

Education program to improve mothers knowledge about management of children with intestinal inflammation

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ABSTRACT

intestinal inflammation is one of the most common Human being parasitic infections worldwide especially in temperate weather. infection of these parasites is a major public health problem due to re-infection thus, there is a need to start integrated control strategies which involve health education for parents

A quasi-experimental design study has been carried out in karbala city from some kindergartens

Cluster sample is comprised of 40 mothers divided into two groups: study group involves of 20 mothers which exposed to the educational program and control group involves of 20 mothers not exposed to the program.

Results of our study show that the effectiveness of educational program regarding mothers knowledge about management of children with intestinal infection is positive and clear. It also shows that there is a good development with highly significant differences in study group between pre and post-test in all items associated to management of children with infection. the study concluded that the educational program is an appropriate and active to improve the mothers knowledge about management of children with intestinal infection. Also the study concludes that the most of mothers as general is knowledge deficit regarding management of children with intestinal infection. our study recommended that Promote knowledge of mothers against all parasitic diseases, which are most common among pre-school children. As well as the implementation

of health education programs for mothers on the management of children infected.

Keywords: *intestinal inflammation, education program , children*

INTRODUCTION

Intestinal inflammation it's a cosmopolitan parasite with particularly high prevalence in countries with a temperate climate. It has the widest distribution of any parasitic helminthes, and is the estimated that approximately 200 million infected in the people internationally. it has become the most common intestinal parasite seen in a primary care setting, regardless of factors such as race, socioeconomic status, and culture. As such, intestinal inflammation serves as an exception to the general rule that intestinal parasites are uncommon in rich societies (Hamdona, 2013; Lee *et al.*, 2011)

Intestinal inflammation occur in all countries of the world and not except for the ages and social and economic levels, it occurs in all ages and in all levels of life, and specially in children between the ages of 3-12 years and even after treatment causes infection social problems in the family who need to take protections from spread of infection (Mobarak *et al.*, 2011)

Kindergartens and primary schools are the most common places through direct contact between children. any child can become infected. However, preschool and school-aged children, household contacts of infected children and people in a hospital, nursing home, or other group settings are more likely to become infected than other people (Park *et al.*, 2005; Kimberlin *et al.*, 2015).

To avoid reinfection, washing all clothes and bed linens by hot water and vacuuming the house may be suggested. however, there is little documentation on the effectiveness of these measures because pinworms survive on many surfaces. caring recommendations include hand washing before eating and after toileting and keeping the child's fingernails short to lessen the chance of eggs collecting under the nails, dressing children in one piece sleeping clothes (Hockenberry and Wilson, 2013; Yang *et al.*, 2017).

The previous study confirm the family also needs a health education program to reduce the *Entrobilus vermicularis* infection and to improve the

care of mothers of infected children. This study is believed to help parent and mothers also improve their information and practices towards the infection of intestinal (Burns *et al.*, 2009)

Subjects and Methods

Research design

To achieve the purpose of the study a pre-post-test quasi experimental design was conducted.

Setting

This study was conducted in Karbala province for the mothers of children infected in some of the kindergarten

study sampling

Purposive sample involve of 40 mothers. The sample is distributed in two groups; 20 mothers as study group are exposed to the education program, and the other 20 mothers are not exposed to the program considered as the control group.

Instrument Construction

To evaluate the effectiveness of educational program on mothers knowledge about management of children with intestinal infection at some kindergarten in Karbala province , the researcher constructs a questionnaire design in order to reach the aims of the study. It consists of two parts :

Part I: Self-administered questionnaire sheet related to demographic characteristic of the mothers :

This part is concerned with the collection of basic socio-demographic data, this part is filled by the mothers (age, residency, socio-economic status, education level, occupation and house size)and demographic data of children involve (age, gender) of children infected

Part II: Self-administered questionnaire sheet associated with (mothers knowledge about management of children with pinworms).

It is constructed to assess mothers knowledge about management of children with the intestinal infection. The questionnaire sheet is also complete by the mother and some case by assist because the mother not reading and writing , the study purpose is explained previous to get questionnaire sheet. The contributors are demanded to answer the questionnaire in (25-30) min.

This knowledge test is composed of (30) multiple choice question. the test is covered with the related points from the main content area of educational program. for the purpose of this study, the number of correct responses of the knowledge questionnaire is used as the measure of the level of knowledge. each question is scored as the correct answer get (2) point and the incorrect answer get (1) point.

Implementation of the Program

The application of program is presented to study group include the following:

- 1- Demographic characteristics form is written by each mother of children with intestinal infection in the kindergarten in study and control groups including (age, gender, residency ,socio-economic status, education level, occupation and house size).
- 2- Mothers knowledge test consists of (30) multiple choice questions have been introduced to both study and control groups. The test is constructed to assess mother's knowledge on definition of intestinal infection , causes of infection , signs and symptoms, complication, diagnosis, treatment and finally management of children with intestinal infection The knowledge test duration lasted from (25-30) minutes. The post-test took less time than the pre-test about (5) minutes depending on the response of mothers for knowledge test.
- 3- The educational program is introduced to the (30) mothers in the study group. The program has taken a period of (two hours and 30 min) in the KARBALA KENDERGARTEN.
- 4- All of study group is examined by fallow up after 21 days of implementing the program.
- 5- Control group the similar to above steps is followed except the mothers educational program.
- 6- After the end of lecture that the researcher took the number of telephone, mobile/ house for some mother was token in order to call her for follow

up. Each mother was reassured that the information obtained was confidential and used only for the purpose of the study.

Statistical Analysis

The data of the present study were analyzed through the use of statistical package of social sciences (SPSS) version 19. Comparison between groups was done using chi square and. p-value of 0.05.

Strategy

Methods of instruction as well as the media to be used for the program were decided which were lectures, data show discussion and demonstration while handout, posters, brochure and demonstration equipment were the media used.

RESULT

the studied samples included 40 mothers of children diagnosed with pin worm.. participant at age groups was (25-29) years, (35%) in the study group and (30%) in the control group Regarding the family residence, it is clear that more than half of them (75%) came from urban area in study group , and (80%) control group. About(60%) of mothers had a family size 5 and less than in study group and(70 %) in control group . Regarding mothers' occupation, it was observed that more than half of them (55%) were jobless in study group compared to (35%) who were free job and (35%) Governmental Employee in control group . Regarding the level of education, the highest percentage is (35%) of the sample in study group are Intermediate School, and (35%) of the control group are Intermediate School. The monthly income status of the study sample are (40%) Sufficient To Some Extent in study group and (45%) in control group are Sufficient .and house size (150-200 M2) regarding (45%)in study group and in (100-150 M2) is (45%) in control group This (table 1).

And demographic data of children show (95%) of studied children aged between more than 3 years in study group and (90%) in control group . Females constitute (60%)in study group .while (55%) in control group (table 2).

that most the study group have been poor knowledge in (85%) of the items in pre-test, while of them (90%) in control group in same items in pre-test before exposed to education program (table 3).

Demonstration of the overall assessment of the study participants (study and control groups) after performing the education program (post-test). This table reveals that the study group participants passed the assessment, (1.73) mean of score. The control group had failed in the assessment (1.33) mean of score (table 4)

In this study shows that most the study group have been weak knowledge at mean (1.29) of the items in pre-test, while all of them (1.73) are good in same items in post-test after exposed to educational sessions. Moreover , we see a slight decline in information at mean (1.56) in the second post-test (table 5).

In our study that there is no significant association between the post-test and some variables in the demographic data of the study group, while the age of the sample shows there are no significant associations at P value (0.744). the residence there is no significant association p value(0 .554) the family members there is no significant association p value (0.402). the occupation show there is no significant at p value (0,650).The levels of education show no significant at P-value (0.582) with mothers knowledge. The monthly income shows that there are no significant associations at P-value (0.376) (table7)

Table (1) Study Sample Demographic Data

| Demographic Data | Rating And Scoring | Groups | | | |
|------------------|-----------------------|-------------|-------------|---------------|-------------|
| | | Study Group | | Control Group | |
| | | Freq. | % | Freq. | % |
| Age / Years | <= 24 | 3 | 15% | 6 | 30% |
| | 25 - 29 | 7 | 35% | 6 | 30% |
| | 30 - 34 | 5 | 25% | 6 | 30% |
| | 35 - 39 | 3 | 15% | 2 | 10% |
| | 40+ | 2 | 10% | 0 | % |
| Total | | 20 | 100% | 20 | 100% |
| Residency | Urban | 15 | 75% | 16 | 80% |
| | Rural | 5 | 25% | 4 | 20% |
| Total | | 20 | 100% | 20 | 100% |
| Family Member | 5 And Less | 12 | 60% | 14 | 70% |
| | 6 And More | 8 | 40% | 6 | 30% |
| Total | | 20 | 100% | 20 | 100% |
| Occupation | Governmental Employee | 1 | 5% | 7 | 35% |
| | Free Job | 8 | 40% | 7 | 35% |

| | | | | | |
|-----------------------------------|----------------------------------|-----------|-------------|-----------|-------------|
| | Jobless | 11 | 55% | 6 | 30% |
| Total | | 20 | 100% | 20 | 100% |
| Educational Levels | Primary School | 4 | 20% | 4 | 20% |
| | Intermediate School | 7 | 35% | 7 | 35% |
| | Secondary School | 4 | 20% | 3 | 15% |
| | Institute / College | 5 | 25% | 6 | 30% |
| Total | | 20 | 100% | 20 | 100% |
| Monthly Income | Sufficient | 7 | 35% | 9 | 45% |
| | Insufficient | 5 | 25% | 4 | 20% |
| | Sufficient To Some Extent | 8 | 40% | 7 | 35% |
| Total | | 20 | 100% | 20 | 100% |
| House Size / M² | 50-100 | 0 | % | 3 | 15% |
| | 100-150 | 3 | 15% | 9 | 45% |
| | 150-200 | 9 | 45% | 6 | 30% |
| | 200-300 | 6 | 30% | 1 | 5% |
| | More Than 300 | 2 | 10% | 1 | 5% |
| Total | | 20 | 100% | 20 | 100% |

(Table 2) Children Demographic Data

| Child Demographic Data | Rating And Scoring | Groups | | | |
|-------------------------------|---------------------------|--------------------|-------------|----------------------|-------------|
| | | Study Group | | Control group | |
| | | Freq. | % | Freq. | % |
| Child Age / Years | <= 3.00 | 1 | 5% | 2 | 10% |
| | 3.01+ | 19 | 95% | 18 | 90% |
| Total | | 20 | 100% | 20 | 100% |
| Child Gender | Male | 8 | 40% | 9 | 45% |
| | Female | 12 | 60% | 11 | 55% |
| Total | | 20 | 100% | 20 | 100% |

Table (3) Assessment of Mothers' Knowledge (Study and Control Groups) before the Application of the Program (pre-test)

| Pre-test | Groups | | | | | |
|--|--------------------|---------------|-------------|----------------------|---------------|-------------|
| | Study Group | | | Control Group | | |
| | Freq. | % | Mean | Freq. | % | Mean |
| Fail | 17 | 85% | 1.29 | 18 | 90% | 1.35 |
| Pass | 3 | 15% | | 2 | 10% | |
| Total | 20 | 100.0% | | 20 | 100.0% | |
| Independent sample t-test value (1.60), d.f. (38), p-value (0.116) NS | | | | | | |

Table (4) Assessment of Mothers' Knowledge (Study and Control Groups) after the Application of the Program (post-test)

| Post-test | Groups |
|------------------|---------------|
|------------------|---------------|

| | Study Group | | | Control Group | | |
|---|-------------|------|------|---------------|------|------|
| | Freq. | % | Mean | Freq. | % | Mean |
| Pass | 19 | 95% | 1.73 | 2 | 10% | 1.33 |
| Fail | 1 | 5% | | 18 | 90% | |
| Total | 20 | 100% | | 20 | 100% | |
| Independent sample t-test value (13.5), d.f. (38), p-value (0.001) HS | | | | | | |

Table (5) Mean Difference Between The Mean Of The Study Group Responses In Pre-Test And Post-Test1 and post-test 2

| Levels of mother' knowledge | Measures | | | | | | | | |
|---|----------|------|------|------------|------|------|------------|------|------|
| | Pre-test | | | Post-test1 | | | Post-test2 | | |
| | Freq. | % | Mean | Freq. | % | Mean | Freq. | % | Mean |
| Fail | 17 | 85% | 1.29 | 1 | 5% | 1.73 | 1 | 5% | 1.56 |
| Pass | 3 | 15% | | 19 | 95% | | 19 | 95% | |
| Total | 20 | 100% | | 20 | 100% | | 20 | 100% | |
| Paired t-test value (14.5), d.f. (19), p-value (0.001) HS (pre-test and post-test 1) | | | | | | | | | |
| Paired t-test value (3.2), d.f. (19), p-value (0.004) HS (post-test1 and post-test 2) | | | | | | | | | |
| ANOVA (F value) (4.9), d.f. (57), p-value (0.01) S | | | | | | | | | |

Discussion

Enterobiasis is describe one of the most common human parasite infections in the through the world mainly in temperate climates with an estimation of 1000 million cases in worldwide (Afrakhteh et al, 2016)

According to (Table 4.1) in the results, the study shows no significant difference between the study and control groups regarding Socio-Demographic data. The high ratio of infection may be associated with the low socio-cultural status of the family whose children were infection, low personal hygiene and large numbers of children were playing every day together and this has easy the spreading of the infections. This agree with (Kadir and Amin, 2011)

Regarding the family residence, it is clear that more than 70% of mothers were living in urban areas; while 25% in rural area. This result is support by (Anuar *et al.*, 2016)(Amein *et al.*, 2014). we think that this is due to the large number of kindergartens in urban areas and their low prevalence in rural areas.

In this study show there was also an association between crowded families (≤ 5) and *Enterobiasis* in our study. the increased transmission

may be due to elder brothers or sisters who are attending school. this agree with (Artan et al, 2008). Overcrowded conditions of home members may be lead to intra family transmission from close contacts of crowded houses. also this finding supported with Forson *et al* (2018)

The findings of the present study showed that more than half of mothers were jobless in the study group and this result agree with (Amein *et al.*, 2014).the results of the study showed Regarding mothers' also the low level of mother's education had Intermediate School, and low level of occupation (jobless) were significant risk factors for infection with *Entrobilus*. these were in accordance with (El-Masry *et al.*, 2007)

The results of the study showed that very few children in both groups were less than three years old, while the largest proportion of children between the ages of 3 and 6 years. *Enterobiasis* are common in this age as well. This may be associated with young children with poor health practices, so the risk of transmission is high at this age. this result was supported Scariati, Roberge and Dye (Scariati *et al*, 2006).

The results of present study show disagreed with other studies which indicated that the high infection in female than male. This result agrees with (Rahi and Morad, 2017). The high rate of infection between the female is likely to be connected with their daily housework, contact with bed sheet and cloth for infected person. this agree with (Ali *et al.*, 2014)

In our study, the mothers had poor knowledge's before the program applying compared to their level of knowledge posttest and follow up program. This finding is supported by WHO, (2003) which explained that the educational intervention lead to improving knowledge and of mothers about pinworm infections

In the present study, the knowledge of mothers about pinworms was increased in the study group by distribution the brochures to their mothers. And the knowledge has improved after just one time education using brochures. therefore, we believe that providing education focused on increasing the parents' knowledge and practices is more effective than the existing community based control method for *intestinal inflammation*. This agree with Kang et al., (2012)..

Present study is support by many studies which declared that there are highly significant difference about mothers knowledge in post-test between study and control groups like (Ismal and Rashad,2009)(Mobarak *et al*, 2011)(Kang *et al.*, 2012).

Conclusions

According to the present study findings, the researcher can mention the following conclusions:

The results showed that most mothers had a marked lack of knowledge regarding management of children with pinworms, where clear improvements in mothers' knowledge after the post test of the study group of the educational program on the management of children with pinworms and the control group did not provide an adjustment in their knowledge of the pinworms in the pre and post-test

Recommendations

Based upon the results of the study following recommendations are suggested:

- 1- Promotion the awareness of mothers about prevention of all parasitic infection specially the most common parasitic infectious diseases among the preschool children age group.
- 2- Implementation of health education programs about *intestinal infection* to the mothers by community health nurses working in health care centers through the mother periodic reviews of health centers
- 3-Implementation of health education programs about *intestinal infection* to school teachers and for kindergarten teachers will have a long term effect on the prevalence of this infection.
- 4- We emphasize to produce future studies recommended and focus on the prevalence of intestinal infection and methods of prevention in some other near communities in karbala Governorate it's important to prevent infection
- 5- Encourage the role of the community health nurse in health education for prevention and controlling of *intestinal infection*.

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