

Knowledge and Practices of Teachers Regarding First Aid among Students with Special Needs

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Abstract

Background: Teachers are the main caregivers and the first line of protection for school students with special needs through provisioning of first aid care for a disease or injury. **Aim of the study:** The study aimed to assess teachers' knowledge and assess their reported practices about first aid among students with special needs. **Design:** In this study, a descriptive research design was utilized. **Setting:** The study was carried out at the schools of intellectual development of the South Sinai Governorate. Two schools in the city of Tour Sinai, one school in Ras Sidr city, also separate classes in the cities of Nuweiba and Dahab. **Subjects:** A convenient sample of (65) teachers from different schools at South Sinai Governorate were included in the study. **Tools:** It consisted of two tools: **1st tool** consisted of two parts **part 1:** Demographic characteristics of teachers, **part 2:** teachers' knowledge about first aid Questionnaire. **2nd tool:** teachers reported practices regarding first aid. **Results:** Less than two thirds of teachers had unsatisfactory knowledge about first aid. While more than half of teachers had inadequate practices regarding first aid. **Conclusion:** There was a highly statistically significant positive correlation between teachers' knowledge and their reported practices. Additionally, There was a highly significant relationship between all demographic data and their knowledge except for their years of experience, there was significant relation and their gender and marital status, there was no significant relation. **Recommendations:** Organizing first aid programme consisting of good strategies, policies, coordination, surveillance, and education, providing a safe and controlled environment for students with special needs to learn, and continuous training programs for all teachers about first aid in the all schools especially for special needs students.

Keywords: First Aid, Special Needs, Students, Teachers

Introduction:

First aid is defined as an assessment and intervention that can be performed immediately by a person nearby with little or no medical equipment. In circumstances where accidents occur in schools, providing urgent prehospital treatment is critical, with instructors frequently serving as first responders. The purpose of first aid is to prevent or reverse potential harm as soon as possible before reaching the right healthcare facility. First aid knowledge consists of the procedures and skills needed to carry out actions linked to health emergency response and prevention. In addition to assessing first aid knowledge, it is critical to analyze attitudes and conduct toward first aid provision (*Alenezi et al., 2024*).

Injuries are the main cause of death among school students and the leading cause of early morbidity and mortality. At schools, where students spend a considerable amount of their day, children are vulnerable to a variety of ailments and traumas that necessitate first aid. According to the American Academy of Pediatrics, 10–25% of the United States (US) children's accidents occur during school hours (*Alsulami, 2023*).

The teachers are the main people called upon to deal with urgent health care requirements during school hours. Therefore, they should be capable of providing first aid in cases of health-related emergencies. However, there is limited evidence on the knowledge and practice of basic first aid among schoolteachers and people in the community. Therefore, it is

vital to provide schoolteachers with information and skills regarding basic first aid (*Alsulami, 2023*).

The World Health Organization acknowledges the link between health and education and the important role schools play in ensuring student health and well-being. Injuries and illness can occur in children, requiring teachers to be prepared to assist them. The World Health Organization's guideline on school health services indicates that provision of first aid in schools and training school staff on first aid are essential supports required in schools. The purpose of first aid is to preserve life, alleviate suffering, reduce risk of further illness or injury and promote recovery. The assisting actions and initial care provided for an acute injury and illness is defined as first aid. Following injury, illness or medical emergency, timely first aid administration can reduce complications, cost of treatment and mortality in children (*O'Connor et al., 2023*).

Children with special needs" refers to individuals who have any type of disability, learning or developmental disorder that requires additional support in order to effectively participate in mainstream educational environments. The number of children with special needs varies by country and region, but according to some studies, it is estimated that approximately 15-20% of school-aged children worldwide have a disability or other type of special need (*Aboelmaaty et al., 2023*).

Children with special needs are a distinct group of children that exhibit unique characteristics that set them apart from the general population. Children with special needs, who require specialized schooling and care, exhibit comparatively worse cognitive functioning in the brain when compared to typically developing children. The brain development process in children with special needs occurs in distinct manners, characterized by a limited number of brain cells at the age of 6, a subsequent increase at the age of 14 (*Nursanti, 2024*).

School nurses fulfill a vital role in school health services by preventing illness and promoting health at the individual and population levels. The school nursing role

supports health and academic achievement through a unique set of specialty practice competencies related to care coordination, community/public health, leadership, and quality improvement, along with standards of practice. Community health nurses have complex roles that require adaptation to the evolving needs of students, schools, and communities. Evidence indicates that Community health nurse presence is associated with better management of chronic health conditions (*Jordan et al., 2024*).

Significance of the study

First aid is very important and favorable in alleviating discomfort, pain, and preserving lives. Thus, it is essential that teachers and students should also get a proper first aid training so that they can contribute to preserving lives. In the absence of an initial medical assistance, a mild injury when not treated immediately, might lead to other serious complications and can even be fatal. To ensure the safety of all the staff members and students, it is vital to make everyone aware of the basic methods they should apply after an accident occurs (*Agpawan, 2024*).

First aid programs must be made available to the general public in all nations, regardless of finance. It is estimated that 10-25% of injuries to children occur while they are in school. Every school should have standard operating procedures based on the school's requirements and teachers should be trained well in first aid response. Additionally, in order to carry out the proper intervention, first aid providers need to be able to recognize and evaluate the severity of the illness or injury. As a result, it is crucial to teach schoolteachers the fundamentals of first aid administration and knowledge (*Alenezi et al., 2024*).

According to a report by the World Health Organization (WHO) and the World Bank, about 15% of the global population live with some form of disability. In Egypt, it is estimated that around 10-12% of children have special needs or disabilities (*Aboelmaaty et al., 2023*). Globally, it has been estimated that there are over one billion people with disability. This equates to 15 % of the

population but with higher instances of disability amongst the world's poorest people (Garbellini, 2024).

Aim of the study

This study aimed to assess teacher's knowledge and practice about first aid among students with special needs through:

1. Assessing teacher's knowledge about first aid.
2. Assessing teacher's practices about first aid.

Research questions

1. What is the teacher's knowledge about first aid?
2. What is the teacher's practice about first aid?
3. Is there relation between teachers knowledge and demographic data?
4. Is there a correlation relation between teacher's knowledge and their reported practice?

Subjects and Methods:

I- Technical Design:

This design involved the design of the research, the setting, the subjects of the study and tools of data collection.

Research design:

A descriptive analytical study design was used to carry out the current study. This design is concerned with description of phenomenon of interest focussing on a single group or population characteristics without trying to make interference (Pawar, 2020).

Study Setting:

The study was conducted in intellectual development schools at South Sinai Governorate. Two schools in the city of Tour Sinai, one called the martyr Ahmed Elmansy school and another one called Al-Amal school. There is another school in Ras sidr city called the martyr Hussam Khaled Ali school, there are also separate classes in the cities of Nuweiba and Dahab.

Sample:

The subjects of the present study included: A convenient sample of total population 65 teachers will be 62 teachers' needs to be recruited to achieve confidence level 99.99%.

So, the sample size was calculated by adjusting the power of the test to 80% and the confidence interval to 99.99% with margin of error accepted adjusted to 5% and using the following equation:

Type I error (α) = 0.05

Type II error (β) = 0.2

With power of test 0.80

$$n = \frac{N \times p(1-p)}{\left[\left[N - 1 \times (d^2 \div z^2) \right] + p(1-p) \right]}$$

$$62 = \frac{65 \times 0.50(1 - 0.50)}{\left[\left[65 - 1 \times (0.05x^2 \div 3.89x^2) \right] + 0.50(1 - 0.50) \right]}$$

n=sample size

z: The standard score (3.89)

d: The error rate (0.05)

p: Property availability and neutral ratio (0.50)

N=size of population

Mishra, S. B., & Alok, S. (2022). *Handbook of research methodology*.

City	School name	Number of teachers
El tour	The martyr Ahmed Elmansy school	26
El tour	Al-Amal school	22
Ras sidr	The martyr Hussam Khaled Ali school	13
Nuweiba and Dahab.	Separate classes	4

Tools of data collection:

The data was collected by using two tools:

First tool:

Structured interviewing questionnaire was developed by the investigator after reviewing the modern scientific reference related to the subject of the study. It was translated into simple Arabic language, it included two parts:

Part I

Socio-demographic characteristics of teachers include; age, sex, marital status, level of education, place of residence, monthly income, years of experience, number of family member, and training course.

Part II

Knowledge of teachers about first aid, It was used to assess knowledge of teachers about first aid adapted from (**Egyptian Red Crescent, 2017**) and modified by the investigator based on the related literatures to meet the aim of the study. It consisted of 15 questions in the form of multiple choice questions (MCQ).

Teachers' knowledge about first aid, which includes: meaning of first aid, main aim of first aid, meaning of first rescuer, accidents require first aid.

The scoring system

Was one for correct answer and Zero for incorrect answer. The total score of Knowledge was classified into two levels:

- $\geq 50\%$ was considered satisfactory knowledge. (Equal 8 degree or more)
- $< 50\%$ was considered unsatisfactory knowledge. (Less than 8 degree)

Second tool

Reported practices of teachers regarding first aid adapted from (**Kith & Limmer, 2009**) and (**national safety council, 2009**), and modified by the investigator to meet the aim of the study. it composed of 60 questions included teachers' practices in cases of fracture, wounds, burn, seizures, foreign body aspiration, electrical shock, poisoning, nose bleeding, dislocation, sever twisting, fainting, and electrical shock.

The scoring system:

Was one for correct answer (done) and Zero for incorrect answer (not done). The total score of practices was classified into two levels:

- $\geq 50\%$ was considered adequate practices (Equal 30 degree or more)
- $< 50\%$ was considered inadequate practice (Less than 30 degree)

Content validity:

The validity was conducted to test the suitability, relevance, correction, and clearance of the tool through a jury of (3) experts, three professors from the family and community health nursing staff at the Faculty of nursing Ain shams university. We reviewed the

instrument for clarity, relevance, completeness of simplicity, and applicability.

Content Reliability:

Reliability was achieved using Cronbach's alpha test, which revealed that the tool consisted of relatively homogeneous items as indicated by the medium to high reliability of each tool.

Tool	No of questions	Cronbach's Alpha
Total knowledge	15	0.652
Total practice	60	0.889

II- Operational Design:

The operational design for this study included three phases namely the preparatory phase, pilot study and field work.

The preparatory phase:

This phase involved reviewing the literature related to past and current, national and international related literature using books, articles, journals, periodicals, and the Internet to be acquainted with the topics of the Study and tools of data collection tools.

Ethical Considerations:

Before the conduct of the study, ethical approval was obtained from the Scientific Research Ethics Committee of the Faculty of Nursing, Ain Shams University. The investigator met with the teachers in the groups to explain the purpose of the study and obtain their agreement to participate. Consent was obtained from the teachers. Teachers were reassured of the anonymity and confidentiality of the information collected, that it was used only for scientific research, and that their right to withdraw from the study at any time would be guaranteed.

Pilot study:

A pilot study was carried out after the tools and before starting data collection began. It was carried out in 10% of the total sample representing (7 teachers) to ensure the clarity and feasibility of the questions and the applicability of the tools and the time needed to complete the tool. No modifications were made, so the sample of pilot study included in the study.

Field work:

The fieldwork of the study started at the beginning of September 2023, until the end of February 2024, covering six months for data collection. An official approval letter clarifying the purpose of the present study was issued from the Dean of the Faculty of Nursing at Ain Shams University to the Director of the special education department in the south sinai governorate of Egypt, and the Scientific Research Ethics Committee in the Faculty of Nursing as an approval to conduct this study. The investigator arranged with the director of the school for determining the suitable time to collect the data (during break time). The investigator met the study sample and introduced herself to teachers then explained the aim and components of questionnaire sheets. Questions were clearly explained in a standard way to minimize errors in interviewing. Each questionnaire took from 20-30 minutes. Then, the completed forms were checked for completeness. Data was collected for 2 days/week every Sunday and Tuesday of every week

III. Administrative Design:

Before starting the study, letters were issued from the Dean of Faculty of Nursing of Ain Shams University, to the Directorate of

Results:

Table (1) reveals that 29.2% of studied teachers aged 30<40 and 30<40 years old respectively with mean±SD.45 ±10.110 years old, 90.8% of them were married and 64.6% of them were university education. Concerning years of experience, 53.8% of teachers had ≥10 years of experience with Mean ±SD10.2462 ±4.6335 years old in addition 56.9% of studied teachers had previous training course about first aid.

Figure (1) shows that 67.7% of studied teachers were male whenever, 32.3% of them were female.

Figure (2) indicates that 72.3% of studied teachers had insufficient income, 26.2% of them had sufficient income, and only 1.5% of them had sufficient and safe income.

education in south sinai Governorate of Egypt, the letter explained the aim of the study to facilitate the data collection phase. The researcher explained the importance of the study and the implication of the expected results for the study subjects.

IV- Statistical Design:

The data collected from teachers were coded and entered into a special format using Statistical software to be suitable for computer analysis. Following data entry, a check and verification process was performed to avoid any errors. The following statistical package for Social Science SPSS (Version 22.0). The data obtained were organized, analyzed, and represented in tables and graphs as required. Data were presented using descriptive statistics in the form of number, percentage, mean score, standard deviation. For investigation correlation between variables using Pearson correlation test and chi square test.

A significant level value was considered when:

- P-value $P < 0.01$ was considered as highly statistically significant
- P-value < 0.05 was considered statistically significant
- P-value > 0.05 was no statistically significant difference.

Figure 3: represents that 64.6% of studied teachers had unsatisfactory total knowledge level about first aid whenever, 35.4% of them had satisfactory total knowledge.

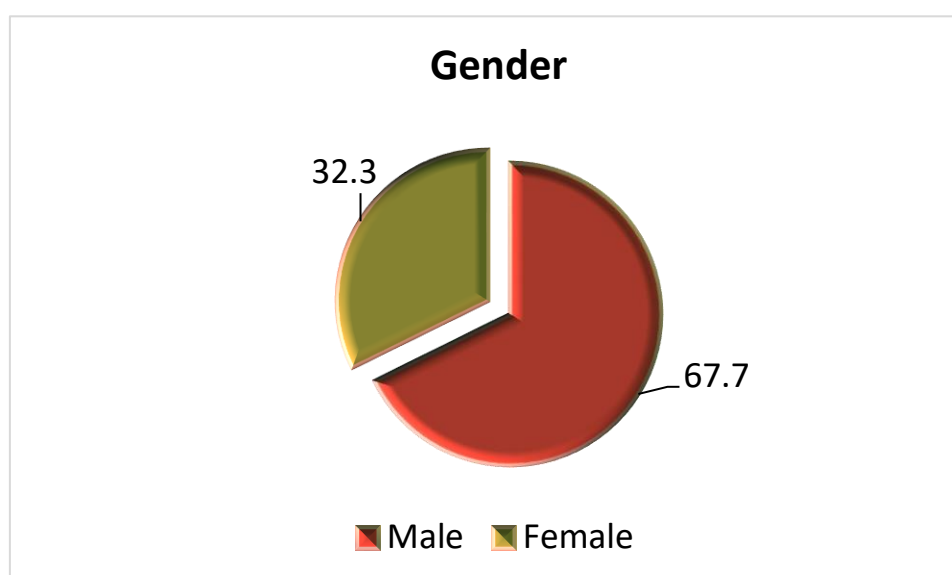
Figure 4: reveals that 55.4% of studied teachers had unsatisfactory total first aid practices whenever, 44.5% had satisfactory total first aid practices.

Table (2) reveals that there was a highly significant relationship between all demographic data and their knowledge ($p < 0.001$ **) except for their years of experience, there was significant relation ($p < 0.05$ *) and their gender and marital status, there was no significant relation ($p > 0.05$).

Table 3: shows that there was a highly statistically significant positive correlation between teachers' total knowledge and total practices about first aid at ($p < 0.001$ **).

Table (1): Distribution of the studied teachers according to their demographic data (n=65).

Demographic data	No.	%
Age/ year		
20<30	15	23.1
30<40	19	29.2
40<50	19	29.2
≥50	12	18.5
Mean ±SD	43.45 ±10.110	
Marital status		
Married	59	90.8
Single	4	6.2
Divorced	2	3.1
Widow	0	0.0
Educational level		
Institute	18	27.7
University education	42	64.6
Master or diploma education	5	7.7
Doctorate	0	0.0
Place of Residence		
Urban	63	96.9
Rural	2	3.1
Number of family members		
3 members	12	18.5
4 members	17	26.2
5 or more members	36	55.3
Years of experience		
1<5 years	18	27.7
5<10 years	12	18.5
≥10 years	35	53.8
Mean ±SD	10.2462 ±4.6335	
Training course		
Yes	37	56.9
No	28	43.1

**Figure (1):** Distribution of the studied teachers according to their gender (n=65).

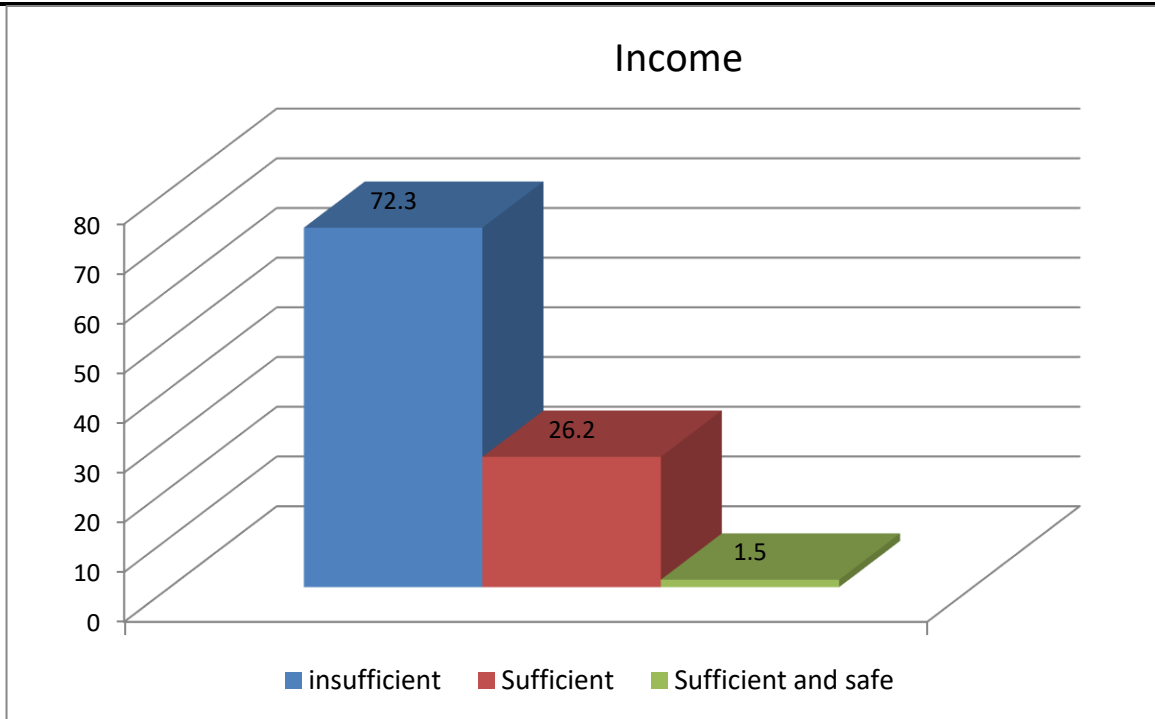


Figure (2): Distribution of the studied teachers according to their income.

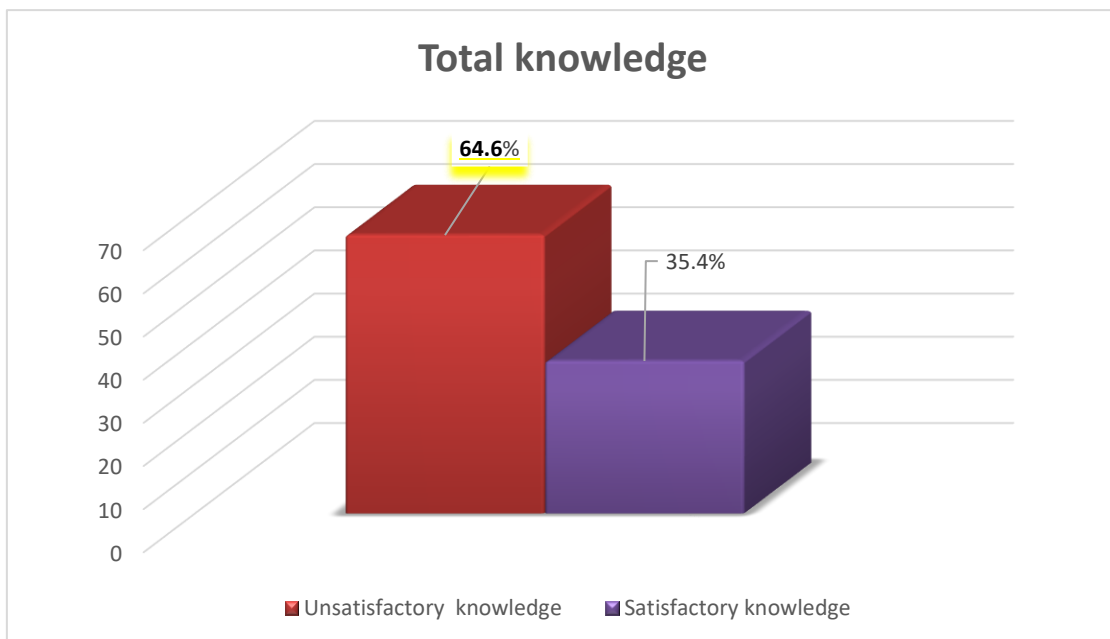


Figure (3): Distribution of studied teachers according to their total knowledge level about first aid.

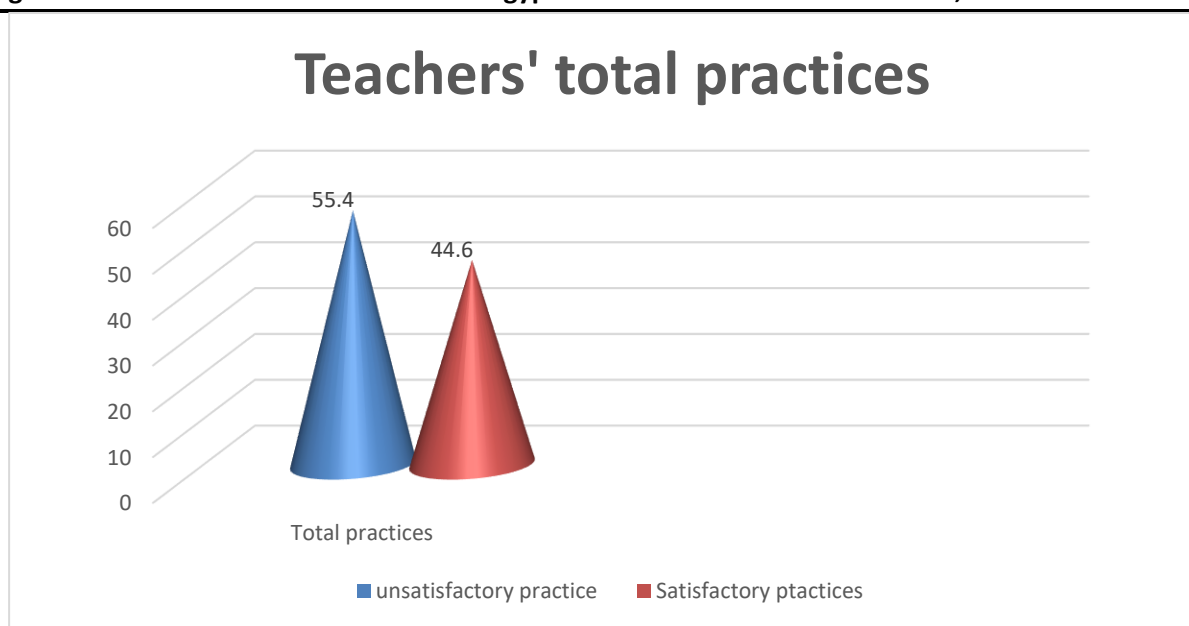


Figure (4): Percentage distribution of the studied teachers' total practices regarding first aid.

Table (1): Statistically relation between total knowledge and demographic data among the studied teachers (n=65).

Practice	Unsatisfactory (n=42)		Satisfactory (n=23)		X ²	p-value
	No.	%	No.	%		
Age/ year					23.703	0.000**
20<30	14	21.5	1	1.5		
30<40	14	21.5	5	7.7		
40<50	4	6.2	15	23.1		
50 <60	10	15.4	2	3.1		
Gender					0.100	.752
Male	13	20.0	8	12.3		
Female	29	44.6	15	23.1		
Marital status					3.620	.164
Married	36	55.4	23	35.4		
Single	4	6.2	0	0.0		
Divorced	2	3.1	0	0.0		
Widow						
Educational level					15.994	0.000**
Institute	18	27.7	0	0.0		
university education	23	35.4	19	29.2		
master education	1	1.5	4	6.2		
Doctorate						
Years of experience					9.874	0.007*
1<5	17	26.2	1	1.5		
5<10	7	10.8	5	7.7		
>=10	18	27.7	17	26.2		
Training course					40.126	0.000**
Yes	36	55.4	1	1.5		
No	6	9.2	22	33.8		
Previous injury					9.718	0.001**
Yes	20	30.8	20	30.8		
No	22	33.8	3	4.6		

** Highly Statistically significance $p \leq 0.001$ * Statistically significance $p \leq 0.05$ No statistically significance $p > 0.05$

Table 3: Correlation between total knowledge and total practices of studied teachers.

Scale	Total Practices	
	r	p- value
Total knowledge	0.436**	0.000*

Discussion:

A special need student is an umbrella term, covering impairments, activity limitations, and participation restrictions. Impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations. Disability is thus not just a health problem. Disability is a complex phenomenon, reflecting the interaction between features of a person's body and features of the society in which he or she live (*Tsatsou, 2021*).

First aid is the provision of initial care for an illness or injury. It is performed by a lay person on a sick or injured patient until definitive medical treatment is accessed. Certain self-limited illnesses or minor injuries may not require further medical care past the first aid intervention. It generally consists of a series of simple and, in some cases, potentially life-saving techniques that an individual can be trained to perform with minimal equipment (*Ali et al., 2021*).

Teachers are the main caregivers and the first line of protection for school children. Their role complements that of parents. During school hours, school teachers are the first respondents in cases of disasters or emergencies. They must be able to deal properly with health emergencies both in normal children and in children with special health care needs (*Maalim et al., 2021*). So the current study aimed to assess teachers' perception about first aid among students with special needs

Part I: Demographic data for the studied sample.

As regard to age of the studied teacher, the current study result revealed that less than one third of studied teachers aged 30<40 and 30<40 years old respectively with mean±SD.45 ±10.110 years old (**Table 1**). This result was supported with *Brito et al.*

(2020) who applied study among 162 teacher in Brazil entitled "Effect of first aid training on teams from special education schools" and showed that the participants aged 22 to 66 years, mean age was 44.87 years. From the investigator point of view, this result may be due to similarity in age group among studies samples.

As regard to marital status, the current study result showed that, the majority of them were married and less than two thirds of them were university education (**Table 1**). These findings were in accordance with *Mansour et al. (2020)* who conducted study in Egypt among 82teachers entitled "First Aids Training Program for Teachers Dealing with Special Needs Students" and found that 60.97% of them were married and 42.68% of them were university education

From the investigator point, high level of education have better knowledge and practice regarding first aid,, more aware of suspected complications and have more flexibility to improve their health for student

Concerning years of experience, more than half of teachers had ≥10 years of experience with Mean ±SD10.2462 ±4.6335 years old. In addition more than half of studied teachers had previous training course about first aid (**Table 1**).This result was agreed with *Elsayed et al. (2022)* who applied study in Egypt among 200 teachers entitled "Effect of Structured Educational Package on Primary School Teachers' knowledge and Practice regarding First Aid Management among School Children" and revealed that 69% of the studied teacher had had ≥10 years of experience.

And this result agreed with *Abd El Aziz and Abd -El Aal (2018)* a study conducted in Egypt who studied about "Educational Program for Improving the teachers knowledge and practice about first aid regard 200 teacher in Giza Egypt and found that, 92% the majority of teacher participate the training courses about first aid.

From the investigator point of view, this result may be due to age of the studied teacher and school manager consider special needs children vulnerable group and needs maintain their health and protect them from harms so perform training course about first aid.

According to the gender of the teachers studied, the result of the current study showed that, more than two thirds of the teachers studied were males (**Figure 1**). This finding was supported by *Alshammari, (2021)* who applied study in Saudi Arabia among 604 teachers entitled "Assessment of knowledge, attitude and practice about first aid among male school teachers in Hail city" and found that 80.96% of the teachers studied were males. Although this result disagreed with *Brito et al. (2020)* who reported that 97.5% of the studied teachers were females.

According to their income, the result of the present study indicated that, 72.3% of studied had insufficient income (**Figure 2**). This result was contrasted with *Yadav (2019)*, who applied a study in NEPAL among 165 teachers entitled " Knowledge on first aid and emergency management among play school teachers of Lalitpur district" and found that 31% of the studied teacher had a salary range from 7000-14000 (sufficient income). The difference may be due to the difference in social economic status between the studied samples.

Part II: Knowledge of the studied teachers regarding first aid.

According to total knowledge level of studied teachers about first aid, the current study result represented that 64.6% less than two thirds of studied teachers had unsatisfactory total knowledge level about first aid (**Figure 3**). This result answered first research question.

This result was supported with *Örs (2021)* who conducted study among 250 teachers in TURKEY entitled "Learning Needs of Primary Schools Teachers about First Aid" and reported that 11.7% of teachers had sufficient knowledge about first aid knowledge and equipment. And in accordance with *Workneh et al. (2021)* who showed that 41.1% of the

respondents had good knowledge of first aid. Also agreed with *Tamur et al. (2023)* who conducted study in Saudi Arabia among 248 teacher entitled" Knowledge and Attitudes around First Aid and Basic Life Support of Kindergarten and Elementary School Teachers and Parents in Taif City, Saudi Arabia" and reported that 75% of the studied teacher had poor knowledge regarding first aid

From the investigator point of view this result may be due to previous training course about first aid and due to years of experiences among special needs children. And this reflects the importance of continuous first aid training program in improving their knowledge of teachers

Part (III): Practice of the studied teachers regarding first aid.

Concerning to total practices of the studied teachers' regarding first aid the current study result revealed that more than half of studied teachers had unsatisfactory total first aid practices (**Figure 4**).). This result answered second research question

This result was supported with *Elsayed et al. (2022)* who showed that 88% highly percentage of the studied teacher had unsatisfactory reported practices regarding first aid pre-structured educational package. While disagreed with *Anmut et al. (2019)* who conducted study In Ethiopia among 141 participants entitled "Knowledge, Attitude and Practice Towards First Aid Among Kindergarten Teachers of Jimma Town, South West, Ethiopia, 2017" and reported that 19.9% of the studied teacher had poor practice towards first aid. This discrepancy may be due to educational level and attitudinal variation between study participants.

Lack of knowledge and practices of teachers about first aid in pre-test can be attributed to the intervention of the lack of effective emergency care training practice in the school curriculum of quality education, the absence of training programs on first aid conducted in schools for teachers, as well as the lack of images, educational posters or films illustrating how to provide first aid and a lack of supplies and equipment "in the designated.

Part (VII): Relation and Correlation between study variables.

Regarding the statistical relation between total knowledge and demographic data among the teachers studied, the result of the current study revealed that, there was a highly significant relationship between all teachers' demographic data of all teachers and their knowledge ($p < 0.001^{**}$) except for their years of experience, there was a significant relation ($p < 0.05^*$) and their gender and marital status, there was no significant relation ($p > 0.05$) (Table 2). This result answered third research question

This result was supported by *Workneh et al. (2021)* who showed that there was a significant relation between the age, experience, school level, school type, training of all teachers, significantly associated with first aid knowledge. And in accordance with *AlYahya et al. (2019)*, who reported that first-aid scores of knowledge showed a significant difference in age and having received first-aid training. Although disagreed with *Faris et al. (2019)* who applied a study in Iraq among 200 teachers entitled "Assessment of knowledge about first aid among Primary School Teachers" and reported that there was a high significant association between primary school teachers' knowledge and their gender, and no significant association between primary school teachers' knowledge and their other demographic characteristics that are presented in this table at $P < 0.05$.

Regarding to correlation between total knowledge and total practices of studied teachers, the current study result revealed to there was a highly statistically significant positive correlation between teachers' total knowledge and total practices about first aid at ($p < 0.001^{**}$) (Table 3). This result answered fourth research question

This result was supported with *Elsayed et al. (2022)* who showed that there was a statistically significant strong positive correlation between total practices and total knowledge regarding first aid before and after structured educational package. And agreed with *Abdella et al. (2017)* who showed that there was positive correlation coefficient

between teacher's knowledge and practice regarding first aid.

Conclusion

In the light of the current study findings, it can be concluded that:

Two thirds of teachers had unsatisfactory knowledge about first aid. While more than half of teachers had unsatisfactory practices related to first aid. Moreover, there was a highly significant relationship between all demographic data and their knowledge except for their years of experience, there was significant relation and their gender and marital status, there was no significant relation. Additionally there was a highly statistically significant correlation between teachers' knowledge and practices.

Recommendations:

Based on the current study finding the following recommendations were proposed:

- Organizing first aid program for teachers that consists of good strategies, policies, coordination, surveillance, and education.
- Providing proper education to teachers about different injury risk factors and influencing behaviors through social media and school-based curriculums.
- Encourage the inclusion of first aid training certificates in job requirements, especially for teachers.
- Providing a safe and controlled environment for students to learn.
- Continuous training programs for all teachers about first aid in all schools especially for special-need students.
- Further studies are needed about first aid.

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