Effect of an Educational Program on Students' Knowledge Regarding Prevention and Control of Pandemic Influenza Transmission

Azza Ismail El-Sayed; Wafaa Ouda; Amina Abd El-Whab; Inas Abd-Allah

The Department of Pediatric Nursing**,** Faculty of Nursing**,** Ain Shams University; The Department of Pediatric Medicine, Faculty of Medicine, Suez Canal University; The Department of Maternity and Gynecologic Nursing, Faculty of Nursing, Suez Canal University

Abstract

Background: Implementing an educational program by pediatric nurse for hygiene activities, prevention and control of pandemic influenza transmission in schools is very important especially when there is a major public health threat like influenza pandemic.

Aim: This study was aiming to assess student's knowledge regarding prevention and control of pandemic influenza transmission. It also aims to design, implement and evaluate an educational program for students' about prevention and control of pandemic influenza transmission.

Materials and Methods*:* A quasi-experimental design was used. *Setting:* The study was conducted in four governmental preparatory and secondary schools in Ismailia. *Subjects:* The study involved 204 students from both gender and in the age group of 12-18 years. *Tool of data collection*: Data were collected using A self-Administered Questionnaire ***Results:*** Total knowledge score regarding prevention and control of pandemic influenza transmission were improved, as good score was 0% pre program while it reached 85.3% after implementation of the educational program and 84.3% after one month later.

Conclusion: Implementation of educational program for students about prevention and control of pandemic influenza significantly improved the students' total level of knowledge.

Recommendation: The study recommended educational programs about prevention and control of pandemic influenza transmission for students according to their actual need assessment.

Key Words: Educational Program, Pediatric nurse, Pandemic, Influenza

Introduction

MANY childhood illnesses are caused by viruses. Viral infection needs a single child to bring a virus to school for the spread to begin. Consider this common scenario a child who has flu coughs or sneezes in the classroom, the children sitting nearby inhale the infected respiratory droplets and the flu spreads (Http://www.mayoclinic.com., a 2010).

Influenza viruses are among the most common causes of human respiratory infections, because they cause high morbidity and mortality. Viruses cause both seasonal, endemic infections and periodic, unpredictable pandemics. Up to 50% of the population can be infected in a single pandemic year and the number of deaths caused by influenza can dramatically exceed what is normally expected (Taubenberger and Morens, 2008).

It is important to know that, experts believe that another influenza (flu) pandemic will strike in the future. But they unable to predict when the next influenza pandemic will occur or how severe it will be. Wherever and whenever a pandemic starts, everyone around the world is at risk. Millions of people around the world could get sick with and even die from a new kind of flu virus. It could affect individuals, families and communities (James et al., 2010 and Http:// www. osha.gov., 2012). However, the impact of the next pandemic is likely to be the greatest in low income countries because of different population characteristics and the already strained health care resources (Http://www.London.ca, 2009).

Three years ago Egypt was ranked as the third in the global infection rate (avian flu) with a 14% infection rate as registered by the NAMRU-3, (2010). Indonesia was ranked as the first with 34% and Vietnam was the second with 26%. Now, Egypt becomes the first over the world then China and Indonesia (Http://www.apn24.info, 2010 Arabic ref). Until now Egypt reported 168 cases of avian flu, the last one is a four years girl from Kafr Elsheikh Governorate and about 60% of the cases died (Http://www.WHO.int, 2012).

Consequences of infectious disease in children may have significant economic and social impact; beyond the direct effects of the disease on the health of the child including absence from school, transmission of infectious disease to other pupils, staff and family members and time off work for parents/guardians. Reduction of the transmission of infectious disease between children in schools is an effective way of reducing the community incidence of infectious disease (Mckenzie et al., 2010).

This study was conducted to shed light on the effectiveness of educational program on student's knowledge regarding prevention and control of pandemic influenza transmission.

Aim of the study:

This study aimed to:

1- Assess student's knowledge regarding prevention and control of pandemic influenza transmission.

2- Design, implement and evaluate an educational program for students about prevention and control of pandemic influenza transmission.

Research Questions:

1- What is the knowledge of students regarding prevention and control of pandemic influenza transmission?

2- What is the effect of an educational program on student's knowledge about prevention and control of pandemic influenza transmission?

Materials and Methods

Study Design: A quasi experimental design was used in this study.

Study Settings: The present study was conducted in four schools (preparatory and secondary) from both rural and urban areas in Ismailia Governorate, equally for boy and girls from 12-18 years.

Study Population: Boys and girls of students from12-18 years.

Method of Sampling:

This comprised schoolchildren from preparatory and secondary grades selected by stratified Cluster randomized sampling. This process consisted of several steps. First, random selection of three educational administrations from a total of seven administrations allover Ismailia Governorate. Then random selection of four schools, two schools from rural areas and two schools from urban areas. Lastly, random selection of students from each school.

Sample Size

Sample size was calculated according to the following equation:

n=Z*Z (P (1-P)/D*D)

In which:

P = True proportion of factor in the population (guess) = 50

D = Maximum difference between sample mean and population mean =75

Z = Area under normal curve corresponding to the desired confidence level = 1.96

After Calculation: n= Z*Z (P (1-P)/D*D) = -9411.92

Sample Size = n / (1+ (n/population)) = 204 cases

Data collection tools:

Data were collected through the use of the following tool: *A self-Administered Questionnaire (Pre / Post Test)* It was designed by the researcher after reviewing the relevant literature. It includes two parts to gather the following data:

Part 1:

Concerned with the socio-demographic data of the studied students such as age, gender, residence, academic year and name of the school.

Part 2:

Concerned with assessment of the student's knowledge and reported practice about prevention and control of pandemic influenza transmission as the following;

a- Terminology related to influenza (4 questions).

b- Student's knowledge about different types of influenza: one question of 9 items comparison between the 3 types of influenza, 8 questions about avian influenza, 8 questions about swine influenza, 40 questions about prevention and control of pandemic flu.

Indicators of program success for students and their families, it included questions about occurrence of influenza, recurrences, what they do in case of occurrence and its effect on school performance. It consisted of 7 questions for children and 4 questions for parents (answered by children).

Before conduction of the study, an official letter was issued from the vice dean for postgraduate studies and research of the Faculty of Nursing/Ismailia to the administration director of the Ministry of Education in Ismailia. Then official permission was obtained for the administrators of the three educational administrations, then for the previously mentioned schools to carry out this study.

Ethical Considerations:

Purpose and expected outcomes of the study were explained to each study subject. They were secured that all the gathered data will be used for the research purpose only, the study is harmless and their approval to participate is a prerequisite to be included in the study. Each subject was assured that they can quit/withdraw whenever they want.

Operational Design

The operational design of the current study included the preparatory phase, pilot study and field work.

- ***Preparatory phase***

The preparatory phase is the first phase in the study, aiming to identify the student's needs and preparing the tool that used in data collection. After that, the tool was reviewed by jury of 5 experts in nursing and medicine to ascertain its content validity. Then the educational program was prepared by the researcher based on relative national and international related references using journals, the internet and books. The program included introduction about influenza and influenza pandemic, terminology related to influenza, knowledge about seasonal, avian and swine influenza like definition, causes, clinical manifestations, diagnosis, complications and treatment. Moreover, the program included measures for prevention and control of transmission of these types of influenza.

- ***Pilot Study***

The pilot study was carried out after the development of the tool and before starting the data collection in order to test the clarity, feasibility, applicability and time required. It is carried out on 10% of the total sample size. It was conducted over a period of a week from the beginning of second semester (February 2012). After obtaining the results of pilot study, ambiguous items were omitted, required modifications as the manner of writing questions, arrangement of choices, sequences of questions were done and the final form was completed. Those included in the pilot study were excluded later from the sample.

- ***Field Work***

The researcher was available daily by rotation from the beginning to the end of the school day. The work was organized among schools by co-operation and communication with school nurses. The aim of the study was explained by the researcher to the studied students in order to get their oral approval to be included in the study. Students were divided into groups (4 groups) in each school, and asked to fill the questionnaire after simple clarification of its component. After each group filling the questionnaire sheet at pre-test, the program was carried out by the researcher from middle of February to the last of March. The program given in 7 sessions for each group, every session lasted from 30-45 minutes.

At the end of the sessions the study tool were reused again by the same students for post-test and assessment. Then researcher gave each student, school nurses and all facilitators a copy of booklet of the program, also each school administrator was given booklet to be kept in the library, to be available for all students. After one month from post-test the same students were met again to fill the same study tool (follow up evaluation) for the purpose of estimating the follow up of the program.

Statistical Design:

Upon completion of data collection, the gathered data were organized and coded prior to computerized data entry. The data were then imported into Statistical Package for the Social Sciences (SPSS version 18) software for statistical analysis using personal computer. Output drafts were checked against the revised coded data for typing and spelling mistakes. Finally, analysis and interpretation of data was conducted. The following statistical measures were used:

- Descriptive statistics including frequency, distribution, mean and standard deviation were used to describe different characteristics.
- Kolmogorov-Smirnov test was used to examine the normality of data distribution.
- Univariate analyses including: Wilcoxon Signed ranks test was used to test the significance of results of quantitative variables. Chi-square test and Monte Carlo test were used to test the significance of results of qualitative variables. The significance of the results was at the 5% level of significance

Results

The socio-demographic characteristics of the studied sample showed that, almost two thirds of the studied sample (63.2%) their ages ranged between 14 to 16 years old. While the minority of them (10.8%) their ages ranged between 16 to 18 years old. Less than three quarters of the studied sample (71.6%) were girls. Almost half of the studied sample (48.5%) was in the first year of secondary school and 31.9% were in the 2nd preparatory. More than two thirds of the studied sample (68.6%) lives in rural areas. While 31.4%, live in urban areas.

Table (1) shows that, there is very high statistical significant difference pre/post educational program in relation to the studied sample's knowledge about definition of influenza and its related terminology. As regarding definition of influenza epidemic, 56.9% of studied sample their knowledge was complete correct pre educational program. While the majority of them (92.1% and 95.6%) respectively their knowledge was complete correct post educational program and at the follow up. Concerning definition of influenza pandemic, less than one third of the studied sample (20.6%) their knowledge was complete correct pre educational program. While post educational program the percentage increased to reach 87.3% and at follow up was 92.1% respectively.

Table (2) deals with preventive measures of the studied sample to prevent influenza pandemic, it is clear that, less than one third (15.2%, 29.4% and 25%) of the studied sample reported always regarding sneeze on sleeves or shoulder if have no tissues, avoid kissing and hand shaking and stay at least 1 meter away from patients pre educational program. Compared with 64.7%, 64.2% and 67.6% respectively post educational program and 67.6%, 64.7% and 68.6% respectively at the follow up, with very high statistical significant difference in comparison between pre/post educational program. Regarding avoid share personal instruments with others the always answer reported by 52% of the studied sample pre educational program. Compared with 86.3% post educational program and 81.9% at the follow up.

Table (2a) deals with preventive measures of the studied sample to prevent influenza pandemics. There is very high statistical significant difference between results of pre/post educational program. Regarding to receiving vaccine, 24% of the studied sample reported with always answer pre educational program. Compared with more than half (52.5% and 53.9%) of them post educational program and at follow up. Regarding to staying at home when getting sick, 46.1% of the studied sample reported with always answer pre educational program. Compared with more than three quarters of them (82.8% and 77.9%) post educational program and at follow up. Concerning reducing duration of exposure to patients with influenza 39.2% of the studied sample reported with always answer pre educational program. Compared with 79.4% post educational program and 72.1% at the follow up.

The results of table, (3) shows that, there is very high statistical significant difference pre/post educational program regarding all items except washing all utensils with soap and water it was significant only. Concerning stay at home and seek medical advice, 32.4% and 53.9% of the studied sample reported always pre educational program. Compared with 74% and 86.3% post educational program and 69.1% and 81.9% at the follow up.

Figure (1) shows that, there is very high statistically significant difference in the total level of knowledge pre/post educational program where no one (0.0%) of the studied sample had total good score of knowledge pre educational program. While 85.3% and 84.3% of the studied sample had total good score of knowledge post educational program and at the follow up.

Discussion

Influenza greatly affects school students. In addition, school students play a key role in transmission of influenza during community epidemics. Slowing or preventing transmission of influenza viruses among students may diminish the explosive transmission pattern that often characterizes annual influenza epidemics. Health education in schools is crucial for promoting the health of young people and contributing to the overall health of the public (Al-Shehri et al., 2006 and Talaat et al., 2011).

On the basis of the study findings and regarding to definition of influenza epidemic, the majority of the studied sample their answers were complete correct after program. Concerning definition of influenza pandemic, more than four fifths of the studied sample their answers were complete correct after program. From the researcher's point of view the increased level of knowledge is due to the effect of educational program and the enthusiasm of the students to learn more about the subject. These results are in an agreement with Mahmoud, (2011), who studied the assessment of student's awareness about influenza A/ H1N1 in the secondary schools of girls at Benha city and found that, nearly two thirds of the studied sample had correct and complete knowledge regarding the meaning of influenza A H1N1. Also these findings were in an agreement with Wilson & Huttlinger (2010), whom studied the pandemic flu knowledge among dormitory housed university students: a need for informal social support and social networking strategies and reported that, three quarters of the studied students, had awareness of the pandemic H1N1 influenza.

As regards the preventive measures of influenza pandemic, post program results revealed that around two thirds of studied students in relation to sneeze on sleeves or shoulder if having no tissues. This result was supported by Karunathilaka & Wanigasuriya, (2012), who studied knowledge and awareness of preventive measures in influenza H1N1 infection among Students of University of Sri Jayewardenepura and found that, half of studied sample sneeze in elbow. Moreover, around two thirds of studied sample were avoid kissing and shaking hands. This result is the same with Farahat et al., (2010**),** whom studied promotion of knowledge, attitude and practice towards swine flu A/H1N1; an intervention study on secondary school children of Menofia governorate, Egypt. From the researcher point of view this improvement can be expected as a result of increasing interest of students about reading and learning about prevention of influenza.

These results supported by Mahmoud, (2011), who reported that, the majority of the studied students were aware of methods of prevention against influenza infections. From the researcher point of view this high awareness may be due to increase of the media information through television, brochures and posters about the preventive methods of the influenza diseases.

Regarding to hand washing, the vast majority of studied students mentioned that they have to wash hands continuously to protect themselves from influenza post program implementation. These post program results are in concordant with Farahat et al., (2010) and Karunathilaka & Wanigasuriya, (2012), whom found that, more than half of the studied sample considered hand washing as simple and effective way to control influenza. In the same line Talaat et al., (2011***)*** who studied the effects of hand hygiene campaigns on incidence of laboratory-confirmed influenza and absenteeism in schoolchildren, Cairo, Egypt and found that, intensive hand hygiene campaigns are highly successful in reducing influenza by fifty percent among school children. The same results supported by Rabie & Curtis, (2006) whom studied hand washing and risk of respiratory infections and found that, hand washing reduces respiratory infection by approximately twenty percent in children**.**

These findings about hand hygiene were also reported by several studies including White et al., (2001), who studied reduction of illness absenteeism in elementary schools using an alcohol-free instant hand sanitizer, Guinan et al., (2002***)*** who studied the effect of a comprehensive hand washing program on absenteeism in elementary schools and Bowen et al., (2007), whom studied a cluster-randomized controlled trial evaluating the effect of a hand washing promotion program in Chinese primary schools. Where intensive hand hygiene education was effective as it reduces the transmission of influenza among school children with feasible and acceptable way. Promoting knowledge, changing behaviors & attitudes and frequent reinforcement of good practices regarding influenza can improve general health and decrease the rate of infection in most risky groups (young students) of the susceptible countries.

From table (2a) it is clear that, more than eighty percent of the studied sample prefers to stay at home when get sick post educational program. This is in agreement with Al-Shehri et al., (2006***),*** who studied knowledge and concern among avian influenza among secondary school students in Taif, Saudi Arabia and found that, more than half of the studied sample stay at home when get sick. While Farahat et al., (2010), found that, only near one third prefer to stay at home until cure. As regards avoiding crowded areas it was found that 80% of the studied sample reported avoid crowded areas to avoid infection with influenza post educational program. While the results of Farahat et al., (2010) found only 39.2% of studied sample avoid crowded areas. From the researcher's point of view, this difference in results may be owing to different cultures and behaviors toward any such illness.

As regards drinking a lot of fluids and seeking medical advice when being sick table (3), the post-program knowledge were improved in more than 80% of the studied sample. This finding is in an agreement with results of Mahmoud, (2011), who found that, slightly more than three quarters of the studied sample drink a lot of fluids. Also, Balkhy et al., (2010), whom studied awareness, attitudes, and practices related to the swine influenza pandemic among the Saudi public and reported similar findings that the majority of the studied sample reported that they increases fluid intake.

Regarding to the total level of knowledge pre/post program, no one had good score in the total level of knowledge before program, compared with more than eighty percent of the studied sample had good score in the total level of knowledge post program (Figure, 1). This result is highly supported by Balkhy et al., (2010) and Mahmoud, (2011), whom reported that, the majority of the studied sample had satisfactory total knowledge regarding influenza.

Conclusion:

In the light of the current study, it can be concluded that, the educational program provided for preparatory and secondary students significantly increased the level of their knowledge regarding prevention and control of pandemic influenza transmission.

Recommendations:

In the light of the findings of the current study the following recommendations are suggested:

- Integrate the concept of prevention and control of pandemics in curriculum of preparatory and secondary education.
- Correction of misconceptions and improving knowledge related to control of pandemics through posters in schools and through media for students and their families.

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Table (1) Distribution of the studied sample according to their knowledge about definition of influenza and its related terminology (n=204)

Definition of Influenza and its related Terminology	Pre Educational Program		Post Educational Program				Significance
			Immediately		Follow up		
	No.	%	No.	%	No.	%	
Influenza epidemic:							
- Incorrect (0)	12	5.9	1	0.5	1	0.5	$^{MC}P<0.0001^{***}$
- Incomplete correct (1)	76	37.2	15	7.4	8	3.9	
- Complete correct (2)	116	56.9	188	92.1	195	95.6	
Influenza Pandemic:							
- Incorrect (0)	98	48.0	1	0.5	1	0.5	$\chi^2=324.68$
- Incomplete correct (1)	64	31.4	25	12.2	15	7.4	$P<0.0001^{***}$
- Complete correct (2)	42	20.6	178	87.3	188	92.1	
Endemic Disease:							
- Incorrect (0)	134	65.7	32	15.7	24	11.8	$\chi^2=172.26$
- Correct (2)	70	34.3	172	84.3	180	88.2	$P<0.0001^{***}$
Communicable Disease:							
- Incorrect (0)	134	65.7	55	27.0	35	17.2	$\chi^2=115.8$
- Correct (2)	70	34.3	149	73.0	169	82.8	$P<0.0001^{***}$

Table (2) Distribution of the studied sample according to their preventive measures in prevention and control of influenza pandemics (n=204)

Preventive Measures of Influenza	Pre Educational Program		Post Educational Program				Significance
			Immediately		Follow up		
	No.	%	No.	%	No.	%	
Cover nose and mouth during sneezing/cough:							χ^2=86.2 P<0.0001***
- Rare (0)	15	7.4	4	2.0	4	2.0	
- Sometimes (1)	64	31.4	10	4.9	15	7.4	
- Always (2)	125	61.3	190	93.1	185	90.7	
Sneeze on sleeves or shoulder if have no tissues:							χ^2=251.9 P<0.0001***
- Rare (0)	141	69.1	16	7.8	19	9.3	
- Sometimes (1)	32	15.7	56	27.5	47	23.0	
- Always (2)	31	15.2	132	64.7	138	67.6	
*Avoid touch eyes, nose or mouth with unclean hands***:**							χ^2=54.7 P<0.0001***
- Rare (0)	34	16.7	12	5.9	14	6.9	
- Sometimes (1)	77	37.7	36	17.6	38	18.6	
- Always (2)	93	45.6	156	76.5	152	74.5	
Wash hands continuously with soap and water:							^{MC}P<0.0001***
- Rare (0)	7	3.4	1	0.5	1	0.5	
- Sometimes (1)	35	17.2	8	3.9	9	4.4	
- Always (2)	162	79.4	195	95.6	194	95.1	
*Avoid kissing and hand shaking***:**							χ^2=85.1 P<0.0001***
- Rare (0)	60	29.4	16	7.8	13	6.4	
- Sometimes (1)	84	41.2	57	27.9	59	28.9	
- Always (2)	60	29.4	131	64.2	132	64.7	
Avoid share personal instruments with others							χ^2=72.9 P<0.0001***
- Rare (0)	35	17.2	10	4.9	12	5.9	
- Sometimes (1)	63	30.9	18	8.8	25	12.3	
- Always (2)	106	52.0	176	86.3	167	81.9	
Stay at least 1 meter away from patients							χ^2=137.5 P<0.0001***
- Rare (0)	90	44.1	16	7.8	17	8.3	
- Sometimes (1)	62	30.4	50	24.5	47	23.0	
- Always (2)	51	25.0	138	67.6	140	68.6	

Table (2a) Distribution of the studied sample according to their preventive measures in prevention and control of influenza pandemics …. *Cont. (n=204)*

Preventive Measures of Influenza	Pre Educational Program		Post Educational Program				Significance
			Immediately		Follow up		
	No.	%	No.	%	No.	%	
Receive vaccine:							χ^2=93.5 P<0.0001***
- Rare (0)	92	45.1	25	12.3	23	11.3	
- Sometimes (1)	63	30.9	72	35.3	71	34.8	
- Always (2)	49	24.0	107	52.5	110	53.9	
Stay at home when get sick:							χ^2=76.9 P<0.0001***
- Rare (0)	25	12.3	10	4.9	13	6.4	
- Sometimes (1)	85	41.7	25	12.3	32	15.7	
- Always (2)	94	46.1	169	82.8	159	77.9	
Seek medical advice in case of symptomatic influenza :							χ^2=60.7 P<0.0001***
- Rare (0)	28	13.7	3	1.5	7	3.4	
- Sometimes (1)	70	34.3	36	17.6	35	17.2	
- Always (2)	106	52.0	165	80.9	162	79.4	
Reduce duration of exposure to patients with influenza:							χ^2=81.8 P<0.0001***
- Rare (0)	36	17.6	9	4.4	14	6.9	
- Sometimes (1)	88	43.1	33	16.2	43	21.1	
- Always (2)	80	39.2	162	79.4	147	72.1	
Avoid overcrowded places with bad ventilation:							χ^2=35.2 P<0.0001***
- Rare (0)	27	13.2	7	3.4	6	2.9	
- Sometimes (1)	51	25.0	27	13.2	40	19.6	
- Always (2)	126	61.8	170	83.3	158	77.5	
Eat healthy food and practice exercise:							χ^2=38.8 P<0.0001***
- Rare (0)	12	5.9	8	3.9	9	4.4	
- Sometimes (1)	71	34.8	31	15.2	26	12.7	
- Always (2)	121	59.3	165	80.9	169	82.8	
Drink a lot of fluids:							χ^2=45.9 P<0.0001***
- Rare (0)	22	10.8	5	2.5	7	3.4	
- Sometimes (1)	47	23.0	17	8.3	17	8.3	
- Always (2)	135	66.2	182	89.2	180	88.2	

Table (3): Distribution of the studied sample according to their reported practices in prevention and control of influenza pandemics (n=204)

Reported practices in protection from Influenza	Pre Educational Program		Post Educational Program				Significance
			Immediately		Follow up		
	No.	%	No.	%	No.	%	
Stay at home:							
- Rare (0)	68	33.3	16	7.8	20	9.8	χ^2=96.8
- Sometimes (1)	70	34.3	37	18.1	43	21.1	P<0.0001***
- Always (2)	66	32.4	151	74.0	141	69.1	
Tell family about being sick:							
- Rare (0)	19	9.3	3	1.5	5	2.5	χ^2=35.7
- Sometimes (1)	51	25.0	26	12.7	26	12.7	P<0.0001***
- Always (2)	134	65.7	175	85.8	173	84.8	
Seek medical advice:							
- Rare (0)	23	11.3	5	2.5	9	4.4	χ^2=65.7
- Sometimes (1)	71	34.8	23	11.3	28	13.7	P<0.0001***
- Always (2)	110	53.9	176	86.3	167	81.9	
Drink a lot of fluids:							
- Rare (0)	17	8.3	10	4.9	11	5.4	χ^2=25.7
- Sometimes (1)	52	25.5	22	10.8	23	11.3	P<0.0001***
- Always (2)	135	66.2	172	84.3	170	83.3	
Wash all utensils with soap and water:							
- Rare (0)	11	5.4	3	1.5	6	2.9	χ^2=11.1
- Sometimes (1)	21	10.3	13	6.4	9	4.4	P=0.025*
- Always (2)	172	84.3	188	92.2	189	92.6	

**** Very high statistical significant difference (significant at p ≤0.05)*

** Statistical significant difference (significant at p ≤0.05)*

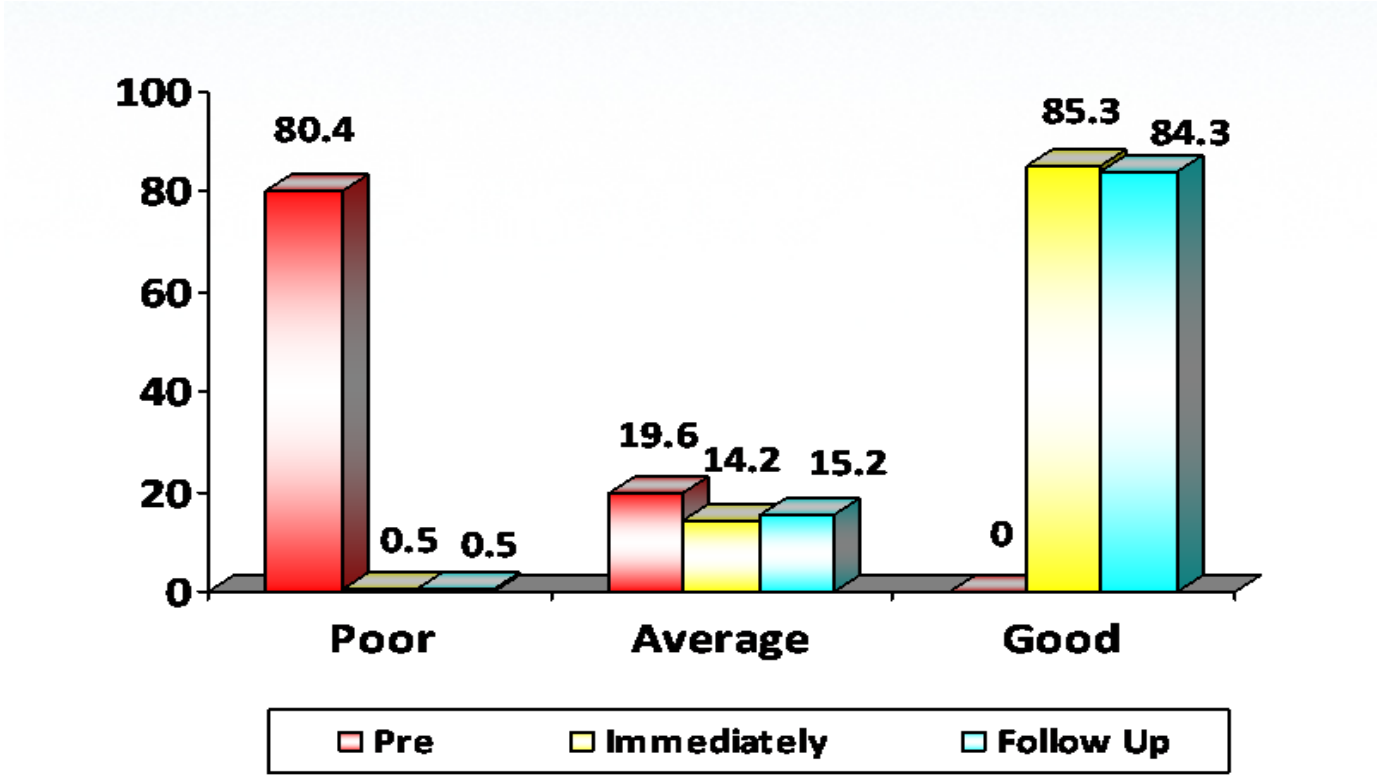

Figure (1): Total level of knowledge of studied sample pre/post educational program regarding to prevention and control of influenza pandemics (n=204).

تأثير برنامج تعليمي على معلومات الطلاب فيما يخص التحكم ومنع انتشار جائحة الإنفلونزا

عزة إسماعيل ، ا.د. وفاء عودة، ا.د. أمينة عبد الوهاب، ا.م. إيناس عبد الله

قسم تمريض الأطفال- كلية التمريض- جامعة قناة السويس، قسم تمريض الأطفال- كلية التمريض- جامعة القاهرة، قسم الأطفال- كلية الطب- جامعة قناة السويس، قسم تمريض الأمومة وأمراض النسا- كلية التمريض- جامعة قناة السويس

الخلاصة

تعتبر الأنفلونزا مرض شديد العدوى ، وتحدث العدوى في الأنف والحلق والمجرى الهوائي والرئتين وتتسبب الأنفلونزا في ارتفاع عدد المرضى وحالات الوفاة حتى في الفترات الزمنية ما بين الجوائح. معظم الإصابات وحالات الوفاة المصاحبة للأنفلونزا ليست فقط بسبب المرض نفسه ولكن أيضا تعود إلى المضاعفات القلبية والرئوية المصاحبة للعدوى. تعد الأنفلونزا سبب مهم لأمراض التنفس عند الأطفال وقد ازدادت إعداد الإصابة بالأنفلونزا في طلاب المدارس في الآونة الأخيرة. تعتبر المدارس بيئة اجتماعية يتعلم فيها الطلاب سلوكيات جديدة، وباعتبار أن التثقيف الصحي هو احد ادوار ممرضة الأطفال، لهذا يعتبر تطبيق برنامج تثقيفي للسلوكيات الصحية ومنع والتحكم في انتشار الأنفلونزا فى المدارس ضرورة خاصة في وجود خطر مثل جائحة الأنفلونزا. هدف الدراسة: تقييم معلومات وممارسات طلاب المدارس تجاه التحكم ومنع انتشار جائحة الأنفلونزا وكذلك تصميم، تطبيق وتقويم برنامج تعليمي لطلاب المدارس للتحكم ومنع انتشار جائحة الأنفلونزا.نوع الدراسة: دراسة شبه تجريبية. مكان الدراسة: أجريت هذه الدراسة في أربع مدارس حكوميه بمحافظة الإسماعيلية. عينة البحث: وقد إشتملت العينة على ٢٠٤ طالب وطالبة مختارين عشوائيا من المدارس الاعدادية والثانوية في محافظة الإسماعيلية. ادوات البحث: وقد تم تجميع البيانات باستخدام استمارة إستبيان واستمارة ملاحظة. النتائج: أوضحت الدراسة حصول الغالبية العظمى (٨٠,٤ %) على تقدير ضعيف و حصول ١٩,٦ %على تقدير متوسط وعدم حصول اى طالب على تقدير جيد فى متوسط مستوى المعلومات عن منع وتحكم انتشار جائحة الانفلونزا قبل تنفيذ البرنامج بينما حصل٨٥,٣ % ٨٤,٣ % من الطلاب على التوالى على تقدير جيد بعد التنفيذ وفى المتابعة. كما أفادت الدراسة الى انه يوجد ارتباط ذو دلاله احصائيه بين الممارسات قبل وبعد تنفيذ البرنامج حيث كانت الممارسات المرضيه قبل تنفيذ البرنامج ٧٩,٤ % بينما وصلت الى ١٠٠ % بعد تنفيذ البرنامج والى ٩٩,٥ % فى المتابعة. الخلاصة: فى ضوء نتائج الدراسة وجد ان البرنامج التعليمي لطلاب المدارس كان له تأثير إيجابي فى رفع مستوى معلومات وممارسات الطلاب للتحكم ومنع انتشار جائحة الأنفلونزا. التوصيات: وقد اوصت الدراسة بتطبيق برامج تثقيفية عن التحكم ومنع اتشار جوائح الانفلونزا لطلاب المدارس بناء على تقييم احتياجاتهم الفعلية.

الكلمات الدالة: *برنامج تعليمة- ممرضة الأطفال- جائحة - انفلونزا*