

Empowerment of Female Governmental Preparatory School Teachers 'Knowledge and Practices Concerning First Aid & Crisis Management at Al-Jouf Region, Saudi Arabia

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Abstract: School crisis is one of the most dangerous events that can jeopardize students, teachers, and all school staff life. It could have a negative reflection upon school safety and equilibrium. School teachers are the first persons who can interfere and help if any problematic situation occurs. Therefore, the aim of this study is to investigate the impact of a designed educational program about first aid & crisis management on females governmental preparatory school teachers ' knowledge and practices at Al-Jouf region, Saudi Arabia. **Subjects and Method:** Research Design: two groups Pretest-Post Test Quasi experimental design. **Subjects:** A stratified random sample of 265 preparatory school teachers were selected from the randomly selected settings at Al-Jouf Region then, randomly divided into two groups; study & control (132 teachers in the study group and 133 teachers in the control group). 6 Governmental Preparatory schools in Al-Jouf region, were randomly selected out of 26 schools. **Instrumentations:** Two tools were utilized to collect data pertinent to the study; 1- First aid & crisis management knowledge interview questionnaire schedule for female governmental preparatory school teachers at Al-Jouf region, & 2- First aid & crisis management practice observational check lists for female governmental preparatory school teachers at Al-Jouf region. Furthermore, a positive correlation was put into evidence between age, experience, knowledge, and practices regarding first aid and crisis management among the study group subjects. Enrichment of female governmental preparatory school teachers at Al-Jouf region with up to date knowledge and practices concerning first aid & crisis management might have positive impact on maintenance of school safety, stability and equilibrium. The study recommends wide coverage investigation and implementation of this research finds all over the Saudi Arabian schools.

Keywords: empowerment, first aid, crisis management.

1. INTRODUCTION

First aid considered as a medical modality to preserve life and minimize the consequences of injury and illness (Khan, Shaikh, Shuaib, Sattar, Samani, Shabbir, 2011, Alexandropoulou, 2011). It generally consists of a series of techniques which are simple and, potential life-saving that can be performed with minimal equipment by any person who is well trained to do, as well, it contribute to a treatment process before professional medical care is available. (Markenson, Ferguson, Chameides, Cassan, Chung, Epstein, 2010).

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The primary objective of first aid is to decrease suffering, facilitate healing process and minimize damage to decrease complication rates (Markenson, Ferguson, Chamiedes, 2011).

The school staff has to be equipped with the first aid training because of the neglected school health services due to lack of awareness and education about common health problems and first aid care. (Bhatia , Puri, Mangat, et al., 2011, Inman, Bakergem, LaRosa, et al., 2011).

Crisis can be defined as a temporary emotional condition where one's usual coping mechanisms have failed to face of a perceived challenge or threat, there are many events that can precipitate a crisis in schools include sudden or accidental death, a critically injured student or staff, a violent incident and natural disasters. Students and teachers in a school faced with a crisis usually become disturbed, as well, school routines are disrupted (Educational Psychology Service Section, 2005, Joshi, Sawane , Jabade, 2015).

The organized possible alternative courses of action are very essential based on careful assessment of the emotional and social impact on the school to overcome such crisis which can be happened in schools. A crisis management team is the most important tool for crisis intervention in the school, it can enable a school to take such an organized action in a crisis effectively. It comprises a group of staff and students of the school who are well trained enough to make the necessary decisions when a crisis happens, as well, it manages the effects of a crisis and helps the school restores its normal functioning, moreover, it coordinates the various resources of the school to deal with the unusual situation (Educational Psychology Service Section. 2005, Shiwaku K. 2014).

Asthma attacks, epileptic seizures, burns, bleeding, diabetic coma and sports injuries, are the most likely incidents that may happen in schools and require first aid procedures to be performed by well trained persons, therefore, teachers should be trained in first aid procedures and be able to put them into practice. Teachers should be able to convey basic, accurate, and current first aid knowledge to their students and others in society. Therefore, teachers not only need to receive first aid training during their professional development, but also they should update their knowledge and skills in the light of recent first aid guidelines through introducing health programs concerning first aid and crisis management to enrich them with knowledge and skills, and enhance their ability to take correct actions (Goel, Singh, 2008, Alexandropoulos, 2013, Janice, 2011).

Significance of the study:

Teachers in schools have a crucial role in dealing with students who need first aid and crisis management procedures if they are well educated to apply them properly.

In Aljouf, some accidents and injuries of school age children happened. Also, some crises occurred in more than one region in the Kingdom. As well, teachers cannot deal with them due to lack of knowledge regarding the appropriate first aid action to be taken for injuries and common illnesses. Furthermore, many incorrect practices and myths related to health conditions and injuries have also been reported among students.

The findings of the current study will provide a base of knowledge for female governmental preparatory school teachers on first aid and crisis management procedures, and ensure the highest standards of care. It is hoped that this effort might help female governmental preparatory school teachers to improve their practice in assessment, planning, implementation and evaluation of such students . This will reflect on decreasing School costs, moreover, it might generate an attention and motivation for further researches into this area.

Aim of the study:

The current study was designed to investigate the impact of a designed educational program about first aid and crisis management on females governmental preparatory school teachers ' knowledge and practices at Al-Jouf region, Saudi Arabia.

Hypothesis:

1. The post-test mean knowledge scores of teachers who are exposed to first aid and crisis management educational program will be higher than control group subjects.
2. The post-test mean practice scores of teachers who are exposed to first aid and crisis management educational program will be higher than control group subjects.

2. SUBJECTS AND METHOD

Research Design – A Quasi experimental design was used; two groups Pretest – Post Test Design.

Setting:

The study was conducted at 6 preparatory schools in Al-Jouf region which selected after a stratified random sample used. There were 26 preparatory schools in Al-Jouf region and 23% of these schools were selected randomly.

Subjects:

A random sample of 265 preparatory school teachers was chosen from the selected settings in Al-jouf region and randomly divided into two groups (132 teachers in the study group and 133 teachers in the control group).

Inclusion Criteria:

1. Teachers working in preparatory schools
2. Teachers willing to participate in study.

Tools:

Two structured format were used to collect data pertinent to the study.

(1) A pre/post interviewing questionnaire:

It was designed in Arabic language based on advanced literature to test teachers' level of knowledge about first aid items and crisis management and it was divided into two parts:

- (a) Basic information and Sociodemographic data: Age, level of education, experience.
- (b) School teachers' knowledge items regarding first aid and crisis management. It covered 65 items on general information of first aid management for fractures, burns, wound care, fainting,, epistaxis, etc., and 20 items for crisis management.

Scoring of knowledge test:

a. For first aid items:

Each right answer was given 2 scores and a zero was given for incorrect ones. The maximum score was 130, the score of less than (104) was considered unsatisfactory.

b. For crisis management items:

The maximum score was 40, the score of less than (32) was considered unsatisfactory.

(2) A pre/post observational checklist: It was used to observe teachers' performance of first aid items (wound, bleeding, fracture, diabetes, shock, burn, CPR, convulsion, Poison, and Asphyxia) and how to evacuate students during crisis. It covered 50 items on first aid items, and 5 items for evacuation of students during crisis.

Scoring of Observational Checklist:

1- For first aid practice: Each statement was assigned a score of one (1) if the action was observed and zero (0) if it was not done, therefore, the maximum possible score was 100. The score of less than (80) was unsatisfactory and the satisfactory level was from (80).

2- For practice of crisis management.

The maximum possible score was 10. The score of less than (8) was unsatisfactory and the satisfactory level was from (8).

Method:

- An official permissions were obtained from the directors of the selected schools. then a written approval for carrying out the study was obtained after explaining the aim of the study.

Tools development:

-For construction of data collection tools, a review of the related literature(past, current and advanced Arabic and English about various aspects of first aid practice as well as crisis management among schools in Aljouf was done using available educational materials to get acquainted with the research hypotheses and to develop the study tools.

-All tools were tested for their content validity by five academic experts in the field of medical surgical nursing.

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Modifications were done to ascertain their relevance and completeness.

Reliability:

Reliability analysis was used to determine the extent to which the items in the questionnaire are stable, and related to each other. A test-re-test reliability was done to assess the consistency of the tool to measure items reliability. The questionnaire was given to 20 teachers and the answers were analyzed. The same questionnaire was given to the same group after 2 weeks and the answers were analyzed and computed to the results of the first test. The reliability was computed. It was 0.89

Protection of human rights:

Participant's agreement to participate in this study was obtained after explanation of the purpose of the study. Each teacher was reassured that any information obtained would be confidential and only will be used for the study purpose. Oral consent was taken from each nurse to participate in the study.

Pilot study:

It was examined on a group of 20 teachers in order to test the clarity and the applicability of the tools. Necessary modifications were done.

Study Period: Data collection started from 1st of October 2014 and ended at 1st., of June 2015.

-The participant observation technique was used in order to fill out the observational checklist.

-Investigator introduced herself to the subjects and notified about her aim, objectives and steps of the study and obtained a written consent.

- Pre- test was done to determine baseline data for teachers knowledge and practices using structured knowledge questionnaire.

-study group were administered the planned teaching programme.

-the teaching program administered in three days per week from 9.30 am to 12.30 afternoon according to the schedule of teachers and the school visiting hours.

Knowledge with respect to first aid items and crisis management:

Teachers in the studied group were scheduled for teaching sessions, after classification of them into (10) small groups.

Each session lasted 20 – 30 minutes for each group.

Teachers received verbal instructions supplemented by written materials that included pictures as an illustrative guide for more clarification. These instructions were about first aid items and crisis management. The number of sessions varied according to their level of understanding (at a range of 3-4 sessions).

The researcher frequently ensured the acquisition of the provided knowledge through discussion, pictures, and posters.

Post-test were conducted to the teachers who had been exposed to planned teaching programme by using same structured knowledge questionnaire.

Practices with respect to first aid items and crisis management:

First observation was done by the researcher using the pre/post observational checklist for (20) small groups.

- Each session lasted 20–30 minutes for each group.
- Teachers received demonstrations supplemented by pictures as an illustrative guide for more clarification to teachers. The practical techniques were about first aid items (wound, bleeding, fracture, diabetes, shock, burn, CPR, convulsion, Poison, and Asphyxia) and the practical part of crisis management.
- Demonstrations and re-demonstrations were performed to master the skills for teachers.
- Posters and pictures were utilized to illustrate the techniques.
- Sessions ranged from 4-5 according to the teacher's ability to master the given practice.
- Last observation was carried out by the researcher immediately nearly after completion of the sessions.

3. STATISTICAL ANALYSIS

The quantitative data were analyzed using Statistical Package for Social Sciences (SPSS) program version 15. The following tests for significance were used: Means and Standard deviation as well as percentage, frequency, correlation coefficient, F- ratio and t-test for comparison of means. Probability level of 0.05 was adopted as the level of significance for testing hypothesis.

4. RESULTS

Fig. 1) It is clear that the studied sample was aged between 25 and 35 years, while control group subjects were aged between 35 and 45 years.

Fig. 2) shows the distribution of teacher qualification; as the majority of the sample holding diploma in education for both groups.

Fig. 3) It is clear that more than one third of the both groups (study and control) had experience more than 20 years, and between 10- 15 years respectively.

Fig. 4) shows that there were no statistical significance differences in relation to total knowledge score of first aid among both groups at pre test, while at post test, the score of total knowledge of first aid increased immediately after the program for study group, and continued to be higher all through the study phases (statistically significant, $p < 0.001$).

Fig. 5) This figure shows that there were no statistical significance differences in relation to total knowledge score of crisis management among both groups at pre test, while at post test, the score of total knowledge of crisis management increased immediately after the program which introduced for the study group, and continued to be higher all through the study phases with presence of highly statistically significant, ($p < 0.001$).

Fig. 6) The figure shows that there were no statistical significance differences in relation to total score of practice of first aid items among both groups at pre test, while at post test, the score of total of practice of first aid items increased immediately after the program which introduced for the study group, and continued to be higher all through the study phases with presence of highly statistically significant, ($p < 0.001$).

Table 1. This table shows that there were no statistical significance differences in relation to total score of practice of crisis management items among both groups at pre test, while at post test, the score of total of practice of crisis management items increased immediately after the program which introduced for the study group, and continued to be higher all through the study phases with presence of highly statistically significant, ($p < 0.001$).

Table 2. This table shows that a positive correlation was found between knowledge and practices regarding first aid. Moreover, age, experience, knowledge, and practices regarding first aid and crisis management were positively correlated.

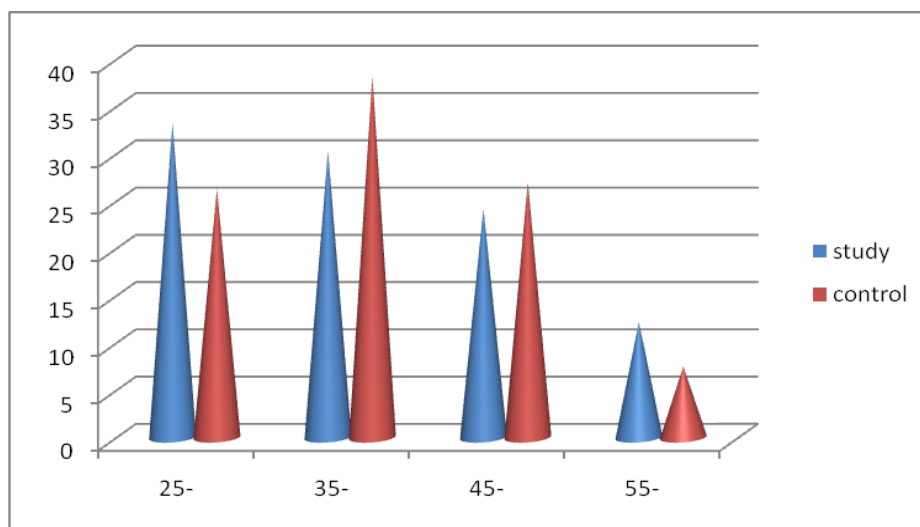


Fig. 1) Age Differences among Study and Control Group

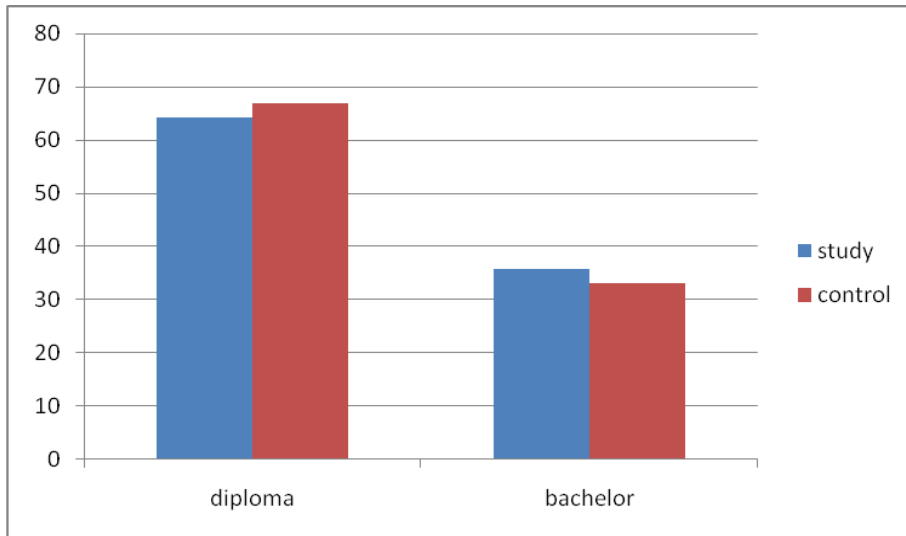


Fig. 2) Qualification Differences among Study and Control Group

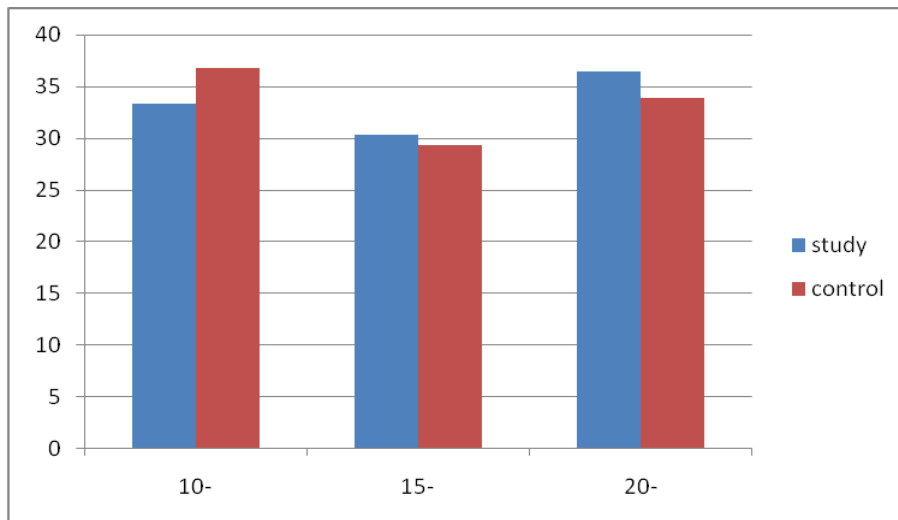


Fig. 3) Experience Differences among Study and Control Groups

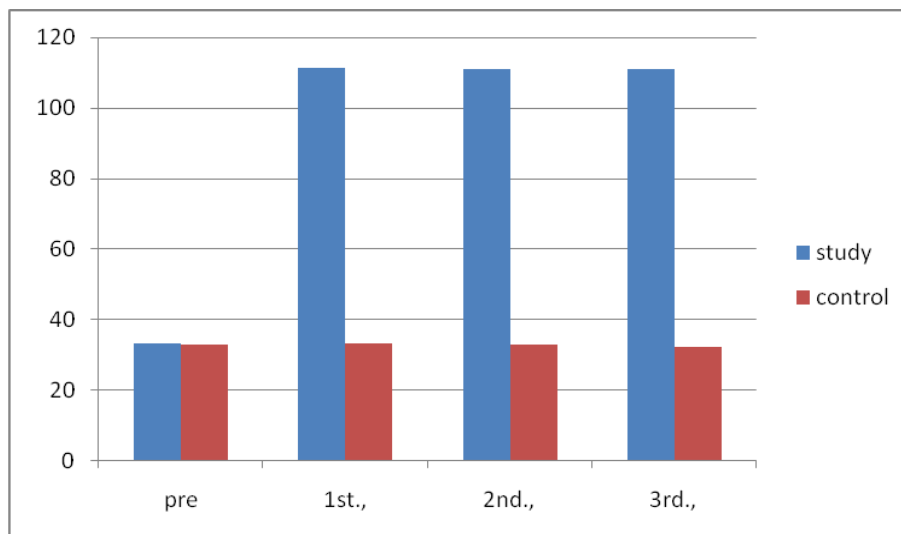


Fig. 4) Mean of Total Knowledge Score of First Aid of Study and Control Groups Throughout The Study Phases.

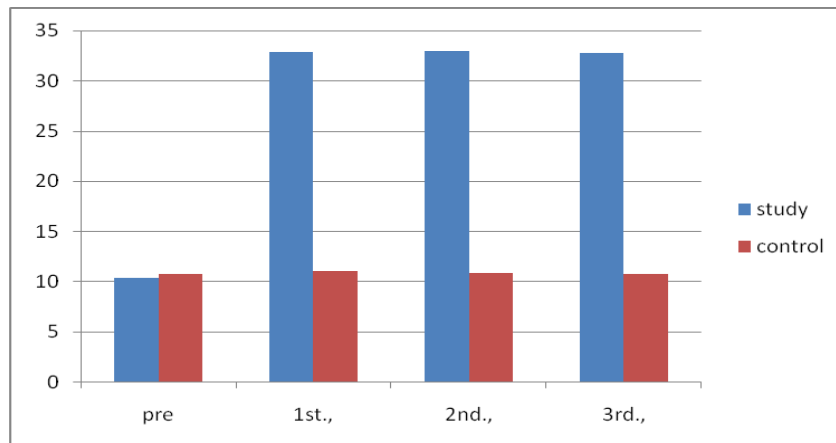


Fig. 5) Mean of Total Knowledge Score of Crisis Management of Study and Control Groups Throughout the Study Phases.

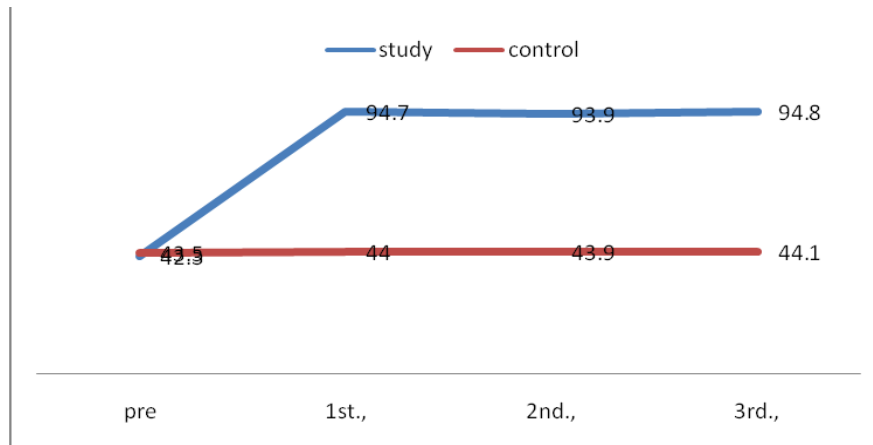


Fig. 6) Mean of Total Score of Practice of First Aid Items of Study and Control Groups Throughout the Study Phases.

Table1. Difference of Total Scores among Schoolteachers' of the Studied and control Groups Concerning Practice of Crisis Management throughout the Study Phases

practice score	Pre teaching		Immediate post teaching		Two weeks post teaching		Four weeks post teaching		ANOVA(F)/ p values
	Mean	±SD	Mean	±SD	Mean	±SD	Mean	±SD	
Study group	4.01±.73		9.18±.68		9.76±.69		9.94±.64		840*** 0.742 ns
Control group	5.01±.82		4.91±.93		4.81±.71		4.90±.92		
T/ P values	0.94 ns		30.1***		31***		33.4***		

Table 2. Correlation Matrix Related To Age, knowledge, Practices and Experience regarding First Aid and Crisis Management

	Age	knowledge score of first aid	knowledge score of crisis management	Practices score of first aid.	Experience
Age	1.00				
knowledge score of first aid	.60*	1.00			
knowledge score of crisis management	.62*	.02	1.00		
practices score of first aid	.80**	.60*	.03	1.00	
Experience	.50*	.80**	.70**	.60*	1.00

5. DISCUSSION

The current study was designed to investigate the impact of a designed educational program about first aid and crisis management on females governmental preparatory school teachers' knowledge and practices at Al-Jouf region, Saudi Arabia.

The two previously mentioned hypotheses of the study, which stated that, the post-test mean knowledge scores of teachers who are exposed to first aid and crisis management educational program will be higher than control group subjects, and, the post-test mean practice scores of teachers who are exposed to first aid and crisis management educational program will be higher than control group subjects, were supported.

Although, first aid and crisis management provided by lay people like teachers, their knowledge of emergency management of injured students is critical for lives saving especially during disaster, unfortunately, many studies had reported that they had lack of knowledge regarding first aid and crisis management. This study showed that there were no statistical significance differences in relation to total knowledge score of first aid among both groups at pre test, while at post test, the score of total knowledge of first aid increased immediately after the program for study group, and continued to be higher all through the study phases.

These results was in line with, Abdella, et al., in (2015) who conducted a study to evaluate an intervention program for the kindergarten teachers about pediatric first aids, as they concluded that before the program; majority of teachers had unsatisfactory skills, while, after program intervention more than half of them had satisfactory skills immediately post program intervention and all through the study phases. Additionally, this goes in line with Ali et al., (2011) who reported in their study which entitled " Implementation of An Educational Training Program In First Aid For Newly Graduated Nursery School Teachers At Zagazig Region" that most of teachers were deficient in both training and knowledge before implementation of an educational training program, while post intervention, the score of total knowledge of first aid increased immediately after the program.

As well, these results was in line with Bildik et al., (2011), who concluded in their study which entitled "The Need for First Aid Awareness among Candidate Teachers " that First aid knowledge among students at the faculty of education was considered to be insufficient, they were in need of educational programs concerning first aid, and they should also be updated at regular intervals throughout their profession.

Regarding crisis management knowledge and practice, the current study revealed that that there were no statistical significance differences in relation to total knowledge and practice scores concerning crisis management among both groups at pre test, while at post test, the score of total knowledge and practice of crisis management increased immediately after the program which introduced for the study group , and continued to be higher all through the study phases with presence of highly statistically significant, these findings were in the light of Riad et al., conducted a project entitled" Capacity Building of Females Governmental Secondary School Teachers in Abha City For Crises Management & First Aid, in (2013) and concluded that knowledge and practice regarding crisis management were significantly deficient among majority of school teachers at pre intervention test, while, after the program implementation, there was a significant improvement of their knowledge and skills, which proved statistically.

Considering the first aid practice score, the current study showed that there were no statistical significance differences in relation to total score of practice of first aid items among both groups at pre test, while at post test, the score of total of practice of first aid items increased immediately after the program which introduced for the study group , and continued to be higher all through the study phases.

These study findings were in consistent with Mersal, and Aly (2016) who found in their study which entitled "Developing disaster management and first aid guidelines for school teachers in Cairo Egypt" that many incorrect practices were prevalent among respondents and the most of them had inadequate performance related to first aid. Meanwhile after implementation school teachers acquired good first aid practices with statistical significant difference pre and post intervention.

Moreover, in a study conducted by Al-Samghan, et al. in (2015) to evaluate primary school teachers' knowledge regarding first-aid, they concluded there is deficient interest among teachers toward the importance of receiving training on first aid emphasizing the importance of the practical training for them.

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The current study revealed that results showed that a positive correlation was found between age, knowledge, and practices regarding first aid and crisis management.

In the light of these results, Riad et al., in (2013) revealed a positive correlation between age, knowledge, experience and practices regarding first aid and crisis management.

Additionally, Hegazy et al. in (2014) revealed that a statistically significant negative correlation was found between teacher's sex and their total knowledge scores.

The educational program was successful in improving knowledge and practice of teachers in emergency and crisis situations, this motivates spreading first aid and crisis training courses to all the community.

6. CONCLUSION

Knowledge and practice of teachers had significantly improved after the program implementation concerning first aid and crisis management. Enrichment of female governmental preparatory school teachers at Al-Jouf region with up to date knowledge and practices concerning first aid and crisis management might have positive impact on maintenance of school safety, stability and equilibrium.

7. RECOMMENDATIONS

- The study recommended provision of first aid and crisis management programs for all school teachers to improve their level of knowledge and performance for the purpose of protection of children.
- In strongly manner, it is recommended that each school must prepare their own first aid and crisis management plan.
- The school authority should provide teachers with booklet, posters, brochures, charts to improve their knowledge and practices.
- Health education and training program should be implemented by researchers in similar settings to improve the knowledge and skills of school teachers in first aid and crisis management.
- Further researches needed to assess the impact of such programs on larger sample size for more generalizability investigating different sociodemographic variables.
- As well, the study recommends wide coverage investigation and implementation of this research finds all over the Saudi Arabian schools.

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