

Assessment of Mothers' Knowledge and Practices Regarding Care of Their Children with Otitis Media at Banha City

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Abstract

Background: Otitis media is most often a bacterial or viral infection that affects the middle ear. Otitis media is a major health problem and occurs with a high incidence and prevalence in both developed and developing countries. Children are more likely than adults to get ear infections .**This study aimed** to assess mothers' knowledge and practices regarding care of their children with otitis media at Banha city. **Materials and Method:** Descriptive research design was utilized to achieve aim of the current study. The study was conducted in outpatient ENT clinic at Benha Specialized Pediatric Hospital, Benha Teaching Hospital and Benha University Hospital. Convenient sample composed of 100 mothers accompanying their children with otitis media attending to outpatient ENT clinic was interviewed. One tool used for data collection, it included two parts which are a- socio demographic questionnaire sheet to assess socio demographic data characteristics of mothers and their children .Mothers' knowledge and practices regarding care of their children with otitis media. **The results** of the present study revealed that the mean age of studied mothers was 29.11 ± 5.19 years, the majority of the studied mothers had unsatisfactory knowledge regarding care of their children with otitis media and more than three quarters of the studied mothers had unsatisfactory practices regarding care of their children with otitis media. The study concluded that, the mothers' knowledge and practices regarding care of their children with otitis media were unsatisfactory. **The study recommended** that the importance of improving the mothers' knowledge and practices regarding care of their children with otitis media through periodic educational program

Key words: Otitis media, mothers' knowledge and practices

Introduction

Otitis media is an inflammation of the middle ear. This inflammation often begins with infections and spreads to the middle ear. Otitis media is a major health problem and occurs with a high incidence and prevalence in both developed and developing countries. Acute otitis media is a common childhood illness and can progress to chronic otitis media. Although the use of antibiotics for treatment has reduced the number of acute complications, the number of chronic complications appears to be increasing⁽¹⁾

Inflammation of the middle ear. This inflammation often begins with infections that cause sore throats, colds or other respiratory problems, and spreads to the middle ear. Infections can be caused by viruses or bacteria, and can be acute or chronic. Otitis media can be subdivided into two categories acute otitis media and otitis media with effusion. Acute otitis media refers to acute infection process the middle ear that may produce a rapid onset of ear pain and possibly fever. Otitis media with effusion refers to a collection of fluid in the middle ear space without signs and symptoms of infection. Chronic otitis media with effusion is defined as OME lasting longer than 3 months⁽²⁾

More than 80% of children have at least one episode of otitis media by the time they are

three years of age. Nearly half of these children have three or more episodes by the time they are three years of age. Acute otitis media accounts for up to one-third of pediatric acute health care visits. The incidence is highest during the winter months secondary to the greatest frequency of viral upper respiratory infections (URIs). Children with normal immunity may have multiple episodes in a year⁽³⁾. There are several signs and symptoms indicating the child might have an ear infection and some of these are tugging at the ear the child is pulling or tugging at his/ her ear it can be a sign of ear trouble but not always. The child would be irritable as well. Foul smell as the fluid drainage inside the ear may have a foul odor. This drainage is different from normal ear wax. Its color may be orange, yellow or reddish brown. Fever and cold child has a fever and a cold along with hearing troubles and is restless in their sleep; the children may be suffering from an ear infection. In some cases appetite might also decrease⁽⁴⁾. Treatment of otitis media include medical treatment and surgical treatment. Medical treatment for otitis media should include pain treatment and antibiotic therapy⁽⁵⁾. Surgical therapy of otitis media include tympanocentesis & myringotomy Untreated cases of OM can result in a broad range of

complications. These may be related to the spread of bacteria to structures adjacent to the ear or to local damage in the middle ear itself. Such complications range from persistent otorrhoea, mastoiditis, labyrinthitis, facial nerve paralysis to more serious intracranial abscesses or thrombosis^(6,7).

Nursing objectives for children with OM include relieving pain, facilitating drainage when possible, preventing complication or recurrence, educating mothers care of their children and providing emotional support to the child and family. Mothers should be aware that potential complications of OM can be prevented with adequate treatment and follow up care. Mothers also need anticipatory guidance regarding methods to reduce risks of otitis media. Teaching mothers with planned instructional material help in improving knowledge and practice of mothers regard to the care of their children at home⁽⁸⁾. Mothers can reduce their child's risk for AOM by implementing practices that reduce the chances of contracting viral respiratory tract infections or by preventing other factors that promote inflammation of the eustachian tube: Following simple hygienic practices such as hand hygiene have a positive impact on the health of families in nonmedical settings, Exclusive breast feeding reduces the incidence of AOM, environmental cleaning, and increased washing of toys and linens was

emphasized and mothers should avoid smoking. Maternal smoking during the first year of life is a significant risk factor for recurrent otitis media, especially in low birth weight infants⁽⁹⁾.

Significance of the study

The burden of AOM varies substantially across countries, the main differences residing in the frequency of supportive complications such as mastoiditis and meningitis and of sequelae such as hearing loss due to chronic supportive otitis media (CSOM). CSOM is an important cause of preventable hearing loss, particularly in the

developing world, and a reason of serious concern, particularly in children, because it may have long-term effects on early communication, language development, auditory processing, psychosocial and cognitive development, and educational progress and achievement⁽¹⁰⁾.

It is important that parents are aware of the features of OM, including prevalence, current treatment, risk factors and role in later language and learning difficulties⁽¹¹⁾. Hence, the researcher felt the need to assess the knowledge and practices of mothers regarding care of their children with otitis media.

This study aimed to:

Assess mothers' knowledge and practices regarding care of their children with otitis media.

Materials and Method

-Research design

A descriptive research design was used to carry out the current study.

Research questions:

What are the mothers' knowledge regarding care of their children with otitis media? What are the mothers' practices regarding care of their children with otitis media ?

What are the relationship between sociodemographic variables and mothers' knowledge and practices regarding care of their children with otitis media?

Setting

The current study was conducted in outpatient of ear, nose and throat clinic at Benha Specialized Pediatric Hospital, Benha Teaching Hospital and Benha University Hospital.

-Sample

A convenient sample of 100 mothers accompanied their children with otitis media attending to ENT clinics were included in this study.

-Inclusion criteria

- 1- Age of children less than 6 years.
- 2- Children have otitis media

Tool of data collection

Data was collected using the following tool which developed by researcher:

-A structured questionnaire sheet:

It was designed and prepared after reviewing

of related literature. It included two parts:

Part 1- Sociodemographic characteristics related to :

a- **The mother:** as age, level of education, occupation, income and residence.

b- **The child:** age, sex, rank and present complains as pain, fever...etc

Part 2-Mother's assessment sheet which was included:

a-**Mother's knowledge regarding otitis media:** it included 8 questions related to definition, causes, signs and symptoms, complications, prevention and management of otitis media

Scoring system of mothers' knowledge:-

Scoring system for knowledge of the studied mothers was calculated as the following:

The total number of questions was 8 questions

The studied mothers' answers were compared with a model key answer, and (2) scores was given for completely and correct answer, (1) score for incompletely correct answer, and (0) score for don't know or incorrect answer. The total scores of 8 questions were 16 scores. The scores were categorized as the following:

-Mothers' scores from 0-8 were considered have unsatisfactory about Otitis Media .

-Mothers' scores from 9-16 were considered have satisfactory knowledge about OM.

b- Mother's practice regarding otitis media:

it included 24 questions related to mother's actual intervention regarding pain, discharge, itching...etc.

Scoring system of mothers' practice:-

- Scoring system for practices of the studied mothers was calculated as the following:
- The mothers' practices were scored as the following correctly answered (2) scores, answered inaccurately (1) score, and answered in correctly (0) score.
- The total numbers of questions regarding practices of mothers were 24 questions. The total scores of mothers' practice were 48 for all the mother practices should carried out for the child with otitis media.
 - The scores of were categorized as the following:
 - Mothers' scores from 0-24 were considered have unsatisfactory practices about OM.
 - Mothers' scores from 24-48 were considered have satisfactory practices about OM.

Administrative design:

An official permission had taken from hospitals' administrators of ENT clinics to carry out the study.

Operational design:-

a-Preparatory phase:

Extensive review of the past, current, national and international related literature had done.

Ethical consideration:-

All mothers' oral and written consents were obtained before data collection with ensuring complete privacy and total confidentially.

b-Pilot study

A pilot study was done on 10% of predetermined sample to test applicability of the study tools. The results of pilot study helped to make modifications of the tools. The tools were revised, redesigned and rewritten with objectives of improving its accuracy and consistency, and final forms of the tools were obtained. Children and their mothers included in the pilot study were excluded from the study.

c-Field work:-

The data was be collected by using the previous study tool in a period of seven (7) months starting from 1st April 2013 until the end of October 2013. The researcher was collected data on each Saturday and Thursday per week during morning shift. The researcher interviewed each mother individually to assess her knowledge and practices regarding care of their children with otitis media. The researcher started by collecting the socio demographic data about mother and their child, this took about 10-15 minutes for each mother and her child. Then the researcher assessed each mother's knowledge about otitis media by using predesigned knowledge assessment sheet and this took about 15-20

minutes. After that the researcher asked the each mother about her practices for her child with otitis media using predesigned practice assessment sheet which took about 15-20 minutes.

Limitation of the study:-

Lack of cooperation of some of mothers during data gathering stage.

Statistical design:-

Data was analyzed using SPSS statistical package version 20. Numerical data were expressed as Mean \pm standard deviation. Qualitative data were expressed as frequency percentage. Chi-square test was used to examine the relation between qualitative variables;. Pearson (r) Correlation used to test correlation between variables, P-value \leq 0.05 was considered significant.

Results

Table 1: Shows that more than half (57%) of mothers of children were between 20 < 30 years, while only (5%) of them were < 20 also, their mean age was 29.11 ± 5.19 years. Regarding mothers' educational level, the same table revealed that more than half (51%) of them had diploma education while (12%) of them could not read or write. In relation to occupational status of mothers, less than three quarters (72%) were house wife and more than half (54 %) of them live in rural area. Regarding number of sons for mothers the same table shows that more than half (55%)

of mothers have < 3 children while minority of them (10%) have \geq 5 children. Regarding the income this table illustrates that more than two thirds (76%) of them have sufficient incomes.

Table (2): Reveals that more than one third (39%) of studied children aged between 1 < 3 years and their mean age was 2.74 ± 1.70 years. Regarding to sex, more than half (54%) of children were males. The same table indicates that more than half (51%) of children went to nursery school or primary school while less than half of children (49%) did not go to nursery school.

Table (3) shows that, more than half (53%) of studied mothers had incorrect answer regarding definition of otitis media , also the same table represents that more two thirds (73%) of them had incorrect answer regarding causes of otitis media ,while more than one half (55%) of them had incomplete answer regarding risk factors of otitis media. Regarding their answers about signs and symptoms of otitis media more than one third (36%) of them had incorrect answer, more than two fifth (43%) had incorrect answer regarding to prevention measures of otitis media. Regarding complications of otitis media more than two thirds(72%) had incorrect answer, while more than half (53%)of them had incomplete answer regarding diagnostic examinations for otitis media and also shows that more than half

(53%) of them had incomplete answer regarding treatment of otitis media.

Table (4) explains that, majority (82%) of the studied mothers had unsatisfactory level of the knowledge regarding otitis media while the minority (18%) of them had satisfactory level of the knowledge regarding otitis media. It is clear tables 3, 4 answered the first question of the current study.

Table (5) shows that, majority (79.0%) of the studied mothers had reported unsatisfactory level of practices regarding care of their children with otitis media while less than one quarter (21.0%) of them had reported satisfactory level of the total practices regarding care of their children with otitis media. It is clear tables 5 answered the second question of the current study.

Table (6) reveals that, there was no a statistical significant correlation ($r = .094$, $p > 0.05$) between mothers' total knowledge regarding otitis media and their age. While there was a statistical significant correlation ($r = .338$, $p < 0.05$) between mothers' total knowledge regarding otitis media and their educational level. The same table shows also there was no a statistical significant correlation ($r = .015$, $P > 0.05$) between mothers' occupation and level of their knowledge about otitis media in children and there was high a statistical significant correlation ($r = .237$, $P < 0.001$) between

mothers' residence area and level of their knowledge about otitis media in children.

Table (7) illustrates that there was a statistical significant correlation

($r = .248$, $p < 0.05$) between mothers' total practices regarding care of their children with otitis media and their age. While there was no a statistical significant correlation ($r = .139$, $P > 0.05$) between mothers' total practices regarding care of their children with otitis media and their education level. The same table shows also there was no a statistical significant correlation ($r = .059$, $P > 0.05$) between mothers' occupation and mothers' total practices regarding care of their children with otitis media and there was no a statistical significant correlation ($r = .025$, $P > 0.05$) between mothers' residence area and mothers' total practices regarding care of their children with otitis media.

Table (8) illustrates that there was a statistical significant correlation

($r = .268$, $P < 0.05$) between mothers' total knowledge regarding otitis media in children and their reported practices regarding care of their children with otitis media. It is clear tables 6, 7 and 8 answered the third question of the current study.

Part I: socio-demographic characteristics of studied mothers and children

Table (1): Frequency distribution of studied mothers' according to socio-demographic characteristics

Item	No	%
Age of mothers		
-< 20 years	5	5.0
-20< 30 years	57	57.0
-30< 40 years	29	29.0
- ≥40	9	9.0
Mean ± SD	29.11 ±5.19	
Educational level		
-Cannot read and write	12	12.0
-Primary level	15	15.0
-Secondary\Diploma level	51	51.0
-University level	22	22.0
Occupation		
-Employee	28	28.0
-House wife	72	72.0
Residence		
-Rural	54	54.0
-Urban	46	46.0
Number of sons		
-< 3 children	55	55.0
-3< 5 children	35	35.0
-≥5 children	10	10.0
Income		
-Sufficient	76	76.0
-Insufficient	24	24.0

Table (2): Percentage distribution of socio-demographic characteristics of studied children (no=100).

socio-demographic items	No =100	
	No	%
Age of child		
< 1 year	22	22.0
1 < 3 years	39	39.0
3 < 5 years	23	23.0
5 ≤ 6 years	16	16.0
Mean ± SD	2.7 ± 1.6	
Sex		
Male	54	54.0
Female	46	46.0
Going to nursery school or primary school		
Yes	51	51.0
No	49	49.0

Table (3): Percentage distribution of mothers' knowledge regarding otitis media (no=100)

Items	Incorrect answer		Incomplete correct answer		Correct	
	No	%	No	%	No	%
Meaning of otitis media.	53	53.0	5	5.0	42	42.0
Causes of otitis media.	73	73.0	11	11.0	16	16.0
Risk factors of otitis media.	15	15.0	55	55.0	30	30.0
Signs and symptoms of otitis media.	36	36.0	30	30.0	34	34.0
Prevention measures of otitis media.	43	43.0	25	25.0	32	32.0
Complications of otitis media.	72	72.0	13	13.0	15	15.0
Diagnostic examinations for otitis media.	29	29.0	53	53.0	18	18.0
Management of otitis media.	12	12.0	69	69.0	19	19.0

Table (4):- Percentage distribution of the studied mothers' level of total knowledge regarding otitis media (no= 100).

Items	Satisfactory knowledge		Unsatisfactory knowledge	
	No	%	No	%
Total mothers' knowledge	18	18%	82	82%

Table (5):- Percentage distribution of the studied mothers' level of total practices regarding care of their children with otitis media (no=100).

Items	Satisfactory		Unsatisfactory	
	No	%	No	%
Total mothers' practices	21	21.0%	79	79.0%

Table (6): Correlation between mothers' knowledge and socio-demographic variables
<Significant at 5%

Items	Total mothers' knowledge	
	R	P
Age	.094	>0.05
Education	.338	<0.05*
Occupation	0.015	>0.05
Residence	0.237	<0.001*

Table (7): Correlation between mothers' practices and sociodemographic variable
Significant at 5%

Item	Total practices	
	R	P
Age	.248	<0.05*
Education	.139	>0.05
Occupation	.059	>0.05
Residence	.025	>0.05

Table (8): Correlation between mothers' knowledge regarding otitis media and their practices (No=100)

* P tsignifican < 0.0

Item	R	P
Mothers' total knowledge	.268	<0.05*
Mothers' total practices		

Discussion

This part discusses the results of the current study, comparing them with other related studies, recent literature, as well as representing the researcher interpretations of the current results.

Otitis media is inflammation of the middle ear. This inflammation often begins with infections that cause sore throats, colds or other respiratory problems, and spreads to the middle ear. Infections can be caused by viruses or bacteria and can be acute or chronic. Anyone can get an ear infection, but children get them more often than adults. In fact, ear infections are the most common reason parents bring their child to a doctor (Perlstein, 2013). Otitis media is the second most common disease of infants and young children, after upper respiratory tract infection. With peaks of incidence occurring between 6th month to 3 years and from 4 to 6 years of age (Singh, 2007).

Findings of the current study revealed that more than half of children' mothers aged between 20 < 30 years and their mean age of was 29.11 ± 5.19 year. This finding was supported by the finding of a similar study by Othman (2008) who found that the mean age of mothers was 28.4 ± 6.8 year.

As regards to the socio demographic characteristics of the studied mothers and their children the current study found that

more than half of studied mothers lived in rural areas. This finding was supported by the finding of study done by Ghonaim et al., (2011) about Risk factors and causative organisms of otitis media in children who found that the majority of the study sample live in rural areas. According to Tikaram et al (2012) OM was more common in children who were from rural versus urban areas. From the view point of the researcher the otitis media was more common in rural area due to low socioeconomic standard, lack of knowledge about risk factors otitis media and poor practices of care the child.

As regards to age of the studied children, the present study revealed that, the prevalence of the otitis media was found to be highest in the age group 1 < 3 years and their mean age of children was 2.7 ± 1.6 years . This finding was supported by a study done by Asuma & Onayade (2005) about epidemiology of otitis media in local tropical African population who found that the prevalence of the otitis media was found to be highest in the age group 1 < 4 years . This finding also was supported by the finding of study by Othman (2008), who found that the mean age of children 3.9 ± 1.5 year. The susceptibility of young children may be explained by the lack of protective immunity and a shorter and less functional Eustachian tube.

The current study revealed more than half of the children were males. This finding was similar to results of study done by Adhikari et al (2006) and Tikaram et al (2012) who found that more than half of studied children were males. On the same line the finding of a study by Singh (2007) to assess the knowledge of mothers' of under five children regarding otitis media in selected area of Ricci and Kyle (2009) who found that boys are affected more frequently than girls in children less than school age.

The current study showed that more than half of studied children were going to nursery school or primary school. This finding supported by the study by Nesti & Goldbaum (2007) about infectious diseases and daycare and preschool education that showed children cared for at daycare or in preschool education exhibit a two to three times greater risk of acquiring infections. These findings were agreed with Woods (2013) who stated that children in daycare or nursery schools are more likely to get ear infections. This may be due to children attending day care centers frequently carry antibacterial-resistant organisms in their nasopharynx, leading to acute otitis media that may be refractory to antibacterial treatment.

Regarding to mothers' knowledge regarding risk factors of otitis media the current study found that more than half of the studied

mothers had incomplete knowledge regarding risk factors of otitis media. This finding was supported by Srikanth et al (2009) about Knowledge, attitudes and practices with respect to risk factors for otitis media in a rural South Indian community who found that more than half of the population showed knowledge deficits with regard to the various risk factors for otitis media.

The current study revealed that less than one third of mothers had correct knowledge about risk factors of otitis media .While about one third of mothers had correct knowledge about signs and symptoms of otitis media. These results were agreed with Singh (2007) who reported that women were more knowledgeable about otitis media sign and symptoms than about risk factors.

Regarding the mothers' total knowledge regarding care of their children with otitis media the current study found that majority of the studied mothers had unsatisfactory level of the total knowledge regarding otitis media while the minority of them had satisfactory level of the total knowledge regarding otitis media. This finding was supported by the finding of a similar study by Othman (2008), who found that the majority of mothers had inadequate knowledge about care of their children with otitis media.

Regarding to dealing of the mothers at the onset of signs of ear infection the current

study found that more than two thirds of mothers go to the doctor immediately. This finding supported by Roussounides et al.,(2011) who found that the main symptoms considered important and would drive parents to the doctor's office included earache and fever. This finding was inconsistent with Asuma &Onayade (2005) who found that over forty percent of the mothers consulted traditional healers while minority of them restored to self-medication.

Regarding total mothers reported practices the present study found that the majority of the studied mothers had unsatisfactory level of the total practices regarding care of their children with otitis media while the minority of them had satisfactory level of the total practices regarding care of their children with otitis media. From the view point of the researcher it may be due to deficit of knowledge regarding care of their children with otitis media. This finding was asserted during researcher interviews with mothers as mother who had not knowledge; mother had poor practices for care of the child.

The current study found that there was no statistical significant relation between mothers' total knowledge regarding otitis media and their age. This finding was agreed with Mali (2012) who found that the relation between ages with knowledge scores of mothers was found to be not significant.

It was found in this study that, there was a statistical significant relation between mothers' total knowledge regarding otitis media and their educational level .This finding on the same line of study of by Roussounides et al (2011) who found educational level were identified as significant factor associated with knowledge of mothers. This finding was asserted during researcher interviews with mothers as the researcher observed that the mothers who had secondary education or university education have knowledge more than mothers who had primary education.

There was no statistical significant relation between mothers' occupation and level of their knowledge about otitis media in children. This finding was agreed with Mali (2012) who found that the relation between occupations with knowledge scores of mothers was found to be not significant.

There was a high statistical significant relation between mothers' residence area and level of their knowledge about otitis media in children. This finding was agreed with findings of study of by Roussounides et al (2011) who found that residence area and ethnicity were identified as significant factors associated with knowledge of mothers.

Regarding relation between mothers' total practices regarding care of their children with otitis media and their age this study revealed

study found that more than two thirds of mothers go to the doctor immediately. This finding supported by Rousounides et al.,(2011) who found that the main symptoms considered important and would drive parents to the doctor's office included earache and fever. This finding was inconsistent with Asuma & Onayade (2005) who found that over forty percent of the mothers consulted traditional healers while minority of them restored to self-medication.

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Regarding relation between mothers' total practices regarding care of their children with otitis media and their age this study revealed

that there is a statistical significant correlation. This finding was supported by Chukwuocha et al (2013) who found that there was a relationship between ages of mothers and the action taken on their children's health.

The findings of the present study revealed that there was no a statistical significant relation between mothers' total practices regarding care of their children with otitis media and their education level. There was also no a statistical significant relation between mothers' occupation and mothers' total practices regarding care of their children with otitis media and there was no a statistical significant relation between mothers' residence area and mothers' total practices regarding care of their children with otitis media. These results were in the same line with Srikanth et al (2009) who reported that there was no relation between any of the socio demographic factors and attitudes. However, educated mothers were more likely than illiterate mothers to clean their children's ears of wax on a regular basis with the belief that it would prevent ear disease. Parents of higher SES were more likely to use home remedies than those of lower SES. This was inconsistent with Chukwuocha et al (2013) who found that there was a relationship between education, household size and

occupation of mothers and the action taken on their children's health.

The current study found that there was a statistical significant relation between mothers' total knowledge regarding otitis media in children and their total practices. This finding was asserted during researcher interviews with mothers as the researcher found that the mothers who have unsatisfactory knowledge also have unsatisfactory practices. This finding was supported by Mali (2012) who stated that Teaching mothers with planned instructional material help in improving knowledge and practice of mothers with regard to the care of their children at home.

Conclusion

The current study concluded there was an unsatisfactory level of the mothers' knowledge and practices regarding care of their children with otitis media. In addition, socio-demographic characteristics had their reasonable impact on mothers' knowledge and practices, such as level of education and residence area. Moreover, there was a positive relation between mothers' knowledge and practices regarding care of their children with otitis media

Recommendation

The following recommendations can be suggested:-

1-Periodical educational program for mothers regarding otitis media to keep them in touch with advances in health education about care of their children with otitis media.

2-Development of a guideline leaflet for mothers of children with otitis media is essential to upgrading their knowledge about care of children with otitis media.

3-This study can be repeated on a larger sample at different settings to generalize the results

Reference

- 1- Pelikan Z. Role of nasal allergy in chronic secretory otitis media Current Allergy and Asthma Reports 2013;9(2):107-113
- 2- Ghonaim M, El-Edel R.H, Bassiony L & Alzahrani S. Risk factors and causative organisms of otitis media in children, Ibnosina Journal of Medicine and Biomedical Sciences. 2011;5(3):1.
- 3- Kyle T. & Carman S. Essentials of Pediatric Nursing, 2nd ed, chapter 3, Growth and development of Newborn and Infant, China: Lippincott Williams Wilkins Co., 2013; 62, 73, 574.
- 4- Crain F.E. & Gershel C.J. Clinical manual of emergency pediatrics, 1st ed, Chapter 6, ENT emergencies, United state of America., 2010; 135.
- 5- Rockwell B. Signs of Ear Infections in Babies Available at <http://www.popsugar.com/Baby-Ear-Infection-Symptoms>, 2013
- 6- Lieberthal R.A., Carroll A. E., Chonmaitree T. & Ganiats T. The Diagnosis and Management of Acute Otitis Media, The American academy of pediatric J., 2013; 131(3): 965.
- 7- Shaikh N., Hoberman A., Kaleida P., Ploof D. & Paradise J. Diagnosing Otitis Media Otolaryngology and Head and Neck Surgery, The new England journal of medicine, NEJM Group., 2011; Vol 62.2.
- 8- Ahmad Sh. Antibiotics in chronic supportive otitis media: A bacteriologic study 191-194 Egyptian Journal of Ear, Nose, Throat and Allied Sciences., 2-013;
- 9- Perry Sh. E., Hockenberry M.J., Lowdermilk D.L. & Wilson D. Maternal Child Nursing Care, 5th ed, Respiratory dysfunction, Elsevier, Canada., 2014; 1206.
- 10- Forgie S., Zhanel G. & Robinson J. Management of acute otitis media, Paediatr Child Health J, Elsevier., 2009; Vol 14, No(7): 457-460.
- 11- Monasta L., Ronfani L., Marchetti F., Montico M. & Vecchi L. Burden of Disease Caused by Otitis Media, Systematic Review and Global Estimates, PLoS ONE J. 2012; 7(4):1.

- 12- Zhang Y. , Zhang J., Zeng L.& Wang Y. Risk Factors for . Risk Factors for Recurrent Otitis Media- A Meta-Analysis. PLoS ONE Chronic and journal, pone Collection. , 2014; 9 (1): 1371
- 13- **Pelikan Z:** Role of nasal allergy in chronic secretory otitis media, Current Allergy and Asthma Reports 2013;9(2):107-113.
- 14- **Singh S.** Child health nursing,1st ed,Chapter 5, Nursing management in common childhood diseases, Gennex publication ,India.,2010; 153.
- 15- **Othman N.** Mother knowledge and practices regarding care of children with otitis , media Ain Shams University Abstract of master thesis, s2008;1
- 16- **Tikaram A, Chew Y.K, Zulkiflee A.B, Chong A.W& Prepageran N** Prevalence and Risk Factors Associated With Otitis media with Effusion in Children Visiting Tertiary Care Centre in Malaysia, The international medical journal Malaysia ,International Islamic Universityof Malaysia., 2012;Vol. 11, No.1
- 17- **Asuma Y.B.&Onayade O** Epidimology of otitis media in local tropical African population ,WAJM,. . 2005: Vol 24,No 3, 229.
- 18- **Adhikar P., Joshi S., Baral D. & Dr. Kharel B.** Chronic Suppurative Otitis Media in urban private school children of Nepal, BrazilianJournal of Otorhinolaryngology.,2006; Vol.75 no.5, 1 Avaliable at <http://dx.doi.org/10.1590/S1808> A date 11-3-2014.
- 19- **Ricci S. & Kyle T.** Maternity and Pediatric Nursing, 1st ed, chapter 26, Growth and Development of toddler, Lippincott Williams & Wilkins, China., 2009; 800.
- 20- **Nesti & Goldbaum.** Infectious diseases and daycare and preschool education, J Pediatr (Rio J)., 2007; 83 (4):299-312. www.ncbi.nlm.nih.gov/pubmed/ A date 11-3-2014 11pm.
- 21- **Wood M.** Middle Ear Infection,Risk factors, Commonwealth prenatal services. Avaliable at commonwealthperinatal.com/hl/?/...Middle-Ear-Infectio., 2013; Date 18-3-2014 8pm.
- 22- **Srikanth S. , Isaac R., Rebekah G.& Rupa.S.** Knowledge, attitudes and practices with respect to risk factors for otitis media in a rural South Indian community, International journal of pediatric otorhinolaryngology, El sevier ., 2009 ; 73(10):1394.
- 23- **Rouusounides A., Papaevangelou V., Hadjipanayis A.,Panagakou S., Theodoridou M., Syrogiannopoulos G. &**

- Hadjichristodoulou C. Descriptive Study on Parents' Knowledge, Attitudes and Practices on Antibiotic Use and Misuse in Children with Upper Respiratory Tract Infections in Cyprus, International Journal of Environmental Research and Public Health, Multidisciplinary Digital Publishing Institute, 2011;8,52.
- 24- Mali S. Effectiveness of structured teaching program on knowledge of mothers of under five children on domiciliary management and prevention of upper respiratory tract infection, Sinhgad College of Nursing, 2012; 44,45.
- 25- Chukwuocha U.M, Nwakwuo G.C, Emerole C., Dozie I.N.S & Nwuda O.E. Prevalent home management techniques and outcome among mothers of febrile children in Eastern Nigeria, Journal of Public Health and Epidemiology, 2013;6(3), 115-118. Available at <http://www.academicjournals.org/JPHE> 3-2-2014 10