

*Research Article***Risk Factors of Acute Suppurative Otitis Media in Preschool Children****Abdel Rahim A. Abdel Karim, Ebtessam E. Hassan, Rasha A. Abd El-Monem and Amr Adel**

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Abstract

Introduction: Otitis media (OM) refers to an inflammation in the middle ear cleft and is accompanied by effusion of fluids into the middle ear due to infection which may be associated with the presence or absence of tympanic membrane perforation⁽¹⁾. **Aim of study:** To determine the possible risk factors for occurrence of acute suppurative otitis media in preschool children. **Patients and methods:** The study is a descriptive hospital based study, conducted to identify the risk factors of acute suppurative otitis media among preschool children in E.N.T out patient clinic at Minia University Hospital during the period from February 2018 to July 2018. **Results:** This study included 502 preschool children diagnosed with acute suppurative otitis media (AOM) attending at the out patient clinic of ENT department, Minia University Hospital. Their age ranged from one to six years with a mean of 3.05 ± 1.3 years. **Conclusion:** 1- There is high incidence of AOM in preschool children so attention should be paid for screening and early diagnosis and management of AOM to avoid further complications. 2- Incidence of AOM is more in children of rural areas of low socioeconomic classes so more health care should be paid to improve hygienic conditions in such areas in order to decrease incidence of AOM.

Key words: Otitis Media, Preschool Children**Introduction**

Otitis media (OM) refers to an inflammation in the middle ear cleft and is accompanied by effusion of fluids into the middle ear due to infection which may be associated with the presence or absence of tympanic membrane perforation⁽¹⁾.

The presence of fluid in middle ear leads to long term morbidity with varying degrees of hearing loss in children and adults⁽²⁾.

Nearly 90% of OM is mostly seen in younger children less than 2 years of age but its occurrence may also be seen in adults⁽³⁾.

Globally, 709 million Acute otitis media (AOM) cases are estimated to occur every year, of which 51% are seen in children ≤ 5 years of age⁽⁴⁾.

AOM is a common disease affecting children and families across the globe. AOM episodes

may be single or recurrent, and are a leading cause of prescription and inappropriate use of antimicrobial agents⁽⁵⁾.

In addition to morbidity, complications and adverse developmental effects, AOM episodes entail considerable financial burden in the form of medical visits, medication use, operations, and parental time taken off from work⁽⁶⁾.

Aim of the work

To determine the possible risk factors for occurrence of acute suppurative otitis media in preschool children.

Subjects and Methods**Study design:**

The study is a descriptive hospital based study, conducted to identify the risk factors of acute suppurative otitis media among preschool children in E.N.T out patient clinic at Minia University Hospital during the period from February 2018 to July 2018.

Administrative design

- An approval was taken from the research ethical committee of the Faculty of Medicine, Minia University.
- An approval was taken from Minia university directorate and department of E.N.T.

Results

This study included 502 preschool children diagnosed with acute suppurative otitis media (AOM) attending at the out patient clinic of ENT department, Minia University Hospital. Their age ranged from one to six years with a mean of 3.05 ± 1.3 years.

1- Age, Sex and Residence:**Table (1): Age, sex and residence of the studied preschool children with AOM (N=502):**

Variable	No	%	Z	p	
Age	1-3 year	307	61.2%	7.1	0.006*
	>3 year	195	38.8%		
Sex	Male	261	52%	1.2	0.1
	Female	241	48%		
Residence	Urban	111	22.1%	17.4	0.001*
	Rural	391	77.9%		

* = Significant

It was found that younger age (1-3 years) of children with AOM was significantly higher than old age (>3 year) ($p=0.006^*$). Male sex (52%) was higher than female (48%). Rural residence (77.9%) was significantly higher than urban (22.1%) and p value was 0.001^* (Table 1).

Discussion

Epidemiology is the study of the distribution and determinants of health related states and events in population, and the application of this study to the control of health problems. Distribution implies selection in relation to age, sex, occupational and social characteristics, place of residence and exposure to specific agents. Determinants include two broad groups: (1)- Host factors including age, sex, physiological state, nutritional condition and previous immunological experiences and (2)- Environmental factors including all the conditions of living, family size, crowding, hygienic conditions, occupation and qualities of the society such as its use of tobacco and alcohol⁽¹⁰⁾.

Epidemiology applies all available methods and tools to ascertain the distribution and determinants of disease. Clinical, laboratory and field observation are all used⁽¹¹⁾.

As regards the age of the patient, our study found that younger age (1-3 years) of children with acute suppurative otitis media are signifi-

cantly higher than older age (>3years) with p value = 0.006^* .

The higher incidence of AOM in younger age group was also found in the results of Teele et al., (1989) who estimated that 62% of children

had a least of one episode of AOM by the age of 1 year, and up to 83% by the age of 3 years. Recent studies from several other countries, however, have shown much lower incidence of AOM⁽¹³⁾. Wang et al., (2011) using the National Health Insurance (NHI) claims database of Taiwan, estimated that the age-specific annual incidence of OM was 71.7 per 1000 children aged <2 years, and 158.8 per 1000 3- to 5-years olds, and 4.0 per 1000 children aged 6 to 12 years.

Recommendations

- 1- There is high incidence of AOM in preschool children so attention should be paid for screening and early diagnosis and management of AOM to avoid further complications.
- 2- Incidence of AOM is more in children of rural areas of low socioeconomic classes so

more health care should be paid to improve hygienic conditions in such areas in order to decrease incidence of AOM.

3- Incidence of AOM is affected by socioeconomic conditions of the family including number of family members, number of rooms and parental education and occupation, so improving these conditions would be associated with decreasing incidence of AOM.

4- Periodic screening is very important for early diagnosis and management of AOM in preschool children.

5- Attention should be paid to early diagnosis and management of URTI as it is one of the most important predisposing factors for AOM in children.

6- Further studies should be done to investigate the role of every predisposing factor for occurrence of AOM and how to avoid it in order to decrease occurrence of AOM and its complications.

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