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| Research Article / Araştırma Makalesi |

# Learning Needs of Primary Schools Teachers about First Aid[1]

# İlkokul Öğretmenlerinin İlk Yardım Konusundaki Öğrenme Gereksinimleri

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**Keywords**

1. adult education
2. learning need
3. first aid knowledge
4. primary school teachers

**Anahtar Kelimeler**

1. yetişkin eğitimi
2. öğrenme ihtiyacı
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## Abstract

*Purpose:* The aim of this research was to determine the knowledge of first aid and the learning needs surrounding first aid education of teachers working in public primary schools.

*Design/Methodology/Approach:* This descriptive study was undertaken through a sample of 214 teachers working in 15 public primary schools in Amasya City, Turkey. Data collection was achieved via a questionnaire consisting of items regarding teachers' characteristics and basic first aid knowledge. One point was given for each correct answer. The data were collected through face-to-face interviews. Statistical analyses were performed using descriptive statistics.

*Findings:* In total, 47.2% of the primary school teachers who participated stated that they had previous training on first aid, and 11.7% of teachers felt that their knowledge was sufficient about first aid knowledge and equipment. Overwhelmingly, 70.5% of teachers had been confronted with situations needing first aid at school. In this study, it was found that teachers had medium-level first aid knowledge scores. Most teachers answered questions incorrectly regarding foreign body punctures in the abdominal region and nosebleeds (%89.3, %83.2 respectively).

*Highlights:* It was revealed that the teachers have insufficient knowledge about first aid, and it was determined that teachers have learning needs relating to first aid. Accordingly, it is recommended that training is provided for teachers on first aid through in-service training programs. Moreover, the problem needs to be addressed, and the addition of first aid education in the teachers' training curriculum might be suggested.

## Öz

*Çalışmanın amacı:* Kamu ilk okullarında çalışan öğretmenlerin ilk yardım konusunda öğrenme ihtiyaçlarının saptanmasıdır. .

*Materyal ve Yöntem:* Durum saptamaya yönelik betimsel bir çalışma olup tekil tarama modeli esas alınarak yürütülmüştür. Tanımlayıcı olan araştırmanın evrenini Amasya merkeze bağlı 15 ilkokulda çalışan 214 öğretmen oluşturmuştur. Bu araştırmada evrenin tamamına ulaşılması hedeflenmiştir. Veriler anket formu aracılığıyla yüz yüze görüşme yöntemi ile toplanmış ve SSPS programında analiz edilmiştir. .

*Bulgular:* Kamuya bağlı ilkokullarda görev yapmakta olan öğretmenler üzerinde yapılan çalışmada, öğretmenlerin ilk yardım bilgi puanları orta düzeyde olarak belirlenirken, öğretmenlerin % 11.7'sinin ilk yardım bilgi ve donanımı ile ilgili olarak kendini yeterli bulduğu ve % 17.8'inin ilk yardımla ilgili herhangi bir eğitime katılmadığı belirlenmiştir. Araştırmaya katılan ilkokul öğretmenlerinin %47,2'si daha önce ilk yardım konusunda eğitim aldıklarını belirtmiştir. Katılımcıların %89.3'ü karın bölgesine yabancı cisim saplanması (epilepsi) ve % 83.2'si burun kanaması (epilepsi) ile ilgili sorulara yanlış cevap vermişlerdir.

*Önemli Vurgular:* Öğretmenlerin ilk yardım konusunda öğrenme ihtiyaçlarının olduğu tespit edilmiş ve öğretmenlere ilk yardım konusunda hizmetiçi eğitim verilmesi önerilmiştir. Ayrıca, öğretmen yetiştiren okulların eğitim müfredatına ilk yardım eğitiminin eklenmesi önerilebilir.

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## INTRODUCTION

The concept of need in education was first brought to the agenda by John Dewey, and his supporters suggested a student-centered approach in which the student is active. The concept of need is placed in a much more important place in adult education (Uysal, 2013). The characteristics of adults regarding learning, the need for lifelong learning, and adult education based on volunteering have increased the importance of the concept of "need" in adult education. The concept of need is used in the sense of the lack of anything in daily life. In other words, "need" is defined as a discrepancy existing between a present state and the desired state (Bülbül, 1991; Doğan, 1997; Kowalski, 1988; Uysal, 2013). The concept of need is defined in different ways in the literature. "Need" for an adult is the difference between the demanded and existing conditions (Igarashi, Suveges, & Moss, 2002, p. 60). Beatty (1981) described the concept of need as follows: "It is the measurable inconsistency that exists between a current situation and a demanded situation put forward by an authority or someone." Kaufman and Herman (1991) defined the concept of need as the difference between the existing competencies and the desired competencies of staff depending on the requirements of the job or service. Training programs are designed to narrow or close this gap (Mclean, 2000).

Correctly establishing the relationship between education and needs in adult education brings different types of needs into the agenda. One of the types of needs encountered in adult education is "felt needs." Since the felt needs (or demands) were determined only according to the individual, they were found insufficient in defining the educational goals. The second need term may correspond to a lack of knowledge, attitude and/or skill within a person. This concept is often referred to as "real need." The fact here showed that not only does an individual set their criteria, but so can an outside observer (Monette, 1977, pp. 117-122). Real need is defined as the lack of purpose in relation to the environment of the individual, group, institution, or society (Atwood & Ellis, 1971, cited by Soofi, 1984). Making the right decisions about the educational needs of adults makes systematic needs and determination processes one of the important components of program planning (Bülbül, 1991; Kowalski, 1988; Uysal, 2013).

The educational need is defined as the difference between the existing behavior and the required behavior; the existing competence and the required competence (Bülbül, 1991; Doğan, 1997; Kowalski, 1988; Uysal, 2013). Monette (1977) stated that educational needs could be defined either from an individual's perspective or an external perspective by objectively identifying the lack of knowledge, skills, and attitudes (p. 121). Kuh, Orbangh, and Byers (1981) stated that undermining the reliability of the results obtained showed the defects or weaknesses experienced in the educational need determination process.

Knowles (1996) asserted the three dimensions of needs in adult education: (1) the needs of the participants, (2) the needs of the institutions, and (3) the needs of the community. Both Knowles and other adult educators always prioritize the needs of the participants as a service ethic. If a program does not meet the needs of the participants, it will not attract the attention of the individuals, so participation in the program is low or expected from the training cannot be achieved (Jarvis, 1986, 63-64).

Apart from the educational needs of adults, the needs of the institution and society should also be taken into consideration during the needs determination phase. While an adult may need to learn to read, he/she may also have a need for increasing his/her productivity in the institution (educational needs, performance-related problems, new job opportunities, or technological developments) (Rand, 1976, p. 1). Needs assessments that are extremely comprehensive in issues such as employers' expectations and society expectations should also be taken into consideration (Caffarella, 1994, p. 68).

Conceptualizing and evaluating the needs of adult students is very important in designing learning environments. On the other hand, identifying individual needs helps adult learners to maintain their motivation in the learning process while helping them to perform learning activities designed to achieve their learning goals in the best way (Diep et al., 2019). Adult learners have unique educational needs that require attention from higher education institutions, facilitators, and the industry (Owusu-Agyeman, Fourie-Malherbe, & Frick, 2018).

The most important criticism of adult education programs is that they do not meet the needs of their learners. The main source of the problem is that adult educators' own predictions assume the need of a learning group and plans their programs accordingly, without consideration of the individual needs of the adult learners (Rauch, 1972, p. 113).

Needs assessments are basically research. This research can be carried out directly on potential participants or can be obtained from indirect sources. There is no single acceptable method on this subject, and planners can use one or more of them within their possibilities and needs; direct research techniques such as tests, survey, interview, Q-sort, nominal group technique, job analysis, community impression technique can all be used (Caffarella, 1994, p. 88).

The main approaches to identifying educational needs can be classified into four categories: differences approach, democratic approach, analytical approach, and description approach.

Differences approach: In this approach, educational needs are determined by revealing the difference between the existing and the desired or expected competencies in teachers. In this approach, firstly, competence areas and competencies are determined by experts, and then it is investigated which of these competencies exist in the teacher (Dillon, 1981, p. 69).

Democratic approach: In this approach, it is envisaged that participation in the needs assessment process includes everyone (teacher, student, school principal, parent, etc.) who will be affected by the results of the needs assessment study. Although the learning needs of teachers are determined by taking the opinions of all concerned, the opinions of teachers are of particular importance (Crocker, 1981, p. 29; Dillon, 1981, p. 70).

Analytical approach: This is the process of determining the learning needs of teachers based on possible potential situations that may arise (Gözütok, 1991, p. 13).

Description approach: It is the process of determining the needs based on the benefit of the existence of that experience with the damage caused by the absence of life. It is the examination of the situation that arises in cases of deprivation of certain things or educational experiences that meet the needs (Gözütok, 1995).

If adult education is to fulfill both educational and social goals, the needs of adult learners must be addressed first. To achieve these goals, "the creativity and energy of the instructional designers and course instructors" are critical factors (Diep et al., 2019). By first determining the learning needs, training courses can then be conducted, which can provide great benefits to both the teachers (adult learners) and the institution (Kaya, Küçük, & Cepni, 2004).

Recently, "first aid" knowledge and skills are among the human qualities that society needs. It is common that people may be exposed to accidents, natural disasters, and diseases, where people can die or may be permanently disabled. First aid is one of the most important issues in health education today.

The World Health Organization (WHO) (1998) aims to reduce accidents and violence-related deaths and injuries by at least 50% by 2020. To meet this goal, WHO has launched projects that offer widespread first aid training in Turkey and throughout the world. Within the framework of the WHO, the Ministry of National Health has prepared the First Aid Regulation (Resmi Gazete, 2004). The purpose of this Regulation is to increase basic health knowledge of individuals and society, teach first aid knowledge and skills to the society, keep first aiders in all public and private institutions/organizations according to the number of personnel and in this direction, and it aims to organize first aid training by authorized institutions.

First aid is described as the action exerted on some victim in the encounter of an emergency situation (Oliveira et al., 2015). As the arrival of healthcare professionals can generally take some time, these acts need to be initiated by people present at the place who witness the situation (Malta et al., 2012). Thus, it is essential that teachers, in its variety of contexts, be empowered to take the leading role of first aid acts (Galindo Neto et al., 2018).

The teacher and the teaching center have a crucial role in the improvement of health and prevention of accidents among children and adolescents while in school. The poorly of knowledge on the part of professionals can bring numerous problems such as improper handling of the victim or deficiency for psychological preparation to influentially handle an emergency situation. Therefore, first aid knowledge for teachers is essential and can potentially save a life (Oliveira, Lion Junior, & Borges, 2015). Some studies showed that 10% of deaths occur in the first five minutes of the accident and 50% in thirty minutes. In addition, it has been determined that death can be decreased by up to 38% through first aid application if it is performed within the first five minutes of the accident. Therefore, first aid response by a trained individual can be most influential, thanks to an adequate and timely response in the accident place (Singer, Gulla, Thode, & Cronin, 2004; Lingard, 2002). These studies showed that it is vital for people who witness accident situations to be knowledgeable about first aid. For this reason, teachers should have access to training and relevant information about first aid.

Teachers are the first to assist the student in an accident or injury at school. Therefore, teachers need to know basic first aid rules (Uskun, Alptekin, Öztürk, & Kişioğlu, 2008). In the literature, the results of research studies showed that the first aid knowledge of teachers working at schools is not sufficient at present (Al-Robaiaay, 2013; Al-Samghan, Al-Shahrani, & Al-Shahrani, 2015; Erkan & Göz, 2006; Hosapatna et al., 2020; Kaur & Kaur, 2017; Mohsen & Zahra, 2019; Nayir et al., 2011; Özpulat & Sivri, 2013; Pandey et al., 2017; Saruhan, Saruhan, Yıldırım, & Ovayolu, 2018; Sönmez, Uskun, & Pehlivan, 2014). These results suggested that teachers do not know the importance of first aid. In this context, it is thought that quantitative research should be carried out to determine the learning needs of primary school teachers who provide primary education to students, provide the first contact with the outside world, and refer them to research. In this way, it can be revealed which subjects teachers need to be informed and then studies can be initiated to eliminate the deficiencies identified. In light of this information, the examination of the learning needs about basic first aid of teachers who are working in public primary schools is the problem of this research.

**Research Questions**

The aim of this study was to determine the learning needs about first aid of teachers working in public primary schools. In line with this basic purpose, answers were sought for the following questions:

1) What are the socio-demographic characteristics of teachers?

2) What are the learning needs about first aid of teachers working in public primary schools?

## METHOD/MATERIALS

### The Model of the Study

This research is a descriptive study seeking to reveal the current situation and was conducted based on the scanning model. The quantitative research method was used in this study. A screening model is a research approach that aims to describe a situation or event as it exists in the past or present (Karasar, 2020, p.111).

### Population and Sample

The scope of the research was composed of teachers working in various branches (N=250) in 15 public primary schools in the city of Amasya. The research sample consisted of all members of the population. The questionnaire was distributed to 250 teachers, 214 of whom consented to participate in the study by returning the completed questionnaire (97 classroom teachers, 117 branch teachers). A total of 214 completed questionnaires were returned (response rate=85.6%) and analyzed. Convenience sampling was used as a sampling technique in this research. Convenience sampling is a non-probability sampling method that involves conveniently available study participants. This sampling method is cost-effective and allowed for data collection from available population members (Grove, Burns, & Gray, 2013).

Before starting the research, a written consent form was obtained from the Amasya Provincial Directorate of National Education, and the participation of teachers was voluntary. Verbal consent was obtained by explaining the purpose of the research to the teachers at the data collection stage, and then the questionnaire was issued. The researchers went to the schools, the purpose of the research was explained, and the teachers were asked to voluntarily fill in the data collection tools.

### Data Collection Tool

In this research, the "Scientific Survey Instrument" developed by Şahin (2011) was used. This questionnaire consisted of two parts. In the first part of the questionnaire, there were 12 questions to determine the demographic information of the teachers, and in the second part, 15 questions were designed to measure the first aid knowledge of the teachers. The survey instrument consisted of a total of 27 questions. Teachers' first aid knowledge score was calculated by giving 1 point for each correct answer of 15 multiple choice first aid knowledge questions with one correct answer. The lowest score that could be obtained from first aid knowledge questions is 0, and the highest score is 15. Cronbach Alpha value was calculated to determine the reliability of the scale. The Cronbach Alpha reliability coefficient was found to be 0.815 (Şahin, 2011). In this study, Cronbach's Alpha reliability coefficient of the scale was determined to be 0.93. Nunnally (1978) stated that the coefficient for the reliability measurement needs to be over 0.70. The results of all analyses showed that the survey is a valid and reliable scale in determining teachers' learning needs about basic first aid.

### Statistical Analysis of Data

In the present study, the SPSS 22.0 Statistics package program (SSPS Inc. Chicago, II, USA) was used in the statistical analysis of the data obtained with the data collection tool. The descriptive statistics such as the mean, standard deviation, frequencies, and the minimum and maximum scores were computed.

## FINDINGS

**Table 1. Personel Characteristics of Teachers in the Study Sample**

| Variable | | Frequency (n) | Percentage (%) |
|---|---|---|---|
| Gender | Female | 105 | 49.1 |
| | Male | 109 | 50.9 |
| | Total | 214 | 100.0 |
| Age (year) | 20-25 | 12 | 5.6 |
| | 26-30 | 15 | 7.0 |
| | 31-35 | 40 | 18.7 |
| | 36-40 | 43 | 20.1 |
| | 41-45 | 34 | 15.9 |
| | 46-50 | 36 | 16.8 |
| | 51-55 | 16 | 7.5 |
| | 56+ | 18 | 8.4 |
| | Total | 214 | 100.0 |
| Marital Status | Married | 169 | 79.0 |
| | Single | 24 | 11.2 |
| | Divorced | 17 | 7.9 |
| | Widowed | 4 | 1.9 |
| | Total | 214 | 100.0 |
| Education Level | Associate Degree | 34 | 15.9 |
| | Bachelor's Degree | 168 | 78.5 |
| | Master's Degree | 9 | 4.2 |
| | Other | 3 | 1.4 |
| | Total | 214 | 100.0 |
| Graduated Higher Education Institution | Faculty of Education | 133 | 62.1 |
| | Institute of Education | 29 | 13.6 |
| | Faculty of Science and Literature | 20 | 9.3 |
| | Other | 32 | 15.0 |

| | | | |
|---|---|---|---|
| | Total | 214 | 100.0 |
| Field of Study | Science/Mathematics | 40 | 18.7 |
| | Social/Turkish | 52 | 24.3 |
| | Visual Arts | 8 | 3.7 |
| | Foreign Language | 17 | 7.9 |
| | Other | 97 | 45.3 |
| | Total | 214 | 100.0 |
| Teaching Experience (years) | ≤ 5 | 21 | 9.8 |
| | 6-10 | 35 | 16.4 |
| | 11-15 | 46 | 21.5 |
| | 16-20 | 31 | 14.5 |
| | 21-25 | 30 | 14.0 |
| | ≥ 26 | 51 | 23.8 |
| | Total | 214 | 100.0 |

In Table 1, 49.1% of the participants were female teachers, and 50.9% of them were male teachers. In addition, 20.1% of the teachers who participated in the study were between the ages of 36-40, 18.7% between the ages of 31-35, 16.08% between the ages of 46-50, and 15.9% between the ages of 41-45. 79% of the research participants were married, and 11.2% of them were single. The rate of divorced and widowed persons was 9.8%.

Table 1 shows that 18.7% of teachers had studied in the fields of Science-Mathematics, 24.3% Social-Turkish, 3.7% Visual Arts, 7.9% in the field of Foreign Language and 45.3 % in classroom teachers.

Table 1 shows that 23.8% of the teachers who participated in the study had a working experience of was 26 years or more. There were 21.5% of the participants who worked for 11-15 years. Around 16, 15, 14, and 10% of the participants had a teaching experience between 6-10, 16-20, 21-25, and 1-5 years, respectively.

**Table 1. Personel Characteristics of Teachers in the Study Sample (Continue)**

| Variable | | Frequency (n) | Percentage (%) |
|---|---|---|---|
| Having received first aid training | Yes | 101 | 47.2 |
| | Partially | 75 | 35.0 |
| | No | 38 | 17.8 |
| | Total | 214 | 100.0 |
| Self-sufficient about first aid knowledge equipment | Yes | 25 | 11.7 |
| | Partially | 119 | 55.6 |
| | No | 70 | 32.7 |
| | Total | 214 | 100.0 |
| Frequent encounters with situations that require first aid at school | Yes | 27 | 12.6 |
| | Partially | 124 | 57.9 |
| | No | 63 | 29.4 |
| | Total | 214 | 100.0 |
| Existing healthcare worker at school | Yes | 4 | 1.9 |
| | No | 210 | 98.1 |
| | Total | 214 | 100.0 |
| Existing first aid cabinet | Yes | 176 | 82.2 |
| | No | 38 | 17.8 |
| | Total | 214 | 100.0 |

In Table 1, 47.2% of the teachers who participated in the research stated that they had received partial training about first aid before, whereas only 11.7% of teachers stated that they find themselves sufficient with first aid knowledge equipment. While 12.6% of the teachers stated that they frequently encountered situations requiring first aid at school, 57.9% of teachers stated that they partially encountered situations requiring first aid. 82.2% of teachers who participated in the research stated that there is a first aid cabinet at the school, while 98.1% of the participants stated that there is no health worker at the school.

**Table 2. Teachers' Scores From First Aid Knowledge Questions**

| | n | Mean | Median | Minimum | Maximum | SD |
|---|---|---|---|---|---|---|
| First Aid Knowledge Total Score | 214 | 7.60 | 8.00 | 1.00 | 11.00 | 1.90 |

In Table 2, descriptive statistics such as average, standard deviation, minimum and maximum value of the teachers who participated in the research regarding first aid knowledge questions are presented. The mean scores of first aid knowledge

questions were 7.60 (SD1.90), indicating that the first aid knowledge of teachers was medium level, and it was observed that the teachers got the lowest 1.00 and the highest 11.00 points from the first aid knowledge questions.

**Table 3. Distribution of Teachers' First Aid Knowledge Scores**

| Item No. | | Correct Answers | | Incorrect Answers | | Total | |
|---|---|---|---|---|---|---|---|
| | **Topic** | n | % | n | % | n | % |
| 1 | Definition of first aid | 195 | 91.1 | 19 | 8.9 | 214 | 100.0 |
| 2 | Who can practice first aid? | 188 | 87.9 | 26 | 12.1 | 214 | 100.0 |
| 3 | What should not be done to a student who has epistaxis? | 36 | 16.8 | 178 | 83.2 | 214 | 100.0 |
| 4 | What should not be done when a foreign body is stuck in the abdomen? | 23 | 10.7 | 191 | 89.3 | 214 | 100.0 |
| 5 | What should be done to a student who has an epileptic seizure? | 131 | 61.2 | 83 | 38.8 | 214 | 100.0 |
| 6 | Which of the following is wrong to do to a student who has an asthma attack? | 116 | 54.2 | 98 | 45.8 | 214 | 100.0 |
| 7 | What should not be done in burns caused by heat? | 108 | 50.5 | 106 | 49.5 | 214 | 100.0 |
| 8 | Knowing cardiac massage and artificial respiration | 29 | 13.6 | 185 | 86.4 | 214 | 100.0 |
| 9 | Performing cardiac massage and artificial respiration | 15 | 7.0 | 199 | 93.0 | 214 | 100.0 |
| 10 | Knowing the areas where the pulse is in the body | 182 | 86.0 | 30 | 14.0 | 214 | 100.0 |
| 11 | In how many minutes of cardiac arrest should be intervened ? | 152 | 71.0 | 62 | 29.0 | 214 | 100.0 |
| 12 | What kind of ground should the cardiac massage be applied? | 185 | 86.4 | 29 | 13.6 | 214 | 100.0 |
| 13 | What should not be done to a person who drinks acidic substances? | 126 | 58.9 | 88 | 41.1 | 214 | 100.0 |
| 14 | Pressure should be applied to the bleeding area to stop external bleeding | 174 | 81.3 | 40 | 18.7 | 214 | 100.0 |
| 15 | What should not be done to an unconscious person? | 193 | 90.2 | 21 | 9.8 | 214 | 100.0 |

In Table 3, the percentage of correct answers to the first aid knowledge questions varied between be 10.7% and 91.1%. The least well-known questions were the knowledge that the foreign body should not be removed when the foreign body is stuck in the abdominal area (n=23, 10.7%) and what to do with a nose bleed (n=36, 16.8%). The definition of first aid and practitioners was known by the majority of the participants (91.1%, 87.9%, respectively).

The participants in the study gave wrong answers to questions related to 83.8% of epistaxis, 89.3% of foreign body stubs, 49.5% of burns, 45.8% of asthma. In the question, "Which of the following should not be done to a student who has epilepsy/epileptic seizures?" 38.8% of the participants incorrectly answered the question. In the question, "In how many minutes of cardiac arrest should be intervened?" 71.0% of the participants answered the question correctly. 86.4% of the participants correctly answered the question, "Cardiac massage should be applied on a hard surface." 41.1% of the teachers who participated in the research answered the question, "What should not be done to a person who drinks acidic substances?" answered incorrectly. 18.7% of the participants incorrectly answered the question, "Pressure should be applied on the bleeding place to stop external bleeding." 90.2% of the teachers correctly answered the question regarding what should not be done to an unconscious person (see Table 3).

86.4% of the teachers who participated in the study stated that they did not know how to apply cardiac massage and artificial respiration. According to these answers, it can be seen that most of the teachers participating in the research do not know how to perform cardiac massage and artificial respiration. 93% of teachers stated that they had not performed cardiac massage and artificial respiration. 86% of the teachers who participated in the research stated that they knew the body's regions where the pulse is. These responses show that most of the teachers participating in the study know the areas of the body that are pulsating (see Table 3).

Considering the rate of answering according to the topics they contain, the most correct answers were the questions about the definition of first aid and the practitioners and what to do with an unconscious person. The least correctly answered questions were about the approach to someone who drinks an acidic substance, what to do with a nosebleed, what should not be done when a foreign body is stuck in the abdomen, and performing cardiac massage and artificial respiration.

## DISCUSSION

In the study aiming to determine the learning needs of teachers working in public primary schools in Amasya city center, Turkey, it was determined that more than half of the teachers participating in the study have never, or only partially, received first aid training in the past. Many studies can be found in the literature with similar results to the present study. Most respondents (53.0%) with no former training in first aid stated that they didn't receive any training because they had never considered it (Abelairas-Gómez et al., 2020). In a recent study in Iran, about 40% of school teachers who participated stated that they took former training on first aid (Mohsen & Zahra, 2019). Al Yahya et al. (2019) assessed the knowledge, attitude, and practice of first aid among male school teachers and administrators in Saudi Arabia. They reported that the majority of the participants (73%) had not attended seminars or training courses on first aid before. Joseph et al. (2015) surveyed 146 teachers, which showed that more than half (53%) of teachers had not taken first aid training before. In the research where Bozkurt, Özbar, Çekiç, and Yetgin (2015) investigated the knowledge levels of 72 different branch teachers working in secondary and primary schools affiliated to the

Ministry of National Education with regard to basic life support, 25% of the teachers did not have any knowledge about first aid and had not received any education. Another study on first aid practice among school teachers reported that 2.96% of teachers had taken first aid training. In a study conducted in the Dehradun district of Uttarakhand, about half of primary school teachers (n=50, 86%) had not attended any specific seminar or workshop relating to first aid management of minor injuries (Masih, Sharma, & Kumar, 2014). In a study conducted by Nayir et al. (2011) in the Isparta province, it was found that 61.5% of teachers had not received first aid training. This deficiency is also emphasized in Hırça's (2012) study. Dinçer, Atakurt, and Şimşek (2000) reported that teachers did not receive first aid education in the study examining the knowledge level of the teachers working in institutions. It can be said that these rates reveal the need for training about first aid of these teachers who are working directly in schools to increase their level of knowledge and improve the care provided to students. Teachers who spend most of their time with children in schools have the most effective educational role in preventing accidents (Avery & Jackson, 1993). These teachers in the school environment should receive special and continuous training with health professionals in order to be qualified in emergency situations (Calandrim et al., 2017). First aid should be a mandatory subject in school and teacher training curricula. It is necessary to establish "what the teachers know" in order to identify "what they need to learn" and determine "what" needs to be taught and "how."

In the present research, it was found that the majority of teachers working in primary schools considered themselves as insufficient about first aid information equipment. In the studies conducted in Isparta, Afyonkarahisar and Ankara, the rates of feeling sufficient about first aid were found to be low, similar to our study (15.5, 13.6, 16.7%, respectively) (Dinçer, Atakurt, & Şimşek, 2007; Sönmez, Uskun, & Pehlivan, 2014; Yürümez et al., 2007). Carter, Bannon, and Jones (1994) stated that very few teachers have sufficient knowledge and require first aid training to determine the role of teachers in preventing accidents. Nayir et al. (2011) reported that 86.0% of the teachers participating in the study had inadequate first aid knowledge, and 81.0% wanted to receive first aid education. The teachers' inappropriate knowledge of first aid will decrease the chance of students to receive proper and punctual first aid, which consequently may raise the risk of complications after an incident in the school environment. Therefore, the Ministry of National Education is responsible for planning and implementing first aid teaching programs for all school teachers, or at least for teachers selected from each school (Mohsen & Zahra, 2019). It can be thought that the competence of first aid knowledge of primary school teachers should be raised with qualified educational programs. To reach this goal, as recommended by WHO (1998), it is essential to train the teaching staff.

In the present research, the majority of teachers stated that they encountered situations requiring first aid at the place where they worked (in schools). This indicates the importance of teachers' knowledge about first aid. On the same line, in a study in Saudi Arabia, 45.4% of the total study had former experience in dealing with injured children in school (Al Yahya et al., 2019). Studies in Ankara, Brazil, Africa, and India have shown similar results for teachers facing accidents at school, acknowledging that they have limited knowledge to act correctly and feel insecure (Dinçer, Atakurt, & Şimşek, 2000; Galindo Neto et al., 2018; Ngayimbesha & Hatungimana, 2015; Oliveira, Silva, & Toledo, 2013). Nayir et al. (2011) stated that about half of the teachers encountered a situation requiring first aid in their workplace. The role of teachers is crucial especially in developing countries where school health services are often neglected. However, this role can only be properly achieved if teachers are equipped with the needed knowledge and skills (Al-Samghan, Al-Shahrani, & Al-Shahrani, 2015; Ganfure et al., 2018).

In the present research, the average score of teachers on first aid knowledge questions was found to be 7.60. In general, it can be said that they had a moderate level score of first aid knowledge, consistent with the results of other studies. In the studies conducted in India and Turkey, the rates of feeling sufficient about first aid were found to be moderate, similar to our study (Kaur & Kaur, 2017; Nayir et al., 2011; Sönmez, Uskun, & Pehlivan 2014; Yürümez et al., 2007). Similarly, Joseph et al. (2015) surveyed 146 teachers and reported that 87% of them had a moderate level score of first aid knowledge. A study in Brazil showed that 19.0% of the teachers interviewed had a good level of knowledge in emergency situations and 50.5% presented insufficient performance to act in emergency situations (Calandrim et al., 2017). A cross-sectional descriptive study has been carried out on teachers' first aid knowledge at public primary schools in the city of Abha, Kingdom of Saudi Arabia, where 187 teachers were included in the study, and it was determined that teachers' first aid knowledge levels were not sufficient according to the results of the study (Al-Samghan, Al-Shahrani, & Al-Shahrani, 2015). In a similar study, it was emphasized that teachers assigned in health had an average level of knowledge about first aid; therefore, the level of knowledge of teachers should be increased (Pandey et al., 2017). Amro and Otait (2017) conducted a first aid knowledge study with teachers selected for the purpose in schools selected by simple random sampling in the south city of El-Halil, Palestine, and the average first aid knowledge score level was determined as 71.41%. In the studies conducted in Iran and the Kingdom of Saudi Arabia, it was determined that teachers' first aid knowledge levels were not sufficient according to the results of the study (Al-Samghan, Al-Shahrani, & Al-Shahrani, 2015; Mohsen & Zahra, 2019). Similarly, Bildik et al. (2011) conducted a study in order to determine the first aid knowledge level of the students who are teacher candidates and the effectiveness of the first aid training. This study included 88 students at Gazi University, Faculty of Education (in Ankara). It was stated that the first aid knowledge among students at Education of Faculty was insufficient. Lack of knowledge among teachers may be associated with the absence of training or inadequate training. Esteves et al. (2015) stated that the lack of training, reflected in lack of preparation for teachers, contributes to the fact that the experiences are not constructive but rather traumatic and ones that are permeated by negative feelings. This study emphasized that these teachers in the school environment need to have specific and continuous training with health professionals to be qualified in emergencies at the schools. Determining the target and content for the training to be delivered in a meaningful and realistic manner in terms of the needs of the participants provides adults to tend to actively participate in educational activities (Synder & Wolfe, 1997).

Considering the response rates according to the topics, the most correct answers were the definition of first aid and questions related to first aid practitioners, which should not be done to an unconscious person, and knowledge that cardiac massage should not be done on a soft surface. The least correct answers were questions about the approach to someone with a foreign body stuck in the abdominal region and what to do with epistaxis. The teachers' lack of knowledge was attributed to the absence of first aid training in the educational curriculum. In many situations, the lack of knowledge leads to numerous problems, such as states of panic when a teacher sees the victim, teachers' incorrect handling, and unnecessary requests specialized in emergency aid (Oliveira et al., 2015). It is in this context that it becomes important knowledge about first aid among public primary school teachers.

In the present study, the definition of first aid and practitioners was known by the vast majority of the participants (91.1%, 87.9%, respectively). Our results contradict the study of Hosapatna et al. (2020), who conducted a study among teachers in India. A total of 5.7% of the teachers had heard of first aid, while 94.3% were unfamiliar with the concept of first aid. It can be said that the majority of school teachers in India had low knowledge of first aid management.

In the present study, few participants knew correctly that the head of a child with a bleeding nose should not be laid back. The rate of teachers responding to the question about first aid to be given to a person with nasal bleeding was found to be low. Our result matched Al Yahya's et al. (2019) result; they stated that when asked what you will do if a child has epistaxis, 62.2% answered incorrectly. Although it was about the position of the child when having a nose bleed which is one of the commonest incidences in primary school children, but still the old misconception of the right position has not changed, proving the lack of knowledge. The fact that most teachers can practice wrongly even in situations where they may be encountered frequently is thought. Moreover, in the study carried out in Isparta, 42.7% of the teachers had incorrectly known that the child's head should not be receded in epistaxis. It was concluded that 42.7% of the teachers incorrectly knew how to intervene in the case of nosebleeds, in which the pre-school teachers' first aid knowledge level was examined (Sönmez, Uskun, & Pehlivan, 2014). The fact that most teachers can practice wrongly even in situations where they may be encountered frequently is thought. In cases of nasal bleeding, the application of ice may be performed on the forehead and neck; use of a clean compress for direct pressure in cases of bleeding, with due care to wrap hands in impermeable material (such as a plastic bag) (Oliveira et al., 2015).

In the present research, most participants stated that they did not know how to perform cardiac massage and artificial respiration. Similar to a study conducted in the region of Galicia, Spain, only 4 participants were able to put in the correct order the steps of the basic life support sequence, and nobody answered all the questions about cardiopulmonary resuscitation correctly (Abelairas-Gómez et al., 2020). In a Brazilian study, it pointed out the lack of knowledge about first aid among teachers (Calandrim et al., 2017), as well as studies from Turkey, Nigeria, and China showed a parallel reality with teachers about cardiopulmonary resuscitation (Erkan & Göz, 2006; Hung et al., 2017; Onyeaso & Onyeaso, 2017). Regarding the feelings reported by the teachers, they corroborate qualitative research from Norway, which interviewed people who provided first aid for victims of cardiovascular collapse and whose results showed the presence of nervousness, fear, and anguish (Mathiesen, Bjørshol, Braut, & Søreide, 2016). Such feelings are commonplace in the face of the complexity of the situation and can be minimized if teachers feel more secure through being trained.

In the present study, about half of the participants knew correctly how to manage a case with drinks an acidic substance. In Isparta, 35.5% of teachers (Sönmez, Uskun, & Pehlivan, 2014) and 16.7% of preschool teachers in Ankara knew the first aid application in case of drinking acid substance (Dinçer, Atakurt, & Şimşek, 2007). Nayir et al. (2011) emphasized that teachers lacked knowledge about the approach to someone who drinks an acidic or basic substance (29.4%). The correct response rate to first aid applications was found to be quite low. It is a known fact that those who drink acidic substances should not be vomited (Ege, 1981)—considering the importance of not vomiting in approaching a person who drinks acidic substances, the importance of the training to be held on such important matters increases.

In the present study, 38.8% of teachers incorrectly answered the question regarding the first aid application to be made to a student with an epileptic seizure. Our result matched with many studies that demonstrated deficient knowledge about epilepsy among teachers (Al-Samghan, Al-Shahrani, & Al-Shahrani, 2015; Tahirovi'c & Toromanovic, 2006). In a study conducted on teachers about interventions and what should be done in the case of epilepsy disease in childhood in the USA, it was determined that the general level of knowledge of teachers about epilepsy disease was sufficient but insufficient in first aid interventions in the crisis (Bishop & Boag 2006). This problem can only be overcome with the planning of training studies on the subject. First aid training programs for teachers should be organized by healthcare professionals who know the subject in public education centers.

In the present research, most of the teachers knew correctly how to manage the loss of consciousness. On the same line, in another study in Saudi Arabia, 68.4% of teachers knew correctly (Al-Samghan, Al-Shahrani, & Al-Shahrani, 2015).

In the present study, about half of the teachers knew correctly how to manage a case with an asthma attack. On the same line, in another study in Turkey, 46.8% of teachers knew correctly (Şahin, 2011). In order to minimize the risk of accidents in schools, to save lives with simple first-aid applications in accidents that occur, First aid courses for teachers should be organized. The organized courses are often conducted without a needs analysis, and they cannot go beyond theoretical knowledge transfer. It is important to consider the demands and needs of teachers in the regulation of the content of first aid courses.

In the present study, 7.8% of the teachers who participated in the study stated insufficient existing a first-aid cabinet and 98.1% insufficient health workers. In comparison to another study in India, the schools that were visited during the study were not

equipped with any first aid facility or sick room to take care of students during medical emergencies (Hosapatna et al., 2020). In another study, about 44.4% of schools had no first aid kit (Joseph et al., 2015). It is also important to have first-aid kits in schools and trained personnel who can provide first aid in case of an accident. First aid facilities were found to need improvement at schools surveyed, including through the provision of fully equipped first aid kits, a separate sick room to handle medical emergencies, posters outlining standard first aid procedures for the management of medical emergencies, and videos illustrating first-aid practices. These measures will serve to make schools a safer environment for children. The topic first aid kit must be attached to the school curriculum in order to be assimilated by the teachers and students, creating good habits and attitudes (Rodrigues & Rodrigues, 2016).

As a result, they stated that the first aid knowledge scores of the teachers working in public primary schools were moderate, and the majority of them found themselves insufficient. Knowledge about first aid is not satisfactory among teachers of primary school in Amasya. This is largely due to a lack of knowledge and training. So, first aid education and training programs should be introduced at schools for early management injuries and emergencies. Moreover, first aid knowledge should be incorporated into educational curricula in school.

## CONCLUSION AND RECOMMENDATIONS

The limitation of this study is related to the purposeful sampling of participants rather than random selection. It was conducted in public primary schools in a city. Hence, the findings of this study may have limited ability to be generalized. Furthermore, large and multi-center studies might be suggested to inquire the teachers' first aid knowledge across the country and assess their educational needs in this important issue. First aid educational curricula should include both teachers and parents.

According to the findings obtained from this study that we carried out with the aim of determining the learning needs of the teachers working in public primary schools, most of the teachers who participated in the present study had poorly first-aid knowledge. They mostly did not pass any training on first aid and expressed their educational needs. In many situations, the lack of knowledge bring about numerous problems, such as a state of panic. In this context, it is important knowledge about first aid among teachers of public primary schools. Therefore, urgent action seems necessary to be implemented by the professionals towards training teachers on first aid through in-service training programs. Furthermore, the problem needs to be addressed, and the addition of first aid education in the teachers' training curriculum might be suggested. These teachers in the school environment need to have specific and continuous training with health professionals to be qualified in emergencies in schools.

The schools which were visited during the time of study do not have a trained healthcare worker who can provide first aid in case of an accident. The Ministry of National Education has to be insisted compulsory school health services to all schools as well as recruitment of a school health nurse to each school.

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### Statements of publication ethics

I hereby declare that the study has not unethical issues and that research and publication ethics have been observed carefully.

### Researchers' contribution rate

This research was conducted with a single author. I declare that all actions taken during the research process belong to me.

### Ethics Committee Approval Information

This research was conducted in accordance with all ethical rules. There is no financial or moral conflict of interest. Research data were collected before 2019. Therefore, ethics committee approval was not required.

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