

Impact of an Educational program on Teachers' Knowledge Toward Chickenpox Prevention at Primary Schools in Al-Najaf Governorate

Raid Saad Atshan¹, Asmahan Qasim Mohammed², Ali Hussien Abbas³

¹Assistant Lecturer, Al-Furat Al-Awsat Technical University, Medical Technical Institute / Kufa, Department of Nursing Techniques, ²Assistant Lecturer, University of Baghdad /College of Nursing, Pediatric Nursing Unit, ³Lecturer, University of Al-Muthanna/ College of Nursing, Department Family and Community Health Nursing

Abstract

Chickenpox disease is one of a highly infectious disease caused by the virus called varicella zoster. Chickenpox is spread through coughing and sneezing, and through direct contact with fluids in rashes. Most people who are vulnerable to chickenpox are children, especially those under 12 years old. **Objectives:** The study aim determine the effective of education programs on teachers' knowledge toward children with of chickenpox disease at Primary schools in Al-Najaf governorate and the relationship between teachers' knowledge with their demographic variables. **Methodology:** A quasi experimental studies was carried out at Primary schools in Al-Najaf governorate from January 2019, to the end of April 2020, the sample was collected in a purposive random sample comprised with 12 schools, identified the number of teachers selected from each school was 45, the data were collected using a questionnaire consisting of two main parts, the first part related to the social and demographic characteristics of teachers, and the second part concerned teachers' knowledge about the prevention of chickenpox and then an educational program was established to increase the awareness and knowledge of teachers towards the prevention of chickenpox. **Results:** The results showed that most of the samples (37.8%) were aged between (41- 50) years. For the number of years of service, the greatest percentage (35.6%) of the sample ranged from 1 to 10 years, the study also showed that 100% of the questions were answered by the teachers after the impact of the educational program. **Conclusion:** The study concludes that the effectiveness of an education program toward teacher's knowledge, which is concerned with chickenpox, is positive at a high rate.

Keywords: Knowledge, Chickenpox, Prevention, Al-Najaf governorate

Introduction

Chickenpox is very common childhood diseases, caused by virus called Varicella zoster (VZV). However, generally consider as a benignant infection, but can caused severe illnesses especially in infant baby, immunocompromised child and elderly patients ¹. Age distribution prevalence that registered cases showed that major cases within those of age (5-14) years at (65%), while (1%) occur in those age (>45 years), numbers of clinical cases showed an clear rise in the registration of chickenpox illness cases from (21798) cases in 2007 to (59681) cases in 2008 to (74195) cases in 2011 with possibility outbreaks occurred during 2008 and 2011. ². Chickenpox has high infection and

distributes by olfactory secretions or by direct contact to skin bumbled. Chickenpox disease is considered as monthly noticeable diseases in Iraq. The infection of varicella appears in winter and spring, but it may see at any time of the year, Chickenpox cases were counted in Al-Dora city (southern Baghdad). Data of disease was obtained from the records of Bilat Al-Shuhadaa health center at the period from January to July 2012. Diagnosis of cases was achieved by the physicians of the health center. Studied risk factors were including the gender, address, school and age. Total of cases recorded was 73cases (66.9per 100,000) populations for seven months. Males reported cases were48 (65.7%) while female's cases were25 (34.3%) ³. Chickenpox disease is a seasonal illness, highly infectious disease caused by

virus called varicella. This virus one of the herpesviridae family. Although that signs and symptoms are mild, but the attention it is meager to prevention its spread. Virus of varicella ratio is highly within developing countries that because of the rapid spread among students related to result of indirect contact of instruments and their secretions of infected child, airborne and droplet spread of vesicular fluid. The number of chickenpox cases has been elevated in Iraq because the lack of vaccine and health awareness lack. To reduce number of infected cases, it is needful to follow up the illness students and detect the possible virus mutations. Isolation of infected student that lead to the disease spreading. Then, using of the unprecedented methods for diagnosis the virus are more significant as well as assign of the clinical features⁴

This study also detected that rated of incidence (165.3) of each (1000) for chickenpox. This study detected that the rate of incidence (97.5) for each (1000) of mumps. The elevated incidence of the rate number to both infections disease according to the age group was among (5–9) years followed by (10–14) years. The seasonal variation was commonly during spring and winter for both diseases. The study conclude high incidence for both varicella zoster infection and mumps, in additional, the most of the group age affected within 5–14 years.⁵

This survey study was conducted with (1169) teachers from Hong Kong school that done before Disruption of school related to the (H1N1) disease outbreak. The finding showed that teachers were good aware of (H1N1,) however, were still anxious about the diffusion of (H1N1) infection. The teachers' anxious depended on their psychological responses, the sufficiency of the controls measures, with supportive giving by government to providing infectious diseases knowledge, realized understanding of prevention measures and emergency plans, parents' and students awareness, and need for assistance from health professionals. Not only the teachers need to preserved infectious disease control measurement in their schools, however it is also their responsibility for decrease the anxiety of students and their parents.⁶

Illnesses caused by communicable diseases are common among school students because of overcrowding. All teachers working with children may

be at risk for getting communicable diseases, especially those with less Years of employments. Therefore, it is necessary to increase their awareness toward communicable diseases prevention and control through collaboration with ministry of health and environment and through education programs about communicable diseases and ways of prevention.⁶

Methodology

Objectives of the Study:

1. To assessment the level of teachers knowledge about child with chickenpox.
2. To determine the effect of educational program on teachers knowledge about child with chickenpox.
3. To find the relationship between teacher's knowledge about child with chickenpox and theirs demographic characteristics.

Design of the Study

The study is a quantitative research that uses quasi-experimental designing to assessment the teacher's knowledge about child with chickenpox at Primary schools in Al-Najaf governorate. The educational program constructed and then applied with a methods of pre-test and post-test to the study group. The study done during January 2019, to the end of April 2020.

the Study samples :

Non-probability sample (purposive). The sample were selected according to the spread of the disease, after review of health centers, were selected from the most prevalent areas, and then the choice of schools in a random manner, where 12 schools were identified and then a specific number of teachers were selected from each school to be of the samples 45 teachers which exposed to the health an educations program.

Study Instrument:

During the reviewing of related studies and literature, the questionnaire it is constructed as a mean for data collection. It was contain of two majors part. The first part is regarding with teachers' sociodemographic information of age group, the level of education, Years of employment school, and Place of residence. The second

part related to teachers’ knowledge about chickenpox that contain the general teachers’ information about chickenpox (15) items.

The Validity and Reliability:

The validity content of the instrument was decided by a panel of (6) experts. A small group of teachers (six teachers) that selected from schools in Al-Najaf governorate, and it is applied on teachers who had same criteria of the main study samples for determine the Alpha Correlation (r) of reliability the questionnaire about to teacher’s knowledge towards chickenpox.

Statistical Analysis

The data are analyzed by the implementation of statistical procedures by using SPSS program version

23 which assisted to determine the resulting. The descriptive statistic data approach are used to description of the study variables: mean of scores (MS), frequencies, Percentages, and standard deviation. Inferential statistics data analysis methods that used by application of ANOVA, coefficient p-value correlation, and T-test.

Limitation

1- The difficulty of using two groups due to shortage of teachers.

2- Security and health situation is the result of the demonstration.

3- Disruption of school attendance has made it difficult to reach teachers.

Results

Table (1) Distribution of the Samples According to Teachers Demographic Characteristic

<i>Characteristics</i>	<i>categories</i>	<i>frequency</i>	<i>percentage</i>
<i>Age group</i>	20 - 30	9	20.0
	31 - 40	10	22.2
	41 - 50	17	37.8
	51 - 60	9	20.0
<i>Years of employment</i>	1- 10	16	35.6
	11 - 20	11	24.4
	21 - 30	10	22.2
	31 - 40	8	17.8
<i>Resident</i>	rural area	20	44.4
	Urban	25	55.6
<i>educational level</i>	Institution	26	57.8
	College	19	42.2

The table shows that most of the study sample at a percentage (37.8%) of the sample are between the age group (41 to 50) years, with regard to the number of years of Years of employment, the greatest percentage (35.6%) of the sample ranges from (1 to 10) Years of employment. They are resident in the urban at (55.6%), academic achievement was the most, and by (57.8%) they were institution graduates.

Table 2: Distribution of teachers related to their level of knowledge regarding prevention of chickenpox in schools before and after the effect of the educational program

Items	Pre-test			Post-test			Statistical differences		
	Scale rate	St. deviation	Assessment	Scale rate	St. deviation	Assessment	T-test	df	b-value
<i>The disease caused by</i>	1.29	.458	fail	1.98	.149	pass	-9.871	44	.000
<i>The most important signs & symptoms of disease</i>	1.20	.405	fail	1.91	.288	pass	-8.563	44	.000
<i>Is the disease fatal when it occurs</i>	1.24	.435	fail	2.00	0.000	pass	-2.847	44	.007
<i>When is the disease contagious to others</i>	1.76	.435	pass	1.87	.344	pass	-9.121	44	.000
<i>Is chickenpox diseases covered by sick leave mandatory</i>	1.11	.318	fail	2.00	0.00	pass	-3.773	44	.000
<i>If the answer is (yes), what is the leave period</i>	1.16	.367	fail	1.93	.252	pass	-14.265	44	.000
<i>Does the disease give permanent immunity upon infection</i>	1.20	.405	fail	1.96	.208	pass	-13.266	44	.000
<i>Methods of transmission</i>	1.09	.288	fail	2.00	0.000	pass	-13.266	44	.000
<i>The most common infection season</i>	1.13	.344	fail	1.98	.149	pass	-11.00	44	.000
<i>Age groups frequently occurring disease in which</i>	1.29	.458	fail	1.93	.252	pass	-9.929	44	.000
<i>The incubation period of the disease</i>	1.20	.405	fail	1.91	.288	pass	-8.563	44	.000

<i>The most important complication of chickenpox</i>	1.24	.435	fail	1.84	.367	pass	-9.871	44	.000
<i>It is the appearance of the rash and final offer essential for the diagnosis of the disease</i>	1.76	.435	فرعي	1.91	.288	pass	-12.410	44	.000
<i>The disease is more severe when</i>	1.09	.288	fail	1.89	.318	pass	-.298	44	.767
<i>the disease prevented by</i>	1.20	.405	fail	1.93	.252	pass	-11.000	44	.000

(M.s) mean of score 1.5 (less than 1.5 fail more than 1.5 pass)

The table showed that (94%) of the question paragraphs teachers failed to answer them before the effect of the educational program, as the natural scale average was (1.5). The table also showed that (100%) of the question paragraphs teachers succeeded in answering them after the influence of the educational program Where the normal scale average was (1.5), the study also showed that there is a strong relationship before and after the effect of the program when the (p-value) is = to or > (0.05).

Table (3) the total level of knowledge of the teachers before and after impact of the educational program (M.s) mean of score 1.5 (less than 1.5 fail more than 1.5 pass)

Total level	Pre-test			Post-test			Statistical differences		
	Scale rate	St. deviation	Assessment	Scale rate	St. deviation	Assessment	T-test	df	p-value
	1.26	.10825	fail	1.9363	.06810	pass	-38.3	44	.000

The table shows that all teachers do not have enough knowledge about the disease before the effect of the program, but after the effect of the program, all teachers have knowledge about chickenpox with a high significant difference (0.00).

Table (4) the relationship between teacher knowledge and demographic characteristics by using (ANOVA) before the effect of the program

Characteristics	df	P- value	Significant
Age	1.375	2450.	No Significant
Years of employment	2.921	0150.	significant
Resident	1.375	2450.	No Significant
educational level	1.375	2450.	No Significant

The table showed there is high significant relationship between the teachers' knowledge and a variable number of years of employment when p-value = or > to (0.05)

Table (5) the relationship between teacher knowledge and demographic characteristics by using (ANOVA) after the effect of the program

Characteristics	f	P- value	Significant
Age	2.069	1030.	No Significant
Years of employment	1.784	1510.	No Significant
Resident	2.069	1030.	No Significant
educational level	3.921	0050.	Significant

The table showed that is high significant relationship between teachers' knowledge and the academic achievement variable when the p-value = or > than to (0.05)

Discussion

A quasi experimental study was performed on 45 samples of teacher, which exposed to health an educational program toward chickenpox disease.

Age group: The study showed that most of samples within age group (41-50) years, These results in line with findings by Offe (2016), she were found the high percentage of their study sample at 45 yrs. + of age at 52.5% of total samples, also agree with study done

by Faraj & Khalifa (2014), that reported the most of samples at age (40-49) years. **Years of employment:** the study showed that most of teachers have experience between (1-10) years, this result agree with study done by Hawler & Hawler (2012), that reported the teachers have experience (1-10) years at (51%) of total sample. Also these results in line with findings by Faraj & Khalifa (2014) that reported the most of samples have experience (1-10) years at (40%) of total sample. **Resident:** The finding reveal that the majority of teachers were resident

in Urban, and these finding agree with study done by Hussein & Khalil (2020) that reported the majority of samples were resident in Urban at (91%) of total sample. Also these results in line with findings by Hawler & Hawler (2012) that reported the majority of teachers were resident in Urban at (85.8%). **Educational level:** The study showed that most of teachers have Institute graduate at (57.8%) of total samples, this finding supported by study done by Faraj & Khalifa (2014) reported that majority of teachers were graduated from Institute at (50%) of total sample, also agree with study done by Hussein & Khalil (2020)) that reported the most of samples graduated from Institute at (55.25%) of total sample.

The study showed that all teachers do not have enough knowledge about the disease before the effect of the program, but after the effect of the program, all teachers have knowledge about chickenpox with high significant difference, these finding supported by study done by Mansoor & Hussein (2020), that reported the pre-test assessment of teachers' knowledge about to mumps disease at schools showed a poor level of overall knowledge, but there are significant improvements of teachers' knowledge about mumps after the achievement of education program. Also these results in line with findings by Thumil & Bahlol (2016) that reported the teachers' knowledge which indicates high level knowledge at Mean of Score (2.46) of teachers after implemented the an educational program of the study group.

The study showed that is a significant relationship between the teachers' knowledge and a variable number of years of an experience, these finding supported by study done by Thumil & Bahlol (2016) that reported there is a statistical significant association between knowledge of teachers' and their years of experience of the study group. The study also shows there is a significant relationship between teachers' knowledge and their academic achievement variable, this finding supported by study done by Hussein & Khalil (2020)) that reported in their study that statistical significant relationship can be manifested between teachers' level of education and their knowledge after the implementation of the educational program.

Conclusion

The study conclude the teachers do not have enough knowledge about the chickenpox disease before the implementation of the health program, but after the effect of the program, all teachers have knowledge about chickenpox with a high significant difference.

Financial Disclosure: There is no financial disclosure.

Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols were approved under the Al-Furat Al-Awsat Technical University and all experiments were carried out in accordance with approved guidelines.

References

1. Parthasarathy A, Menon P. IAP Textbook of Gwalior: JAYPEE BROTHERS MEDICAL PUBLISHERS (P) LTD. 2013.
2. Khaleel H, Abdelhussien H. Clinical Epidemiology of Chickenpox in Iraq from 2007-2011. *Global Journal of Health Science*. 2012; 180.
3. Al-Obaidi M, Abbas A. Risk Factors for Varicella Prevalence Among Primary School Children in Al-Dora City (Southern Baghdad). *Iraqi Journal of Science*. 2016; 830-837.
4. DAWOOD A. CHICKENPOX, REVIEW AND PREVALENCE VARICELLA VIRUS IN NINEVEH PROVINCE. CHICKENPOX, REVIEW AND PREVALENCE VARICELLA VIRUS IN NINEVEH PROVINCE. 2020; 6-14
5. AL-Hasnawi S. Incidence of chickenpox and mumps in Karbala Governorate with their seasonal variation . Incidence of chickenpox and mumps in Karbala Governorate with their seasonal variation. 2018; 24-27
6. Wong E, Cheng M. Teachers' Risk Perception and Needs in Addressing Infectious Disease Outbreak. *The Journal of School Nursing*. 2010; 398-406.
7. Hussein M, Khalil M. Assessment of Primary Schools Teachers' Knowledge and. *Indian Journal of Forensic Medicine & Toxicology*. 2020; 1015-1021.
8. Faraj R, Khalifa M. Assessment of Science Teachers' Awareness towards Communicable Diseases Control in Baghdad City Primary Schools.

- Iraqi National Journal of Nursing Specialties. 2014; 7-16
9. Mansoor H, Hussein K. Effectiveness of an Education Program on Knowledge of. *Indian Journal of Forensic Medicine & Toxicology*. 2020; 1600-1604
 10. Hawler N, Hawler, A. Knowledge and Attitude of Teachers about Communicable Diseases in some of Primary Schools in Erbil . *kufa Journal for Nursing sciences*. 2012; 135-141.
 11. OFFE S. KNOWLEDGE AND PRACTICES OF INFECTION PREVENTION AMONG TEACHERS IN EARLY CHILDHOOD EDUCATION CENTRES IN THE SUHUM MUNICIPALITY. UNIVERSITY OF CAPE COAST. 2016.
 12. Shehab A, Thumil S, Bahlol A. Effectiveness of Cholera Infection Education Program on Teachers' Knowledge at Secondary Schools in Bagdad City. *International Journal of Scientific and Research Publications*. 2016; 93-101.