Maternal Practices for Prevention and Care of Communicable Diseases for their Children

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Abstract

This study **aimed** to assess maternal practices for prevention and care of communicable diseases for their children. **Subjects and Methods:** A descriptive study was conducted at fever hospital in Abbasia and Alfayoum city and nursery school. **Sampling:** A convenience sample include their total number was 130 mothers. **Tools:** A structured questionnaire format to assess mothers characteristic and their knowledge regarding communicable diseases, the second tool was reported practice to assess mothers practice toward communicable diseases. **Results**: showed that two fifth of (preventive) healthy children mothers aged forty years and more. Also the majority of (curative) diseased children mothers had unsatisfactory knowledge related to specific communicable diseases. Majority of healthy children and diseased children mothers had inadequate reported practices. **Conclusion:** More than half of (preventive) healthy children mothers had unsatisfactory knowledge and the majority of them had inadequate reported practices related to communicable diseases. Meanwhile, less than two thirds of diseased children mothers had unsatisfactory knowledge related to general knowledge while majority of them had unsatisfactory specific knowledge. In addition to the majority of diseased children mothers had inadequate reported practices related to communicable diseases **Recommendations:** The study recommended that, Implementation of health education program for mothers about the preventive measures and care of children having communicable diseases in MCH and outpatient clinic as needed.

Key wards: communicable diseases. Mothers ' Knowledge, Practice, Children.

Introduction

Communicable diseases is an illness due to specific infectious agent or its toxic products that arises through transmission of that agent or its product from an infected child, animal, or reservoir to a susceptible host, either directly or indirectly through animal host, vector or environment ***(Abdou,2013).***

Children are vulnerable to a variety of communicable diseases by interrelating with other children and staff. Also infants are more susceptible because the immune system is not fully mature at birth and disease protection through immunization is incomplete, the poor hygiene behaviors of young children promote transmission of communicable diseases ***(Taylor, 2015).***

Communicable diseases represent highly rate of mortality and morbidity for more than half (52%) of all death in low income countries which include communicable diseases, by contrast, less than (7%) of deaths due to such causes. Among chickenpox 215 cases, measles account for 30 million cases and 0, 5 million death worldwide. Among pertussis the annual rate was approximately 30 to 50 million cases of pertussis worldwide ***(Kliegman & Stanton, 2015)***.

Infection arises when an organism enters the body and proliferates, causing damage to the tissues and cells the body's reaction to the damage due to infection is inflammation. The body carries fluid, blood and nutrients to the area of infection and attempts to remove the pathogens and repair the tissues. The body does through vascular and cellular reactions. The vascular response is an initial period of vasoconstriction followed by vasodilatation.

The vasodilatation allows for increase of fluid, blood, and nutrients to the area ***(Kyle & Craman, 2013).***

Infectious agent spread from one host to another and persist by repeating the infection pattern in the new host. Transmission can occur by direct or indirect contact. Direct contact occurs through physical contact as drinking and inhalation of agents through sneezing, coughing or indirect contact where the infectious agent is able to live outside a host for a period of time, for example contaminated food and fluids ***(lendvay, 2013).***

It's important for mothers to care for child with communicable diseases as keep the child in private room and contaminated equipment should be clean, treatment of itching, also importance of discouraging scratching, and discuss distraction techniques they can use with the child, cool compresses or cool baths can relieve itching ***(Ball et al., 2015)***.

Significance of the study

Communicable diseases in children results in high rates of mortality and morbidity from here, the researcher shed light the incidence of some varies communicable diseases in Egypt and some of its under estimation. In Egypt, The problem of viral hepatitis in Egypt is still a serious problem therefore many studied were made to estimate the incidence of HAV. The incidence of hepatitis A virus infection affect individuals of all ages, but the highest incidence occurs among preschool or school age children younger than 15 years. The incidence of hepatitis A virus in kalyobia governorate in 2009 was 349 cases ***(EL- Wakile, 2013).***

In Egypt there are 4876 children infected with chickenpox while in Qaliubiya Governate infected children reached to 959 child ***(Mohammed, 2018).*** Also typhoid fever is common in Egypt and the incidence rate about 13/100,000child among school age ***(Ghazy, 2017).***

The number of cases of measles in Egypt was 5554 cases in 1985, 2837 cases in 1995 and 653in 2002 ***(Malike, 2015).*** The incidence of mumps in 2003, was 639 cases. In 2005, was 251 cases and in 2006, was 251 **(*Mohamed, 2009).*** Therefore it's important to assess maternal practices for prevention and care of children at risk or having communicable disease

Aim of this study

To assess maternal practices for prevention and care of Communicable diseases for their children.

Research Questions:

This study is based on answering the following questions:

- What are maternal awareness for prevention of communicable diseases for their children?
- What are maternal practices for care of communicable diseases for their children.

Subject and Methods

Research design:

A descriptive design was utilized to achieve the aim of this study.

Setting of the study:

The study was conducted at fever hospital in Abbasia and Alfayoum city affiliated to ministry of health and nursery school affiliated to Dar el Salaam school in Alfayoum city

Subject:

A convenience sample include all available mothers who attended in the previously mentioned setting for six months period; their total number was 130 mothers distributed as 60 mothers at fever hospitals(diseased children mothers) and 70 mothers at nursery school (healthy children mothers).

Tools for data collection:

Data collected through using the following tools:

1- interviewing Questionnaire Format:

It was designed and developed by the researcher in Arabic language after reviewing the related literature it covered the following parts:

Part I: questionnaire for prevention (healthy children mothers) from nursery school affiliated to Dar el salaam school in Alfayoum city included characteristics of the following:

1- The studied mothers (Age, level of education, Work, residence, number of children in the family).

2-Questions to assess mothers general knowledge about communicable diseases as definition, type, chain of infection, source of infection, predisposing factor, infection spread methods , mode of transmission,, definition of incubation period, definition of convalescence period and the preventive measures.

According to the answered obtained from mothers scoring system was followed to obtain the outcome mothers knowledge. Total score of 10 marks was given for 10 questions. The studied mothers answers were compared with a model key answer, where (1) for correct answer, and (0) for incorrect answer or unknown.

According to the mothers answer, their total knowledge was categorized into:

- Unsatisfactory knowledge <70%
- Satisfactory knowledge ≥70 %

Part II: Questionnaire for the curative stage (diseased children mothers) from fever hospital which included characteristics of the following:

1- The studied diseased children (age, gender, education, ranking)

2-The studied mothers (Age, level of education, Work).

3- Family (residence, number of children's, number of family).

4-House environment (type of home, number of rooms, the number of person sharing child bed rooms, ventilation, water supply, electricity, drainage system, garbage disposal)

5-Questions to assess mothers general knowledge about communicable diseases definition, type, chain of infection, source of infection, predisposing factor, infection spread methods, mode of transmission,, definition of incubation period, definition of convalescence period and the preventive measures.

6-Questions to assess mother's knowledge to some communicable diseases as chickenpox, hepatitis A, typhoid, tuberculosis, tetanus, mumps, measles and meningitis.

❖ **Scoring system for curative stage questionnaire**

According to the answered obtained from mothers a scoring system was followed to obtain the outcome of mothers knowledge The total numbers of curative questions were 75 questions, classified as (10) general question, (12) questions related to chickenpox, (7) related to hepatitis A, (6) question related to meningitis, (6)questions related to typhoid,(9)related to tuberculosis, (10)related to measles, (8)related to mumps, (7)related to tetanus. total score of 75 was given for all questions). The studied mothers answers were compared with a model key answer, where (1) for correct answer, and (0) for incorrect answer or do not know. Their total knowledge was categorized into:

- Unsatisfactory knowledge <70%
- Satisfactory knowledge ≥ 70%

Questions were in the form of close ended and multiple choices. The time consumed to fill in the questionnaire by the researcher for each mother 30-40 minutes.

2-Reported maternal practices

It is adapted from ***Vicky Bowden (2012) and wolkoff, &Grim, (2011)*** which divided into

1-Reported practice for healthy children mothers (hand washing, cough etiquette, food safety, and environmental hygiene).

The total scores of mothers utilize preventive measures were 208 for 104 items (24 marks for hand washing,8marks for cough etiquette, 52marks for food safety, 36marks for environmental hygiene) such step in mothers reported practice scored (2) score for done Correctly, (1) for done incorrectly, (0) for not done. Their total practice were categorized into:

-Adequately practice ≥70%

-inadequately practice<70%

2-Reported practice for diseased children mothers (oral medications, topical medications, axillary temperature, cold compress, hand washing, cough etiquette, environmental hygiene, food safety and isolation).

The total scores of mothers practices were 294 for 147 items (18marks for oral medications, 22 marks for topical medications,16 marks for axillary temperature, 20 marks for cold compresses, 8 marks for cough etiquette, 24 marks for hand washing, 94 marks for infection control and isolation precautions, 56 marks for food safety, 36 marks for environmental hygiene) such step in mothers reported practice was scored was (2) for done correctly, (1) for done incorrectly, (0) for not done Their total practice was categorized into;

- Adequately practice ≥70%
- Inadequately practice <70%

Validity and reliability

Content validity of the tool was tested through panel of three experts in the pediatric nursing (3 professors) from faculty of nursing, Ain shams university to test its content validity and according to their review; little modification (ranking –structure of the sentence) was carried out in the content and the final form of tools was obtained. Reliability that was done using (Corn Bach's alpha and its value was (0.84).

Pilot study

The pilot study was conducted on ten mothers expected for total study subject to ensure the appropriateness, structure, clarity of the questions applicability of the tools. The necessary modifications were done as a result of pilot study. The mothers in the pilot study were excluded from the final subjects of the study.

Ethical considerations

The ethical research considerations in this study included the following:

- Prior to the actual work of research study, ethical approval was obtained from the scientific research ethical committee of faculty of nursing, Ain Shams University.

- The research approval of each participant to share in the study was taken.

- The researcher explain the objective and aim of the study to subjects.

- Subjects were allowed to choose to participate or not, and they had the right to withdraw from the study at any time.

Statistical Analysis

Data were collected and fed into the computer for analysis and presentation. Data were entered and analyzed using Statistical Package of Social Science (SPSS) software version 18. Data were presented using descriptive statistics in the form of frequencies, percentages, means and standard deviation. Chi square test was used and Bivariate Pearson correlation test to test association between variables. Statistically significant difference was considered when P-Value ≤0.05.

Results:

Table (1): In relation to mothers of healthy children reveals that the same percent 40% and 78.6% of them aged 40 years and more, had secondary or technical education and were housewife respectively. Regarding mothers of diseased children the same table shows that 41,7%,43,3% and 91,3% of them aged 30<40 years, had primary education and were housewife respectively.

Figure (1): reveals that 57.1% of mothers of healthy children had unsatisfactory general knowledge regarding communicable diseases, while 63.3 % of mothers of diseased children had unsatisfactory general knowledge.

Figure (2): shows that 92.8 % of healthy children mothers had inadequate reported practices regarding communicable diseases, while 78.3 % of diseased children's mothers had inadequate reported practices regarding preventive measures of communicable diseases.

Table (2): clarifies that there is no statistical significant relation between general knowledge of healthy children's mothers and their total reported Practice with (X^2=0.415 &p value 0.253).

Table (3) clarifies that there is highly statistical significant relation between general knowledge of diseased children's mothers and their total reported Practice with(X^2 =13.979 & p <0.001)

Table (1): Distribution of studied mothers according to their characteristics.

Mothers characteristics	Mothers of healthy children(n=70)		Mothers of disease children (n=60)	
	No	%	No	%
Age/years				
<20	2	2.9	4	6.7
20 < 30	20	28.6	23	38.3
30<40	20	28.6	25	**41.7**
40 and more	28	**40**	8	13.3
Education				
Illiterate	14	20.0	10	16.7
Read and write	4	5.7	13	21.7
Primary education	2	2.9	26	**43.3**
Secondary or technical education	8	**40**	11	18.3
University education	22	31.4	0	0
Work				
Housewife	55	**78.6**	55	**91.3**
Employee	15	20.0	5	8.3
Residence				
Rural	65	92.9	52	86.7
Urban	5	7.1	8	13.3
Number of children in family.				
One child	15	21.4	12	20
From 2 to 3 children	36	51.4	35	58.3
More than 3	19	27.1	13	21.7
Setting				
Nursery school	70	100	0	0
Abassia fever hospitalFayoum	0	0	31	51.7
fever hospital	0	0	29	48.3

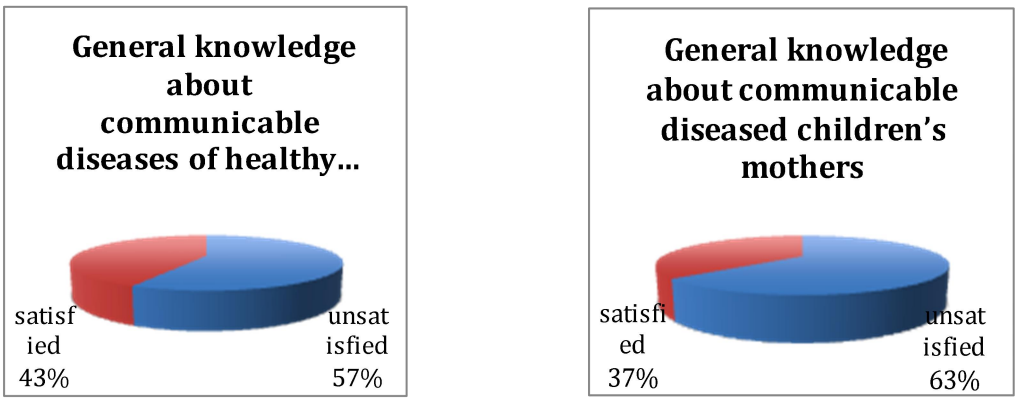

Figure (1): Distribution of general knowledge related to communicable diseases among healthy and diseased children's mothers.

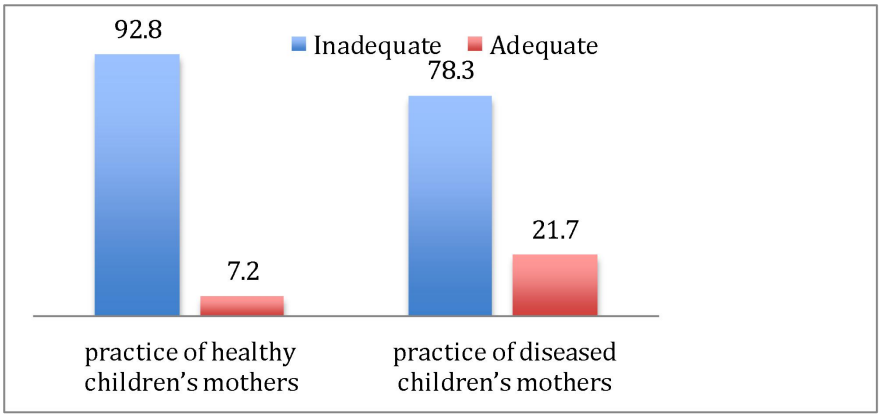

Figure (2): Distribution of total reported practices and preventive measures among healthy and diseased Children's.

Table (2): Relation between general knowledge of healthy children's mothers and their total reported practice. (n=70)

Total reported practices	Knowledge				X^2	P value
	Unsatisfactory		Satisfactory			
	N	%	N	%		
Practices						
Inadequate	12	66.7	6	33.3	0.415	0.253
Adequate	28	53.8	24	46.2		

Table (3): Relation between general knowledge of diseased children's mothers and their total reported practice. (n=60).

Total reported practices	Knowledge				X^2	P value
	Unsatisfactory		Satisfactory			
	N	%	N	%		
Practices						
Inadequate	43	91.5	4	8.5	13.979	**0.01
Adequate	6	46.2	7	53.8		

** highly Statistically significant at $p<0.01$

Discussion

Regarding the characteristics of healthy and diseased children mothers, the findings of the current study**,** revealed that two fifth of healthy children mothers aged forty years and more and had secondary or technical education. These findings were supported with results of **Abd-elrahim, (2010)** who studied about mothers knowledge, attitude and practice regarding chickenpox under five years and found that more than half of studied mothers aged 40 years and more and had secondary or technical education.

The findings of the present study illustrated that the majority of diseased children mothers were housewife as well as more than three quarters of healthy children mothers. It could be due to low level of education and most of them coming from rural area. These results were in agreement with results of **Sadeq and Jaber, (2017)** who conducted a study about knowledge, attitude and practice of mothers toward typhoid fever and mentioned that the majority of mothers were unemployed.

As regards studied mothers total general knowledge related to communicable diseases**,** the result of the current study clarified that more than half of healthy children mothers had

unsatisfactory general knowledge compared with less than two thirds of diseased children mothers. This result was not supported with the result of **Mohammed, (2018)** who conduct a study about mothers awareness toward chickenpox disease for preschool children at nursery school and mentioned that less than two thirds of studied mothers had average total knowledge score about disease and more than quarters of them had poor total knowledge score.

As regards studied mothers their total reported practice, the findings of the current study showed that the majority of healthy and diseased children mothers had inadequate reported practice regarding preventive measures of communicable diseases. It could be due to the lack of information and technique of studied mothers about important practice needed to care for their children and family. These results were agree with the results of **Malike (2015)** who conducted a study about assessment of mothers knowledge regarding care of their children suffering from viral infection, and mentioned that the majority of the studied mothers were reported to have incorrect practice regarding care of children with viral infectious diseases.

The findings of the present study **,** showed that there is no statistical significant relation between general knowledge of healthy children's mothers and their total Practice. These results These findings were disagree with results of **Mohamed (2009)**, who carried out a study about assessment of knowledge and practice of primary school personnel toward communicable diseases and found that there are a highly significant statistical difference between total knowledge of study subject and their total reported practice score regarding viral infection.

Regarding the relationship between diseased children mothers' total knowledge and their total reported practice about communicable diseases. The findings of the present study **,** showed that there are a statistical significant difference between total knowledge and total practice. These findings were in the same line with results of **Abd-elrahim, (2010)** who showed that there are a highly significant statistical difference between total knowledge of mothers and their total reported practice score regarding viral infection.

Conclusion

According to the results of this study, it can be concluded that: More than half of healthy children mothers had unsatisfactory knowledge and the majority of them had inadequate reported practices related to communicable diseases. Meanwhile, less than two thirds of diseased children mothers had unsatisfactory knowledge related to general knowledge while majority of them had unsatisfactory specific knowledge about communicable diseases. In addition to the majority of diseased children mothers had inadequate reported practices related to communicable diseases.

Recommendations

- The study recommended that, Health education program for mothers about preventive measures and care of children having communicable diseases in MCH and outpatient clinic in hospital.
- Increase awareness of mothers regarding signs and symptoms of communicable diseases to early detection and management.
- Improve mothers practices for children suffering from communicable diseases.

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