



FIRST AIDS TRAINING PROGRAM FOR TEACHERS DEALING WITH SPECIAL NEEDS STUDENTS

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ABSTRACT

Background: First aid has a significant role in saving lives, eliminating the risk of death, Preventing serious complications and eliminating harm as much as possible until arrival at the hospital for appropriate treatment, **Aim:** was to evaluate the effect of first aids training program for teachers dealing with special needs students. **Design:** A quasi-experimental design was used. **Sample:** convenience sample all teachers (82teachers) was recruited. **Setting:** this study conducted in the Special needs schools at El-Minia City, three schools have the same name which called (El-amal schools for special needs (hearing, and visual disability)). **Tools:** two tools was used to conduct the study, first tool consisted of Interview questionnaire sheet composed of 2 parts (demographic characteristics & assess knowledge for teachers about first aid), 2nd tool observational check list to assess teachers practice about first aid **Results:** The study denoted that there was an improvement of teachers total score of knowledge at the post test with statistically significant difference .30.6% of teacher had satisfactory done practice pre program that improved to 62.0% after program. **Conclusion:** concluded that effect of training program for teacher dealing with special needs students regarding first aid **Recommendations:** continues health training programs to all teachers in schools that would help them to improve their knowledge and practice about first aid.

Key word: first Aids, Training Program, special needs students and teachers.

INTRODUCTION:

Millions of people are hurt or killed from injuries every year because adequate and timely assistance is not provided effectively first aid reduces deaths, injuries and impact during injury and daily emergencies. and provides an immediate response to an emergency, taking life saving measures until professional help arrives. Simple first aid skills and the confidence to use them can save lives, if any person properly trained, has the potential to save lives and give simple treatment until medical care has arrived (**Teradelmark, et al., 2015**).

The National First Aid Science Advisory Board defined first aid as making an assessment, implementing and interventions that can be performed by (any person) with minimal or no medical equipment, However, this implementation require certain levels of both knowledge and practice, First aid is the provision of limited care for an illness or injury, which could be provided, usually by a lay person, to a sick or injured patient until definitive medical treatment can be accessed.**(Lubrano,et al., 2015)**.

Injuries among school students are considered as one of the most serious health problems facing the world today, resulting in lifelong disability or even death. first aid becomes as important as preserving their life and minimizing the consequences of disability injuries until help is obtained first aid measures is vital for victims in emergency cases and situations at least 875000 school students aged below 18 years die because of unintentional injuries yearly and more than 95% of these deaths occur in countries with low and middle income levels. **(Bayreuther and Moconochie ,2015)**.

Several studies have been conducted around the world to evaluate the level of knowledge, practice about first aid among different groups including schools students, teachers in schools Some studies showed that a high percentage of teachers in different countries lacked the appropriate first aid knowledge, practice Similarly, different studies showed that the immense majority of teachers had little or no first aid training, many factors had been shown to be associated with better knowledge, practice including taking a first aid course during working ,having a driving license, or having a higher level of education**(Al-samghan,et al., 2015)**.

School teachers have poor knowledge about safe working conditions during injuries, so most of them must be motivated to learn about first aid and basic life support which are components of chain survival for a person experiencing a life threatening injuries. First aid is the initial assistance or management given at the site of accident to someone who is injured or suddenly taken ill to save their life before the arrival of ambulance, First aid provider should be trained to be able to assess the situation quickly and calmly, deal with life threatening conditions meanwhile protecting themselves form danger **(Dasgupta,et al.,2015)**

First aid training program prepares teachers to react to situations and provide immediate, efficient management for a wide variety of incidents as; choking, burn , respiratory and cardiac arrest, bleeding and cardiopulmonary resuscitation training; is an essential emergency care component that should be provided for all cardiac arrest victims with no definite contraindications until provision of full medical care at hospitals ,every teacher should be equipped with first aid techniques so that the teacher can handle basic emergencies in the classroom. Every school should have standard operating procedures based on the school's requirements **(Behairy,et al.,2015)**.

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. **(National Center for Educational Statistics,2017)**.

The World Health Organization (WHO) is making major efforts to reduce the number of people with disabilities and to try to curb the spread of disability, especially in developing countries, where the number of people with disabilities worldwide is estimated at more than 1000 million people with disabilities. Almost 15% of the world's population (i.e., one in seven people with disabilities). Developing countries have the largest share of the number of persons with disabilities, and an estimated 80% of people with disabilities live in developing countries **(W.H.O 2017)**. Health and safety in schools is very important, simple accidents, such as slips or trips, might seem a trivial part of the day-to-day of school life, but they are capable of causing serious injuries and worse, a school canteen employee slipped on some food that had been dropped on the floor of the school dining room. As a result, she broke student leg and later died due to a blood clot. While this is an extreme case, health and safety planning can significantly reduce the chances of outcomes such as this from occurring. This planning can be as simple as ensuring the correct risk assessments are in place, educating staff on how to identify risks or providing first aid training to staff and pupils **(Al-samghan,et al., 2015)**.

School health nurse play an important role as member of school health team participate in planning and coordinating health program. The nurse is the school health consultant, control the development and maintain ace of a safe and healthful environment .Demonstrate technique for teacher's health inspection and procedures ,assist in screening physical, mental and other special examination of students in school. Assist in communicable disease control. Help to set up facilities and demonstrate first aid procedures. Conduct health program and assist in school medical examination and follow up **(Baser, 2016)**

Significance of study:

Students with special needs (disabled) representing about 10.67% of the total population In Egypt, the number of disabled people in urban areas exceeds the countryside, where the percentage of persons with disabilities in urban areas represents 12.2% of the total population, compared to 9.71% in rural area , The population of the governorate, where the proportion of people with disabilities in Minia represents 3.14%, followed by Cairo governorate with 3.05% of the total population of the "capital", and in the third place is Asuit governorate with 2.86%, another governorate in Egypt, the percentage ranges between (1.36% - 2.73%)(**The Central Agency for Public Mobilization and Statistics (CAPMAS), 2017**).

In the whole world, at least 875000 school students aged below 18 years old die because of unintentional injuries yearly and more than (95%) of these deaths occur in different countries but more of cases of death occur at countries with low and middle income levels, so first aid have important role to decrease the number of die students in all schools specially special needs students schools. (**Abdel-ghany,et al.,2015**) First aid have a great significance of life saving, nearly one third of the 5.8 million deaths from injuries are the result of daily accidents, violence ,inappropriate dealing with injury and nearly one quarter are the result of road traffic accidents at world, Egypt loses about 12, 000 lives due to injury every year. It has a fatality rate of 42 deaths per 100 000 population. Majority (48%) of those killed are motor car accidents , Egypt is one of the ten countries included in the WHO Safety in 10 countries project which will be conducted over 5 years (**W.H.O,2017**)

Egypt is ranked as 48th among countries around the world which have a high number of accidents at 2016.Minia town have major rate of injury about 800 person was killed from accident from total killed in Egypt according to last report illustrate that there was 8,480 person die at road accidents at 2017 compared to 11,098 in (2016) (**Plant, and Taylor., 2017**).

Aim of the Study

This study aim to assess the effect of First aids training program for teachers dealing with special needs students through the following objective:

- 1) Assess knowledge and practices of schools teachers dealing with special needs students regarding first aid.
- 2) Plan and implement first Aids Training Program for Teachers dealing with special needs students according to teacher needs.

and 32 for secondary schools teachers) the total number of teachers represent (82 teachers).In the academic years (2019-2020).

D) Tools of data collection: Two tools will be used in this study :

1st Tool: as the following : a structured interviewing questionnaire sheet was developed by investigator after reviewing the national and international related literature. This tool contain two parts (Appendix I) :

1st Part :personal and demographic characteristics such as (age, gender, marital status, educational level, Years of experience and attend Training course about first aid)

2ndPart: Teachers' knowledge about the first aids such as (Meaning of first aid, Important of first aid, Information on dealing with injured persons. Information about evaluation, principles during the process of transferring the injured, classification, characteristics of dealing with the injured). This part used pre / post training program

Scoring system

Scoring system will be designed for the assessment of teachers' knowledge contains (17) questions coded as following ,

- Complete =1
- Incomplete or wrong answer = 0

The total score of knowledge = (17) score which be determined by taking points as the following: Poor $\leq 50\% \leq (8)$ points, Average = $50-70\% = (8.5:11.9)$ points and Good $> 70\% \geq (12)$ points .

2ndTool:

Observational checklist to observe teachers' practices regarding to first aid. Consist of (accidental injuries, wound, external and internal bleeding, Amputation, Accidental bleeding, in ear and nose, internal bleeding ,Accidental unconsciousness , Unconscious Ned, Resuscitation, Response , Chocking Accidental burn, simple ,severity ,

Accidental fracture, open fracture , Isolated victim, Carrying victim, very light, heavy weight, Conscious, cannot help, and work stretcher} . This part used pre / post training program.

Score system

Total score will be calculated by give (one) to done practice and give (zero) to not done practice and summing up and converted into a percent. Satisfactory $\geq 60\%$ and unsatisfactory $< 60\%$.

II- Administrative Design

An official permission including the title and purpose of the study were submitted from the Dean of the Faculty of Nursing –Helwan University to get to the general manger of Al-Amal schools for the Deaf and Mute, an approval for data collection to conduct the study.

III- Operational items

The study to be completed passed through different phases included: preparatory phase, pilot study and field work phase.

Preparatory phase:

A review of the past and current available related literature covering all aspects of the research subject using available books, journals, articles, and nursing magazines in order to get clear picture on the research problem as well as, the study tools for data collection. Then tools of data collection were tested for content validity .

Pilot study :It was conducted on (9 teachers) they represented about 10% of the total study sample. The aim of the pilot study was to evaluate clarity, visibility, applicability as well as, to determine the time allowed to fulfill the developed tools. According to the obtained results no modifications were done. The number of the pilot study included from the study sample.

Content validity:

The tool was tested through five juries; three expertise from community health Nursing, Cairo university and two expertise from fundamental and medical surgical nursing department. Helwan University, who reviewed the tools' contents for clarity relevance, comprehensiveness and understandability. All recommended modifications were applied.

Reliability:

Reliability was applied by investigator for testing the internal consistency of the tool, by administration of the same tools to the same subjects under similar conditions two times (15 days apart). Answers from the repeated testing were compared (Test- re- test reliability y was 0.82) and Cronbach's Alpha reliability was 0.890.

Fieldwork:

- An official letter will be issued from the dean of faculty of nursing Helwan University, and will be directed to the managers of the schools of special needs (deaf and mute) schools students at El-Minia City including the aim of the study to obtain permission after establishing a trustful relationship, each subject will be interviewed individually by the investigator to explain the study purpose.
- After obtaining a permit investigator met the teachers and explain the aim and program contents.
- The study work was carried out within two semesters from September to July of (2019-20 20) academic year, two days per week from 10-12 am. A written approval was obtained from all teachers after investigator introduced himself for them, and after explaining the purpose of the study.
- The pre-test session of the program conducted in Administration seminar class in schools which was clean, good ventilated, wide enough and away from noise. The
- theoretical sessions were conducted in class as investigator divided the studied sample into seven small groups.
- For collecting data from 82 teachers it lasted only one week to fulfilled before the implementation of the first aid training program.
- The evaluation phase occurred immediately after the program to assess the effect of training program.

Construction of First aid training program:

Phase I: Program Development:

The program was designed by investigator and based on the result obtained the study pre-test tools; also review of recent, current, national and international related literature in different aspects of training program about first aid . This program content was revised and validated by experts in Faculty of Nursing, Community health nursing department and fundamental and medical surgical nursing department.

Phase II: Assessment:

Two days / week, one hour / day (9.30 am - 10.30 am) were allocated for data collection (pre-test), which was carried out through one week, the average time consumed to fill tools was 30-45 minutes.

Phase III: Implementation:

- Program implementation based on conducting sessions plan using different educational methods and media in addition to the use of guiding booklet specifically designed and developed based on teachers ' assessment needs.
- Implementation of the program took about six months through conducting the pre-mentioned training educational class in schools two days /week, (Tuesday & Thursday) from 10 am – 12 pm. Number of hours differed from one session to another to accomplish first aid training program. During theoretical sessions the investigator divided teachers into seven groups and each group composed of 12 teachers.
- Overall general objective of the program: the teachers' knowledge and practice will improve after applying first aid training program.
- Specific objectives of the program: by the end of the first aid training program each teachers will be able to define : meaning of first aid, important of first aid , information on dealing with injured persons, information about evolution, principles during the process of transferring the injured basic, principles of health intervention ,process of dealing with the injured, number of first aid team, cases requiring immediate intervention, injured person will be transferred according to the time, and teacher

practice regarding accidental injuries, bleeding , accidental unconscious , burn . fracture and carrying victim.

- In this phase investigator analyzed the pre-test then tailored the educational intervention to the needs of each teachers. There were commonality among teachers needs from the training program; as there was lack of knowledge in almost all items and need for improvement of their first aid training program .
- Program sessions: Time allowed: 48 hours allocated for training educational sessions divided as 20 hours theory and 28 hours practical. At the beginning of the first session, an orientation about the program and its purposes was given. From the second session and so on each session started by a summary about what was given through the previous sessions and the objectives of new one taking into consideration using simple and clear language.
- By the end of each session a summary was made and time allocated for questions and answers & plan for next session were made. Teaching methods and media used; lecture, open discussion, and brain storming also, role play. Suitable teaching aids prepared especially for the program were used such as printed materials, pictures, videos indicated the first aid instructions and power point presentations and the investigator sent all program via emails for all teachers.
- At the end of the first aid training program immediate post-test was done.

Program Booklet:

A booklet including all content of the program was designed and given to teachers as an educational reference during program implementation and internet reference after program implementation. Its aim was providing accurate knowledge & practice about first aid.

Phase IV: Program evaluation

This phase aimed to evaluate the effect of training program about first aid, through the implementation of post-test after the program test to identify differences, similarities, areas of

improvement and defects as well as indicators of program success and its effect on the teachers were showed in the post -test.

Ethical Consideration

An official permission to conduct the proposed study will be obtained from the Scientific Research Ethics Committee. Participation in the study is voluntary and subjects will be given complete full information about the study and their role before signing the informed consent. The ethical considerations will include explaining the purpose and nature of the study, stating the possibility to withdraw at any time, confidentiality of the information where it will not be accessed by any other party without taking permission of the participants. Ethics, values, culture and beliefs will be respected.

Statistical Design:

Data entry and statistical analysis were performed using personal computer software, the statistical package for social sciences (SPSS), version 24. Suitable descriptive statistics were used such as; frequency, percentage, median, range, mean and standard deviation. Chi-square test was used to detect the relation between the variables. In addition, correlation coefficient (r) test was used to estimate the closeness association between variables. Paired (t) test was used to compare mean score between both studied variables. The p-value is the degree of significant and using the correlation (r) test. The p-value is the probability that an observed difference is due to chance and not a true difference. A significant level value was considered when $p\text{-value} \leq 0.05$ and a highly significant level value was considered when $p\text{-value} \leq 0.001$, while $p\text{-value} > 0.05$ indicates non-significant results. (SPSS Inc., Chicago, Illinois, USA 2018).

RESULT:

Part I: Table (1) and figure (1)

Table (1): Frequency Distribution of Teachers Demographic Characteristics (n=82)

Item	No.	%
		Age
- 20:30 years	12	14.63
- 31:40 year	45	54.87
- 41: 60 years	25	30.48

Mean ± SD	38.54±6.32	
Gender		
male	82	100
Marital status:		
Single	12	14.63
Married	50	60.97
Divorced	15	18.29
Widowed	5	6.09
Educational level:		
diploma level	45	54.87
University education	35	42.68
Postgraduate of special need student	2	2.43
Years of experience		
≤10 years	57	69.51
More than 10 years	25	30.48
Training course about first aid:		
Yes	20	24.39
No	62	75.60

Table (1) displays the mean age of studied sample that 38.54±6.32 represent the mean age. As well 100. % were male. Additionally. 60.9% were married .Regarding level of education 54.8% of them had diploma level. Where 69.6% of them the years of experience ≤ 10 years , while 75.6 of them not taking any training courses about first aid .

Figure (1): Distribution of Total Score of Knowledge about First Aid .Pre, and Post Training Program (No=82).

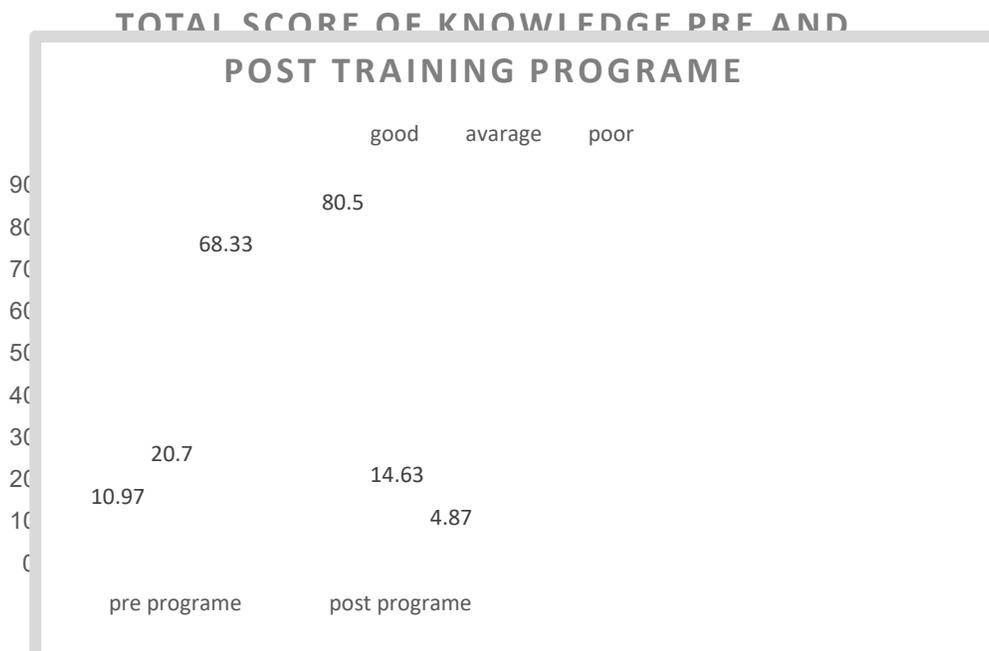


Figure 1 : Show total score of teachers knowledge regarding first aid pre and post program .It indicates that, there was improvement at the post test than the pre test.

Figure (2): Distribution of Studied Sample Total Score of Practice in Pre, and Post Training Program (n=82).

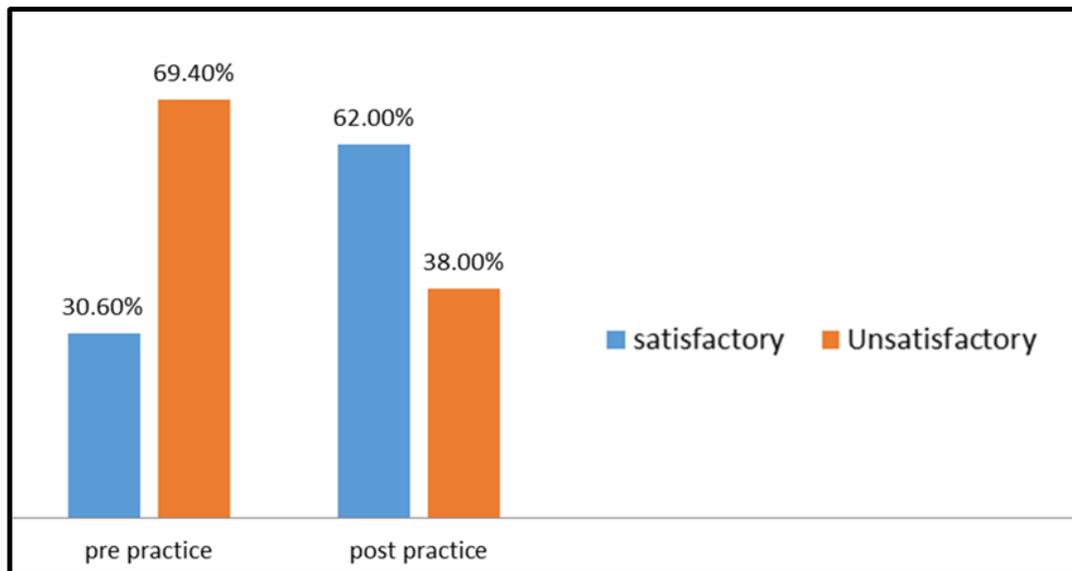


Figure (2): show total score of teachers satisfactory practice regarding first aid pre and post program . Which indicates that, there was improvement at the post test than the pre test.

Table (21): Mean and standard deviation of Total Knowledge Scores Pre & Post Training Program (n =82).

Total knowledge scores Mean ±SD		Paired t test	P value
Pre knowledge	43.1488±20.29682	6.416	0.001**
Post knowledge	64.8926± 26.53294		

(*) statistically significant & (**) high statistically significant (*) P≤0.001

Table 2: shows statistically significant gradual increase total score of knowledge pre and post first aid training program.

Table (32): Mean and Standard Deviation of Total Practice Scores Pre & Post of Training Program (No=82).

Total scores of practice Mean ±SD		Paired t test	P value
Pre practice	32.7273±9.12871	7.870	0.001**
Post practice	45.0661± 14.93862		

(*) statistically significant & (**) high statistically significant (*) statistically significant at P≤0.001.

Table 3: shows statistically significant gradual increase total score of total done practice items throughout all items pre and post first aid training program

Table (4): Correlation between total score of knowledge and total score ' practice pre and post training program (n = 82).

Item	Teachers total practice			
	Pre program		Post program	
	R	P value	R	P value
Total Knowledge	0.028	0.763	0.353	0.000**

r-square=0.56, p<0.001

Table (4) : This table showed that, there was astatically significant positive relation between total knowledge and total done practice for first aid in post training program .

DISCUSSION:

According to the demographic characteristics of teachers, the present study findings indicated that the mean age of teachers was 38.54 ± 6.32 years. This result is similar to a study conducted by **Al-Jundi, and Al-Waeili ,(2017)** a study conducted in Jordanian about "assess the level of knowledge of school teachers regarding immediate emergency management on 220 Jordanian school staff and students" found that, age of teachers was mean 38.18 ± 4.95 for the study group, compared to 37.94 ± 4.50 for control group . As well it is nearly consistent with **Ahmed ,(2016)** a study conducted in Egypt about "the implementation of first aid prevention educational programmer on 12 primary school in Kafr-Elzayat in Egypt ,represented that mean age of teachers was 36.17 ± 10.8 years. Also, in accordance with **Srinivas, (2016)** who studied conducted in Nepal about" the history of disaster accidents and impacts in secondary school Nepal ", and found that , the mean age of teachers was 33.1 ± 9.64 years.

Regarding the teacher gender, the study finding revealed that all of them were male . This study finding is in agreement by **Arafa and Amin (2018)** a study conducted in Egypt at Helwan special need schools about: "evaluating first aid knowledge and attitude of special need school teachers "found that , the majority of teacher in school were male.

Concerning the level of education of teachers , the current study result revealed that the more than half of the teachers had diploma education , less than half of them had university education and the minority of them had postgraduate of special need student . In the same line with **Abu Obaid and Eljedi, (2016)** , a study conducted in Palestine about " the preparedness of school in responding to emergencies among 200 schools in Palestine", found that 55.0% of teachers had diploma level and 20.0% of teacher had post graduate of special need student . In contrast with study this study is similar to the study conducted in Egypt at Mansoura city by Salah, (**2015**) about application in first aid management plan in primary school in Mansoura city, found that more than half of the teachers had diploma education.

Regarding the teachers years of experience ,the current study revealed that more than two thirds of teachers had ≤ 10 years of experience in teaching ,This finding was in accordance with **Sissolak et al ,(2015)**, a study conducted in Jordania about (" A evaluated the impact of

first aid education course on 2500 student in Jordania" found that , the majority of teachers in schools had ≤ 10 the years of experience

Regarding the teachers attending the training course about first aid .the current study revealed that about nearly three quarters of teachers not taking any training course about first aid . This result disagree 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, the majority of teacher participate the training courses about first aid .

Regarding the teachers place of residence , the majority of them residence in rural area .This result disagree by(**Salah ,2015**) the majority of teacher the residence in urban area.

From the investigator point the high percentage of teachers diploma education , This low level of education would certainly influence teachers' knowledge and practices regarding first aid , with 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

Regarding to research hypothesis the teachers **knowledge** will be improved after applying training program regarding first aid.

Regarding teachers total knowledge . that the current study revealed that, the less than three quarters of them had poor knowledge, Also, the minority of them had good knowledge and two tenth of them had average knowledge , that improved post training program to the majority of them had good knowledge , the minority of them had poor and average knowledge .There was statistically significant difference between before and after training program implementation concerning teachers total knowledge .In agree with to the study results by **Gaber,(2015)** a study conducted in Egypt about " Assessed the knowledge of 154 Egyptian school about distress management and first aid at Cairo:" , found that, the majority of them had good knowledge related taking first aid training program . From the investigator point of view, this reflects the importance of continuous first aid training program in improving their knowledge of teachers.

Regarding to research hypothesis the teachers **practice** will be improved after applying training program regarding first aid

Current study results revealed that teachers total practice , more than two third of them had unsatisfactory practice that improved post first aid training program to the less than two thirds of them had satisfactory practice after training program, There was statistically significant difference between before and after training program implementation concerning teachers total satisfactory practice . This finding was supported by **Oliveira et al (2017)**. a study conducted in New Zealand about "Conception of secondary school teachers on the practice of health training program on first aid. Found that the majority of teachers had unsatisfactory practice before health training program improved to satisfactory practice after health training program.. From the investigator point of view ,this result reflected the effect of the first aid training program on teachers done practice regarding injured students with unusual problems (fainting , besieged person & carrying of injured student .

The current study observed that highly statistical significant differences between total score of knowledge among teachers pre & post of first aid training program. The present finding was congruent with **Wolner et al (2018)** a study conducted in Israeli about |"effect of implementing first aid intervention program on 83 teachers in Israel" and found significant differences between knowledge scores among teachers before and immediately after the intervention program . From the investigator point of view the knowledge and practice will improve after first aid training program.

Also the current finding was agreed with **Wolmer et al (2017)** a study conducted in Israeli about " the effect of a universal students –based prevention intervention program on 461 teachers in six Israeli schools" and founded significant differences between knowledge scores among teachers before and immediately after the preventive intervention program related to first aid .From the investigator point of view, the current results is a normal effect of the training program on teachers who didn't receive any training program. .

From the investigator point of view after applying the training program was normal sequence of the results because the teachers never had been trained on first aid previously so

the effect on the program was very obvious before and after applying the first aid training program..

The current study revealed a highly statistical significant differences between total scores practice among teachers before and after applying the first aid training program. On the same line **Sharon & Andrew, (2015)** the study conducted in U.S.A. found that , a highly statistical significant differences between total scores practice among 114 teachers before and immediately after the emergency training program and recommended a continuous training for the teachers in schools. The finding was a normal results due to lack of training program regarding accidental injury and first aid program for teachers provide its efficacy in improving teachers performance .. From the investigator point of view, the majority of studies concluded that, programs were very effective on the positive valuable change of teachers knowledge and positive practice.

CONCLUSION

Based on the result of the current study and research hypothesis it can be concluded that:

The result of the study supported the hypothesis of the study: Shows that, there was a marked improvement in teacher's knowledge about first aid after apply first aid training program, than pre-program with statistical significant. Additionally, improvement in teacher's total practice score regarding first aid after apply first aid training program with statistical significant.

RECOMMENDATIONS

On the light of the current study findings , the following recommendations are suggested:

- 1- Continuous training programs for all teachers about first aid in the all schools specially the disposal student.
- 2- Provide first aid booklet in school to keep students, school staff and environment safe.
- 3-Further researchers about applying first aid in schools on large scale are needed to obtain more generalization of results on all Egyptian schools.

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