of great importance in terms of developing their professional competencies.

3. Material and Methods

3.1. Type of Research

This research is a descriptive study using a quantitative approach and was conducted within the framework of the general screening model. The primary objective of the study is to determine the current knowledge level and information sources of students in the Tourism Guidance Department at Balıkesir University Tourism Faculty regarding first aid. The aim is to analyze the current situation without intervening in any variables. To this end, quantitative data (scores, frequencies, percentages, etc.) is collected from students through a structured questionnaire and analyzed using statistical methods. These data, obtained from a large group of participants, were analyzed in accordance with the general screening model used to identify specific characteristics of individuals (Altunışık et al., 2012; Ural & Kılıç, 2013).

This research was conducted in accordance with ethical standards and was approved by Balikesir University's Ethics Committee (11.03.2025; E-19928322-050.04-495784).

3.2. Sample

The primary purpose of this research was to determine the level of first aid knowledge and the sources of knowledge for students who take tourism guidance education. It was also aimed to determine whether there is a meaningful relationship between first aid knowledge level and socio-demographic characteristics of students who took tourism guidance education. The universe of this research was the first, second, third and fourth year students who were studying in the Tourism Guidance Department of Balıkesir University Tourism Faculty during the spring semester of 2024-2025 academic year.

There are several reasons for selecting students from the Tourism Guidance Department of Balıkesir University Tourism Faculty as the sample for this study. Firstly, the researcher's employment at the university facilitates direct access to students and makes the data collection process more effective and economical. This provides advantages in time management, cost, and implementation processes. Furthermore, the department has incorporated compulsory courses within the Tourist Guiding Professional Regulations (https://mevzuat.gov.tr) into its curriculum, including first aid training. Thus, assessing students' knowledge in this field provides a suitable basis for the study's purpose. Furthermore, students in the department are required to participate in a 90-day compulsory internship program during their undergraduate studies. These internships are conducted in various areas of the tourism sector, such as travel agencies, accommodation establishments, tour operators, and guidance services. This process allows students to actively participate in professional practice and increases their likelihood of encountering first aid situations in the field. This allows students' first aid knowledge to be assessed not only theoretically but also through practical experience. Finally, Balıkesir province, thanks to its geographical location and natural and cultural resources, is one of Turkey's leading tourism destinations, and the region hosts intensive tourism activities year-round. This provides students with more field observation and professional experience, thus increasing their likelihood of encountering health emergencies and strengthening the relevance of the research to the context.

First, the number of students enrolled in the tourism guidance section was learned of from student affairs by taking permission from the dean's office of faculty, and it was determined that the total number of students enrolled in four classes was 458. A deliberate (judicial) sampling method was used in determination of the sample size of the study. In this method, the elements that made up the sample consist of people who could answer the research problem according to the researcher (Altunışık et al., 2012: 142). Students with absenteeism constituted the limit of study. 305 students were included in the study. As the questionnaire forms of 10 students were incompletely filled, sufficient data could not be obtained and they are left out from the assesment. As a result of the evaluation, 295 questionnaires were used to conduct research analyzes. This sample size

was obtained from students participating in the research is thought to be sufficient to represent the universe and to generalize the results of the research to the universe (Ural & Kılıç, 2013).

3.3. Data Collection

A 45-question questionnaire was developed by the researchers based on the literature (Bölükbaş et. al., 2007; Altındiş et al., 2017; Utlu & Altan, 2021; Demirci Güler & Alptekin, 2021). The questionnaire is divided into three sections. The first section contains three questions (sex, age, class) designed to gather information about the students' demographic characteristics. In the second section, there was a question about how the students assessed their own first aid knowledge levels and a multiple choice question for the determination of knowledge sources related to first aid. In the third section, A form consisting of 40 expressions (poisoning 10 expressions, bleeding 10 expressions, burn 6 expressions, cardiac massage and artificial respiration 5 expressions, general first aid knowledge 5 expressions and broken-out 4 expressions) was prepared to assess first aid knowledge levels. These expressions contained both right and wrong expressions. Students' knowledge of first aid was assessed using "true" and "false" questions, with each correct answer receiving 1 point. Poisoning and bleeding knowledge scores of the students were calculated on 10 points, burn knowledge scores were calculated on 6 points, cardiac massage and artificial respiration knowledge scores and general first aid knowledge scores were assessed out of 5 points, fracture and dislocation knowledge scores out of 4 points, and total knowledge scores out of 40 points.

The study results were analyzed using the "SPSS for Windows 21" statistical software package. In the statistical analysis, the Kuder-Richardson 20 (KR-20) reliability coefficient was used to analyze the internal consistency of the test items, frequency analysis, descriptive statistics and Independent Samples t-test and One-Way ANOVA tests were used to test the hypotheses. Following the One-Way ANOVA, a Tukey post-hoc test was performed to identify which specific groups differed significantly from one another. $p<0.05$ level was considered significant.

3.4. Limitations

This study have limitations. First, the study sample was limited to students in the Tourism Guidance Department of Balıkesir University Tourism Faculty. This makes the generalizability of the findings limited to student groups with similar characteristics.

Secondly, the survey form used as the data collection tool was developed by the researcher based on previous studies in the literature that had been tested for validity and reliability, and was revised based on expert opinions. Thus, content validity was ensured. However, a separate pilot study was not conducted during this process. The reason for not conducting a pilot study was that the questions were designed to be clear, understandable, and directly relevant to the target audience (tourist guiding students), and that the researcher had the opportunity to communicate directly with the students.

3.5. Reliability

The Kuder-Richardson 20 (KR-20) reliability coefficient was calculated to assess the internal consistency of the test items used in the study (Table 2). The KR-20 is used to determine the internal consistency of the test, particularly in measurement tools consisting of true/false (1/0) type items, assuming that all questions measure the same construct. The value of this coefficient ranges from 0 to 1. A reliability value between 0.80 and 1.00 indicates that the test is highly reliable; values between 0.60 and 0.80 indicate that the test is sufficiently reliable; and values below 0.60 indicate that the test has low reliability (Kalaycı, 2008).

Table 2. Situations Requiring First Aid: Internal Consistency Reliability Coefficient (KR-20) Results

Situations Requiring First Aid	KR-20	Values
Posioning	0,68	Sufficiently reliable
Bleeding	0,67	Sufficiently reliable
Burn	0,69	Sufficiently reliable
Cardiac massage and Artificial Respiration	0,81	Highly reliable
General First Aid Knowledge	0,83	Highly reliable
Fracture-Dislocation	0,56	Low reliability
GENERAL	**0,64**	**Sufficiently reliable**

The overall KR-20 reliability coefficient for the knowledge test administered in the study was calculated as 0.64. In addition, separate KR-20 analyses were applied to the subtests created for each first aid situation, and the resulting reliability coefficients were found to range from 0.56 to 0.83. These results indicate that the test items generally have sufficient internal consistency and that the measurement tool can be considered reliable.

4. Results

4.1. Demographic Characteristics

The study group was composed of 55.3% (n=163) male and 44.7% (n=132) female students. 63.4% (n=187) of the students were between the ages of 20-22 and 21.4% (n=63) of the students were between the ages of 17-19 and 15.3% (n=45) of the students were over the age of 23. According to the class distribution of the students, 30.5% (n=89) were in the first grade, 28.5% (n = 84) in the third grade, 25.8% (n=46) were in the second grade and 15.6% were in the fourth grade. 51.2% (n=151) of the students reported their level of knowledge about the first aid as "low" while 42% (n=124) of the students reported their level of knowledge about the first aid as "enough", 3.7% (n=11) of the students reported their level of knowledge about the first aid as "zero" and 3% (n=9) of the students reported their level of knowledge about the first aid as "high".

4.2. Knowledge Sources

Table 3 gives the distribution of knowledge sources of students for first aid. Students were found to learn the most of their knowledge about first aid via school (88.5%), internet (63.7%) and television (53.2%), respectively. Health personnels (40.3%) were in the fourth place in knowledge sources.

Table 3. Knowledge Sources of Students for First Aid

SOURCES	Yes	
	n	%
School	261	88.5
Internet	188	63.7
Television	157	53.2
Health Personnel	119	40.3
Familyt	103	34.9
Friend	101	34.2
Conference	96	32.5
Book	93	31.5
Brochure	63	21.4
Newspaper	62	21
Patients	53	18
Magazine	43	14.6
Radio	17	5.8
Poster	14	4.7
Other	5	1.7

4.3. Knowledge Scores

The average knowledge scores of the students for situations requiring first aid are presented in Table 4. In the study, the average score for the students' knowledge of poisoning was 7.31±1.41, t he average score for the students' knowledge of bleeding was 6.16±1.39, the average score for the students' knowledge of burns was 4.19±0.99, the average score for the students' knowledge of cardiac massage and artificial respiration was 4.34±0.78, the average score for the students' general first aid knowledge was 4.40±0.80 and the average score for the students' fracture and dislocation knowledge was 2.85±0.94.

Table 4. Situations Requiring First Aid, Expression Numbers and Mean Knowledge Scores

Situations Requiring First Aid	Expression Numbers *	First Aid Knowledge Score
Posioning	10	7.31±1.41
Bleeding	10	6.16±1.39
Burn	6	4.19±0.99
Cardiac massage and artificial respiration	5	4.34±0.78
General first aid knowledge	5	4.40±0.80
Fracture-dislocation	4	2.85±0.94
TOTAL KNOWLEDGE SCORE	**40**	**29.26±3.48**

*Maximum knowledge scores

4.4. Hypothesis Analysis

Table 5 shows the distribution of first aid knowledge scores according to socio-demographic characteristics of the students. There was no significant difference about poisoning knowledge scores between the students with different genders (p=0.643>0.05) and different ages (p=0.406>0.05) while there was a significant difference about the poisoning knowledge scores between the students in different classes (p=0.02<0.05). As the class level of the students increased, the knowledge scores about the poisoning decreased. The mean of the knowledge scores of the first grade students about poisoning was 7.54±1.35 and the mean of the knowledge scores of the fourth grade students about poisoning 6.78 ±1.38. No significant difference was found between the students according to gender (p=0.771>0.05), age (p=0.311>0.05) and class (p=0.647>0.05) in terms of bleeding knowledge scores. There was no significant difference between the students with different genders (p=0.771>0.05) and ages (p=0.766>0.05) in terms of burn knowledge scores, but there was a significant difference between students in different classes in terms of burn knowledge scores (p=0.000<0.05). As the class level of the students increased, the knowledge scores about the burns decreased. The mean of the burn knowledge scores of the first year students was 4.57±0.89 and the mean of the burn knowledge scores of the fourth grade students was 3.78±1.13. While there was no significant difference between the students in terms of knowledge scores of cardiac massage and artificial respiration according to gender (p=0.677>0.05) and classes (p=0.427>0.05), there was a significant difference between the students in terms of the knowledge scores of cardiac massage and artificial respiration (p=0.033<0.05) acording to age. As the age of the students increased, the knowledge scores about cardiac massage and artificial respiration increased. While there was no significant difference between the students with different genders (p=0.702>0.05) and ages (p=0.894>0.05) in terms of the general first aid knowledge scores, there was a significant difference between the general first aid knowledge scores of the students in different classes (p=0.000<0.05). As the class level of the students increased, the general first aid knowledge scores decreased. The mean of the knowledge scores of first grade students about general first aid was 4.57±0.70 and the mean of the general first aid knowledge scores of fourth grade students was 3.93±1.04. While there was no significant difference between the male and female students (p=0.201>0.05) in terms of fracture-dislocation knowledge scores, there was a significant difference between the students with different ages (p=0,02<0.05) and classes (p=0.000<0.05) in terms of fracture-dislocation knowledge scores. It was observed that the students who were in the age range of 20-22 years had higher fracture-dislocation knowledge scores than in the other age ranges. And the knowledge scores about fracture-dislocation decreased as the class level of the students increased. The mean of the fracture-dislocation knowledge scores of the first grade students was 3.31±0.70 and the mean of the fracture-dislocation knowledge scores of the fourth grade students was 2.54 ± 1.09. While there was no significant difference between the students with different genders (p=0.760>0.05) and ages (p=0.287>0.05) in terms of total knowledge scores, there was a significant difference between the students in different classes in terms of total knowledge scores (p=0.000<0.05). As the class level of the students increased, the total knowledge scores about first aid decreased. The mean of the total knowledge scores of first grade students was 30.51±2.92 and the mean of the total knowledge scores of fourth grade students was 27.41±4.72.

Table 4. Situations Requiring First Aid, Expression Numbers and Mean Knowledge Scores

Situations Requiring First Aid	Variables	Groups	Number	%	First Aid Knowledge Score	p
POISONING	Gender	Male	163	55.3	7,35±1,44	0.643
		Female	132	44.7	7,27±1,38	
	Age	17-19 years	63	21.4	7,14±1,55	0.406
		20-22 years	187	63.4	7,33±1,34	
		≥23 years	45	15.3	7,51±1,50	
	Class	First	89	30.5	7,54±1,35	**0.02***
		Second	76	25.8	7,45±1,44	
		Third	84	28.5	7,25±1,42	
		Fourth	46	15.6	6,78±1,38	
BLEEDING	Gender	Male	163	55.3	6,18±1,37	0.771
		Female	132	44.7	6,14±1,43	
	Age	17-19 years	63	21.4	5,98±1,49	0.311
		20-22 years	187	63.4	6,16±1,38	
		≥23 years	45	15.3	6,40±1,30	
	Class	First	89	30.5	6,19±1,29	0.647
		Second	76	25.8	6,30±1,47	
		Third	84	28.5	6,02±1,40	
		Fourth	46	15.6	6,13±1,47	
BURN	Gender	Male	163	55.3	4,18±0,99	0.771
		Female	132	44.7	4,21±1,01	
	Age	17-19 years	63	21.4	4,25±0,98	0.766
		20-22 years	187	63.4	4,19±1,01	
		≥23 years	45	15.3	4,11±0,95	
	Class	First	89	30.5	4,57±0,89	**0.000***
		Second	76	25.8	4,14±0,84	
		Third	84	28.5	4,06±1,05	
		Fourth	46	15.6	3,78±1,13	
CARDIAC MASSAGE AND ARTIFICIAL RESPIRATION	Gender	Male	163	55.3	4,33±0,81	0.677
		Female	132	44.7	4,36±0,76	
	Age	17-19 years	63	21.4	4,28±0,80	**0.033***
		20-22 years	187	63.4	4,32±0,84	
		≥23 years	45	15.3	4,62±0,58	
	Class	First	89	30.5	4,38±0,65	0.427
		Second	76	25.8	4,26±0,77	
		Third	84	28.5	4,43±0,75	
		Fourth	46	15.6	4,24±1,08	

KNOWLEDGE OF GENERAL FIRST AID	Gender	Male	163	55.3	4,38±0,80	0.702
		Female	132	44.7	4,17±0,83	
	Age	17-19 years	63	21.4	4,43±0,80	0.894
		20-22 years	187	63.4	4,38±0,79	
		≥23 years	45	15.3	4,42±0,92	
	Class	First	89	30.5	4,57±0,70	**0.000***
		Second	76	25.8	4,51±0,59	
		Third	84	28.5	4,38±0,88	
		Fourth	46	15.6	3,93±1,04	
FRACTURE AND DISLOCATION	Gender	Male	163	55.3	2,79±0,98	0.201
		Female	132	44.7	2,93±0,89	
	Age	17-19 years	63	21.4	3,21±0,74	**0.02***
		20-22 years	187	63.4	3,72±0,97	
		≥23 years	45	15.3	2,91±0,97	
	Class	First	89	30.5	3,31±0,70	**0.000***
		Second	76	25.8	2,72±0,86	
		Third	84	28.5	2,65±0,99	
		Fourth	46	15.6	2,54±1,09	
TOTAL KNOWLEDGE SCORE	Gender	Male	163	55.3	29,21±3,34	0.760
		Female	132	44.7	29,33±3,54	
	Age	17-19 years	63	21.4	29,33±3,93	0.287
		20-22 years	187	63.4	29,07±3,44	
		≥23 years	45	15.3	29,98±2,92	
	Class	First	89	30.5	30,51±2,92	**0.000***
		Second	76	25.8	29,45±3,30	
		Third	84	28.5	28,80±2,84	
		Fourth	46	15.6	27,41±4,72	

* $p<0.05$

In the analyses, no significant difference was found between the students' gender, age and first aid knowledge level, and H1 (There is a significant difference between students' gender and first aid knowledge level), H2 (There is a significant difference between students' age and first aid knowledge level) were rejected. A significant difference was found between students' grade level and general first aid knowledge scores ($p=0.000<0.05$) and H3 (There is a significant difference between students' grade level and first aid knowledge level) was accepted.

5. Discussion and Conclusion

Accurate and conscious first aid in cases where emergency intervention is needed plays a major role in taking away the life-threatening elements. It is of great importance that the tourist guides who are with the tourists during their travels and who are interested in all their problems and the students in tourist guidance department who will make this profession when they graduate should have sufficient and even very good level knowledge about the first aid. For this reason, it was aimed to determine first aid knowledge level and knowledge sources of the students of tourist guidance department in this study and important results were obtained.

It was found that the majority of students had higher scores than average scores in both situations requiring first aid and total first aid knowledge levels, although they found themselves insufficient in first aid. Also, in studies conducted by Nayir et al. (2011), Usta et al. (2017) and Solmaz et al. (2024), it was determined that participants did not consider themselves competent in first aid, but their knowledge levels were average or above average. This

finding suggests that students do not find their first aid knowledge satisfactory and shows that students can not well assessed themselves and they are not aware that their knowledge is correct. This may be due to the dissatisfaction of the students about their education, lack of practical training, lack of self-confidence, or a very different cause. Bakar & Maral (2010) and Karaman Özlü et al. (2022) stated the lack of practical training in first aid in Türkiye. The lack of practical training does not allow the students to test the theoretical knowledge that they have and this condition causes them to think that they do not have enough knowledge about first aid. People who do not find themselves adequately can not make correct and conscious intervention. The psycho-motor aims for the skill should be among the purposes of first aid training (Sönmez et al., 2014). For this reason, assistance and support should be provided to ensure that students feel satisfied with first aid, active participation in lectures and trainings should be encouraged, and physical infrastructure (Example: laboratory) required for practical training should be provided. Also, it can be analyzed why students do not find themselves as adequate with another study.

It was found that the students obtained first aid knowledge via school, internet and television. It is not surprising that schools are the most important knowledge sources. Because first aid courses are among the mandatory courses of curriculum programs in instutions where tour guide education is provided in Türkiye. Bölükbaş et al. (2007) and Göktaş et al. (2015) found that the knowledge source of the students was school. According to the studies on women, Örsal et al. (2011) found that the knowledge sources of knowledge are television and internet while Serinken et al. (2011) found that the source of knowledge is television. In the study conducted by Altındiş et al. (2017) on university students, it was determined that TV, radio and the internet were the most used sources of information. This shows that the sources of knowledge differ as the study group differs. More knowledge about first aid should be given especially in media such as television and internet. It is necessary to determine whether there is misknowledge about the subject especially on the internet. It should be regularly inspected and necessary precautions should be taken. In addition to general internet use, global online education platforms such as Udemy, Coursera, and Khan Academy provide accessible and structured first aid training programs, which could serve as valuable resources for students seeking to enhance their knowledge. Although online global education platforms such as Udemy and Coursera were not reported by the participants as primary sources of first aid knowledge in this study, these platforms represent a growing trend in educational resources and could be considered in future research.

There was no significant difference was found about conditions requiring first aid and total first aid knowledge levels between genders. A similar result was also revealed in the study conducted by Karaman Özlü et al. (2022). However, Şirin & Kaya (2006), Nayir et al. (2011), Emir & Kuş (2015), Orhan & Aydın (2020) and Yüksel Çaylak et al. (2024) found that women had more first aid knowledge than men in the studies conducted on teachers, hotel employees and high school students. Such a result was not found in the studies conducted on students. Likewise, there were no significant differences between the students at different ages in terms of the conditions requiring first aid and total first aid score. Only a significant relation was found between age and cardiac massage and artificial respiratio and fracture-dislocation knowledge scores. And, knowledge scores increased as age increased. Dereli et al. (2010) was found a similar result. In contrast to this result, knowledge scores decreased as age increased according to Şirin & Kaya (2006), Başer et al. (2007), Coşkun et al. (2008), Örsal et al. (2011) and Solmaz et al. (2024). When this result obtained in the research is taken into consideration, it is expected that the level of knowledge increases as the class level or age increases. However, it was revealed that as the class level increased, the scores obtained in both first aid requiring conditions and total first aid levels decreased except hemorrhage in this study. This result may be due to the fact that the age and class level are not directly proportionate to each other and also older studens in junior classes. According to Dinçer et al. (2000), Şirin & Kaya (2006), Coşkun et al. (2008), Uskun et al. (2008), Dereli et al. (2010), Örsal et al. (2011), Köksoy et al. (2012), Aslan et al. (2015) and Göktaş et al. (2015), it was determined that the level of first aid knowledge increased as the education level increased. The results of these studies support the result of our study. Because, the first aid courses in the current faculty were given to the first grade. As class level increased, students forget the existing first aid knowledge and their knowledge levels decreased. It is a necessity for schools to provide first aid classes in the first class because of the beginning of internship training of the students at the end of the first class. First aid courses are not given in the senior classes due to the necessity of internship training in tourism schools. In this case, first aid lessons may not be restricted to only first year class and first aid training may be spread over four years by continuous, up-to-date and practical training, thus the students can update their knowledge. When considering the dynamic nature of first aid, the adoption of continuous education is mandatory. The students should keep up-to-date their first aid knowledge in busines life after graduation with in-service trainings. In order to provide in-service training, the Turkish Union of Tourist Guides (TUREB) should work in coopera-

tion with the related health institutions and first aid certificates should be given to tourist guides similar to those in the world, especially. Tourist guides may provide a brief overview of their first aid certification and competence during the pre-tour briefing. This can increase tourists' confidence and awareness regarding emergency preparedness during the tour.

We believe that the cooperation between the universities, TUREB, the Ministry of Culture and Tourism, related health institutions, and other relevant national and international institutions (such as the Red Cross or WHO) will make important contributions to the education and health of the community. In particular, integrating internationally recognized first aid certification programs into the training of tourist guides may help ensure global standards and enhance trust among tourists.

Additionally, comparative studies with tourist guide students from different universities would be beneficial to determine the impact of both regional differences and educational practices on knowledge levels. Furthermore, developing valid and reliable measurement tools to assess first aid knowledge and skills among students and graduates is also an important need for future research.

This study will be a source for academicians who want to study about tourism and tourist health, the determination of the first aid knowledge and skill levels of tourist guides and their training needs and it will make a contribution to the literature in this subject. It is predicted that the findings and results from the collected data in this study will help and guide the development of theoretical and empirical studies and hypotheses on first aid that may be generated in the future.

Ethics Committee Approval:

This study was reviewed and approved by the Ethics Committee of the University of Balikesir (11.03.2025; E-19928322-050.04-495784).

Conflict of Interest:

None declared by the authors.

Financial Disclosure:

None declared by the authors.

Acknowledgments:

The authors thank all the students for their participation in the survey.

References

Ak, B., Çıtak Bilgin, N., Cerit, B., & Ertem, M. (2023). Öğretmen Aday Adaylarının İlkyardım Uygulamaları Hakkındaki Bilgi Düzeylerinin Belirlenmesi. Sağlık Akademisi Kastamonu (SAK), 8 (1): 41-54, Doi: 10.25279/sak.775097

Akgün, M., Şekerci, N., Demirdağ, H. & Doğan, R. (2023). Okul Öncesi Öğretmenlerinin Temel İlk Yardım Bilgi Düzeylerinin Belirlenmesi. Haliç Üniversitesi Sağlık Bilimleri Dergisi, 6 (3): 30-38, Doi: 10.48124/husagbilder.1180096

Aktaş, B., Yılmaz, M., Dereli, F. & Yıldırım Sarı, H. (2019). İlköğretim Birinci ve İkinci Kademe Öğretmenlerinin İlk Yardım Bilgi Düzeyi. Jaren, 5 (1): 17-22, doi:10.5222/jaren.2019.18894

Altındiş, S., Tok, Ş., Aslan, F.G., & Adıgül, M.P. (2017). Üniversite Öğrencilerinin İlk Yardım Bilgi Düzeylerinin Değerlendirilmesi. Sakarya Tıp Dergisi, 7 (3): 125-130.

Altıntop, L., Dündar, C., Güven, H., Doğanay, Z. & Toğbaş, M. (2000). Samsun İl Merkezinde Görev Yapan Trafik Polislerinin İlk Yardım Eğitimi Öncesi ve Sonrası Bilgi Düzeyleri. Ulusal Travma Dergisi, 6 (1): 53-56.

Altunışık, R., Coşkun, R., Bayraktaroğlu, S. & Yıldırım, E. (2012). Sosyal Bilimlerde Araştırma Yöntemleri: SPSS Uygulamalı. 7. Baskı, Sakarya: Sakarya Yayıncılık.

Aslan, S., Yıldırım, M., Tunçdemir, A. & Geçkil, E. (2015). 0-6 Yaş Çocuğu Olan Annelerin Ev Kazalarına Yönelik İlk Yardım Hakkındaki Bilgi Düzeylerinin Belirlenmesi. Adıyaman Üniversitesi Sağlık Bilimleri Dergisi, 1 (2): 54-64.

Bakar, C. & Maral, I. (2010). Mesleki Eğitim Merkezinde ve Düz Lisede Öğrenim Gören Öğrencilerin İlkyardım Bilgi Düzeylerinin Karşılaştırılması. Türk Tabipler Birliği Mesleki Sağlık ve Güvenlik Dergisi, 36: 41-47.

Başer, M., Çoban, S., Taşcı, S., Sungur, G. & Bayat, M. (2007). Evaluating First-aid Knowledge and Attitudes of a Sample of Turkish Primary School Teachers. Journal of Emergency Nursing, 33 (5): 428-432, doi: 10.1016/j.jen.2006.11.003

Bellis, M. A., Hughes, K. E., Dillon, P., Copeland, J. & Gates, P. (2007). Effects of Backpacking Holidays in Australia on Alcohol, Tobacco and Drug Use of UK Residents. BMC Public Health, 7 (1): 1-10, Doi:10.1186/1471-2458-7-1

Bildik, F., Kılıçaslan, İ., Doğru, C., Keleş, A., & Demircan, A. (2011). The Need for First Aid Awareness Among Candidate Teachers. Türkiye Acil Tıp Dergisi, 11 (4): 166-170, Doi: 10.5505/1304.7361.2011.50490

Black, R., Ham, S. & Weiler, B. (2001). Ecotour Guide Training in Less Developed Countries: Some Preliminary Research Findings. Journal of Sustainable Tourism, 9 (2): 147-156, Doi: 10.1080/09669580108667395

Bozkurt, A., Özbar, N., Çekiç, S. & Küçük Yetgin, M. (2015). Sınıf Öğretmenleri ve Branş Öğretmenlerinin İlkyardım Bilgi Düzeylerinin Tespit Edilmesi. Uluslararası Hakemli Ortopedi Travmatoloji ve Spor Hekimliği Dergisi, 2 (3): 1-10, Doi: 10.17372/OTS-HD.2015310919

Bölükbaş, N., Kahraman, A. N., Karaman, Y. & Kalaycı, G. (2007). Ordu İli Kız Meslek Lisesi Çocuk Gelişimi Bölümü Son Sınıf Öğrencilerinin Çocuklara Yönelik İlk Yardım Uygulamaları ile İlgili Bilgi Düzeyleri. Atatürk Üniversitesi Hemşirelik Yüksekokulu Dergisi, 10 (3): 52-59.

Carmody, J. (2013). Intensive Tour Guide Training in Regional Australia: An Analysis of The Savannah Guides Organisation and Professional Development Schools. Journal of Sustainable Tourism, 21 (5): 679–694, Doi: 10.1080/09669582.2012.744412

Christie, M. F. & Mason, P. A. (2003). Transformative Tour Guiding: Training Tour Guides to be Critically Reflective Practitioners. Journal of Ecotourism, 2 (1): 1-16, Doi: 10.1080/14724040308668130

Coşkun, C., Özkan, S. & Maral, I. (2008). Çankırı-Eldivan İlçe Merkezinde 0-14 Yaşlar Arasında Çocuğu Olan Annelerin İlk Yardım

Bilgi Düzeyleri ve İlk Yardım Gerektiren Durumların Sıklığı. Türkiye Çocuk Hastalıkları Dergisi, 2 (3):11-18.

Çakallıoğlu, E., Aktaş, M., Güngör, Y., Duran, E. & Geçici, İ. (2021). Okul Servis Şoförlerinin İlkyardım Bilgi Düzeylerinin İncelenmesi. Journal of Social and Humanities Sciences Research, 8 (78): 3369-3390, Doi: 10.26450/jshsr.2838

Çullu, E., Savk, S. O., Özkan, I., Alparslan, B., Ayaz, S. & Akin, T. (1998). A Survey on Drivers' First Aid Knowledge and Experience in Aydin Region, Turkey, Journal of Traffic Medicine, 26 (3-4): 114-139.

Demirci Güler, M. P. & Alptekin, İ. (2021). Sınıf Öğretmeni Adaylarının Temel İlkyardım Bilgi Düzeylerinin Belirlenmesi. Kırşehir Eğitim Fakültesi Dergisi, 22 (1): 299-331, Doi: 10.29299/kefad.762751

Dereli, F., Turasay, N. & Özçelik, H. (2010). Muğla İki No'lu Sağlık Ocağı Bölgesinde Yaşayan 0-6 Yaş Çocuğu Olan Annelerin İlkyardım Konusundaki Bilgi Düzeylerinin Belirlenmesi. TAF Preventive Medicine Bulletin, 9 (3): 217-224.

Dinçer, Ç., Atakurt, Y. & Şimşek, I. (2000). Okulöncesi Eğitimcilerinin İlk Yardım Bilgi Düzeyleri Üzerine Bir Araştırma. Ankara Üniversitesi Tıp Fakültesi Mecmuası, 53 (I): 31-38.

Doğanç, F. B., Tunç Nakış, S., Karavuş, M., Hıdıroğlu, S., Kasil, B., Özsaraç, B., et al. (2025). Evaluation of First Aid Knowledge Levels of Elementary Teacher Education Students at a Public University İn İstanbul. Eurasian Journal of Emergency Medicine, 24 (2): 111-117, Doi: 10.4274/eajem.galenos.2025.82956

Duman, N. B., Koçak, C. & Sözen, C. (2013). Üniversite Öğrencilerinin İlk Yardım Bilgi Düzeyleri ve Bunu Etkileyen Faktörler. Hitit Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 6 (1): 57-70.

Dündar, C., Sünter, A. T., Coşkun, M., Topbaş, M. & Pekşen, Y. (1999). Samsun Merkez Sağlık Ocaklarında Görev Yapan Hekim Dışı Sağlık Personelinin İlk Yardım Konusundaki Bilgi Düzeylerinin Değerlendirilmesi. O.M.Ü. Tıp Dergisi, 16 (2): 113-119.

Emir, O. & Kuş, G. (2015). A Study into the Level of First Aid of Hotel Employees. Procedia - Social and Behavioral Sciences, 174 (12): 1036-1042.

Erkan, M. & Göz, F. (2006). Öğretmenlerin İlk Yardım Konusundaki Bilgi Düzeylerinin Belirlenmesi. Atatürk Üniversitesi Hemşirelik Yüksekokulu Dergisi, 9 (4): 63-68.

Göktaş, S. B., Yıldız, T. & Köse, S. (2015). Hemşirelik Öğrencilerinin Epilepsiye İlişkin İlkyardim Bilgileri. International Journal of Basic and Clinical Medicine, 3 (2): 71-77.

Göktaş, S., Yıldırım, G., Köse, S., Yıldırım, Ş., Özhan, F. & Şenturan, L. (2014). First Aid Knowledge of University Students in Poisoning Cases. Turkish Journal of Emergency Medicine, 14 (4): 153-159, Doi: 10.5505/1304.7361.2014.15428

Güdü Demirbulat, Ö., Saatçi, G. & Özdemir Güzel, S. (2017). Turizm Rehberliğinde İlk Yardım Eğitiminin Gerekliliğinin Kavramsal Olarak İncelenmesi, Uluslararası Sosyal Araştırmalar Kongresi Bildiri Kitapçığı, Cilt II/VI, (20-22 Nisan 2017), (Ed. Yüksekbilgili, Z.), İstanbul, 516-520.

Gülser Uruk, M. & Erdoğan, Ö. (2022). Yer Altı Maden İşçilerinin Afet Anında Hayatta Kalma ve İlk Yardım Bilgi Düzeyleri. Dirençlilik Dergisi, 6 (1): 1-13, Doi: 10.32569/resilience.900627

Hesse, M., Tutenges, S., Schliewe, S. & Reinholdt, T. (2008). Party Package Travel: Alcohol Use and Related Problems in a Holiday Resort: A Mixed Methods Study. BMC Public Health, 8 (351): 1-8, Doi:10.1186/1471-2458-8-351

Howard, J., Thwaites, R. & Smith, B. (2001), Investigating the Roles of the Indigenous Tour Guide. The Journal of Tourism Studies, 12 (2): 32-39.

https://mevzuat.gov.tr/mevzuat?MevzuatNo=41058&MevzuatTur=7&MevzuatTertip=5, [Erişim Tarihi: 10.07.2025].

Işık Demirarslan, E., Çınar Özbay, S., & Kanbay, Y. (2023). Artvin İli Sanayi Sitesinde Çalışanların İlk Yardım Bilgi Düzeylerinin Belirlenmesi. Hastane Öncesi Dergisi, 8 (2): 169-180, Doi: 10.54409/hod.1285408

Kalaycı, Ş. (2008). Spss Uygulamalı Çok Değişkenli İstatistik Teknikleri. Ankara: Asil Yayın Dağıtım.

Karaman Özlü, Z., Uymaz Aras, G., Özlü, İ., Ejder Apay, S., Avşar, G., Coşar, Z., Küçükoğlu, A. & Taşgın, A. (2022). Öğretmenlerin İlk Yardım Konusundaki Bilgi Düzeylerinin Belirlenmesi. Anatolian Journal of Health Research, 3 (3): 139-143, Doi: 10.29228/anatoljhr.64990

Köksoy, S., Öncü, E., Şermet, Ş. & Sungur, M. A. (2012). Cezaevinde Bulunan Mahkumların İlk Yardım Bilgi Düzeyleri. Türkiye Acil Tıp Dergisi, 12 (1): 20-24, Doi: 10.5505/1304.7361.2012.88609

Köroğlu, A. & Köroğlu, Ö. (2011), Measuring The Effects of Job-Satisfaction to Occupational Health and Safety Attitudes of Tour Guides on Business Performance in Turkey, Proceedings of the 2nd Rower Conference on Occupational Health and Safety Economics, Sinaia/Romania, 73-91.

Metin, I. & Mutlu, C. (2010). Level of Knowledge About First Aid of The University Students. Trakia Journal of Sciences, 8 (2): 262-265.

Nayir, T., Uskun, E., Türkoğlu, H., Uzun, E., Öztürk, M. & Kişioğlu, A. N. (2011). Isparta İl Merkezinde Görevli Öğretmenlerin İlkyardım Bilgi Düzeyleri ve Tutumları. Süleyman Demirel Üniversitesi Tıp Fakültesi Dergisi, 18 (4): 123-127.

Orhan, S. İ., & Aydın, A. (2020). Öğretmen Adaylarının İlk Yardım Bilgi Düzeyleri: Kastamonu Üniversitesi Örneği. Kastamonu Education Journal, 28 (4): 1657-1667, Doi: 10.24106/kefdergi.3798

Örsal, Ö., Tözün, M. & Ünsal, A. (2011). Kadınların Ev Kazalarında İlk Yardım Bilgi Düzeylerinin Değerlendirilmesi. Sürekli Tıp Eğitimi Dergisi (STED), 20 (5): 202-208.

Öter, Z. (2007). Seyahat Acentelerinde Pazarlama Bilgi Sistemlerine Turist Rehberlerinin Katkilari: Ege Bölgesi Örneği. Yayınlanmamış Doktora Tezi, Dokuz Eylul Universitesi Sosyal Bilimler Enstitüsü, İzmir.

Özçelikay, G., Şimşek, I. & Asil, E. (1996). Üniversite Öğrencilerinin İlk Yardım Konusundaki Bilgi Düzeyleri Üzerinde Bir Çalışma. Ankara Üniversitesi Eczacılık Fakültesi Dergisi, 25 (2): 43-48.

Polat, S. A. & Turacı, G. (2003). Bir Polis Okulundaki Öğrencilerin İlkyardım Konusundaki Bilgi ve Tutumları. AÜTD, 35: 27-32.

Serinken, M., Türkçüer, İ., Karcıoğlu, Ö., Akkaya, S. & Uyanık, E. (2011). Kadınların Başına Gelen Ev Kazaları ve İlk Yardım Bilgi Düzeyleri. Ulus Travma Acil Cerrahi Dergisi, 17 (5): 445-449, Doi: 10.5505/tjtes.2011.55649

Solmaz, T., Solmaz, M. & Akgül, N. (2024). Çocuk Gelişimi Programı Öğrencilerinin İlk Yardım Bilgi Düzeylerinin Belirlenmesi. Journal of Pre-Hospital, 9 (2): 139-151, Doi: 10.54409/hod.1501608

Sönmez, Y., Uskun, E. & Pehlivan, A. (2014). Okul Öncesi Öğretmenlerinin Temel İlk Yardım Uygulamalarına İlişkin Bilgi Düzeyleri, Isparta Örneği. Türk Pediatri Arşivi, 49, 238-246, Doi:10.5152/tpa.2014.1581

Şirin, E. F. & Kaya, M. (2006). Beden Eğitimi Öğretmenlerinin İlk Yardımla İlgili Tutum ve Bilgi Düzeylerinin Değerlendirilmesi. Gazi Beden Eğitimi ve Spor Bilimleri Dergisi (Gazi BESBD), 11 (4): 31-42.

Turner, C. (2003). Adventure Tour Guides: Life on Extreme Outdoor Adventures. Newyork: The Rosen Publishing Group.

Ural, A. & Kılıç, İ. (2013). Bilimsel Araştırma Süreci ve SPSS ile Veri Analizi. 4. Baskı, Ankara: Detay Yayıncılık.

Uskun, E., Alptekin, F., Öztürk, M. & Kişioğlu, A. N. (2008). Ev Hanımlarının Ev Kazalarını Önlemeye Yönelik Tutum ve Davranışları ile Ev Kazalarına Yönelik İlkyardım Bilgi Düzeyleri. Ulus Travma Acil Cerrahi Dergisi, 14 (1): 46-52.

Usta, G., Küçük, U. & Torpuş, K. (2017). Meslek Yüksekokulu Öğrencilerinin İlkyardım Bilgi Düzeyleri ve Tutumlarının Belirlenmesi. Hastane Öncesi Dergisi, 2 (2): 67-77.

Utlu, N. & Altan, A. (2021). Meslek Yüksekokullarında Yetişen Yardımcı Sağlık Personelinin İlk Yardım Eğitimlerinin Etkinliği ve Yeterliliği. Haliç Üniversitesi Sağlık Bilimleri Dergisi, 4 (1): 85-97.

Vaizoğlu, S., Evci, E. D., Kapısız, E., Özcan, S., Soylu, G., Ünal, B., Ünlü, N., Zu'by, B. & Güler, Ç. (2003). İlköğretim Öğrencilerinin Temel İlkyardım Bilgi Düzeyinin Değerlendirilmesinde Soru Tekniğinin Etkisi. Sürekli Tıp Eğitimi Dergisi (STED), 12 (6): 227-230.

Weiler, B. & Davis, D. (1993). An Exploratory Investigation into the

Nature-based Tour Leader. Tourism Management, 14 (2): 91-98, Doi: 10.1016/0261-5177(93)90041-I

Wong, C. U. I. & McKercher, B. (2012). Day Tour Itineraries: Searching for the Balance between Commercial Needs and Experiential Desires. Tourism Management, 33 (6): 1360-1372, Doi: 10.1016/j.tourman.2011.12.019

Yetiş, G. & Gürbüz, P. (2018). Sağlık Hizmetleri Meslek Yüksekokulu Öğrencilerinin İlkyardım Bilgi Düzeylerinin Belirlenmesi. İnönü Üniversitesi Sağlık Hizmetleri Meslek Yüksekokulu Dergisi, 6 (2): 64-76.

Yüksel Çaylak, N., Aydemir, A., & Ayyıldız, M. (2024). Spor Lisesi Öğrencilerinin İlk Yardım ve Temel Yaşam Desteği Bilgi Düzeyi. Doğal Yaşam Tıbbı Dergisi, 6 (2): 71-81, Doi: 10.71051/jnlm.1564404