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Research Article

**PARENTAL AWARENESS AND MANAGEMENT OF ACUTE
OTITIS MEDIA THAT AFFECTS THEIR CHILDREN IN
ALAHSSA, SAUDI ARABIA**Khalid A. AlYahya¹, Fatima A. Majrabi², Zahra'a A. AlAhmad², Hibah F. Althuwaini².¹Assistant Professor in Otolaryngology, Head & Neck Surgery. King Faisal University, college of medicine, Saudi Arabia, Alahssa. ²College of medicine, King Faisal University, Saudi Arabia, Alahssa.**Abstract:**

Background: Acute otitis media is a common community-acquired infection. The aim of this study was to assess the parents' awareness and knowledge about acute otitis media and its management.

Methods: A cross-sectional study was conducted in Al-Hassa, Saudi Arabia's Eastern Province. The sample size was statistically calculated with confidence level of 95% and margin of error 5%, sample size: 385. Data were distributed and collected among parents, who having children aged 2 -10 years old, in order to assess their knowledge regarding acute otitis media and their insight about the dealing actions that must be taken in such a situation.

Results: The results in our study showed that more than half 57.6% of the parents agreed that acute otitis media is associated with a combination of earache, discharge from ear, nasal congestion and/or rhinorrhea. Regarding the cause of acute otitis media, more than half (53.2%) of all respondents did not know the cause. Regarding the role of antibiotics in the management of acute otitis media, 44.3% of the parent's view that it is necessary, while 15.6% did not agree with them.

Conclusions: Our study showed that parents have a good awareness regarding otitis media as a disease with its manifestations but there's an obvious lack of knowledge regarding its management particularly the usage of antibiotics.

Keywords: Acute otitis media, Parents, Awareness, knowledge, Antibiotics.

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INTRODUCTION:

Acute otitis media is a common community-acquired infection and it's one of the most common childhood infections as the majority of children experience at least one episode of it during their childhood. Otitis media (OM) is a collective term for a group of inflammatory and infective conditions affecting the middle ear [1]. Acute Otitis media (AOM) is an inflammation of the middle ear that presents with a rapid onset of symptoms and signs of up to three weeks duration [1]. In children, acute otitis media often occurs following an upper respiratory infection which means it occurs more frequently in the winter than in summer months. The cause of AOM may be infectious, either viral or bacterial. One-third of bacterial infections are due to Streptococcus pneumoniae, one-third is due to non-typeable Haemophilus influenzae (NTHi), and one-sixth is due to Moraxella catarrhalis [2]. Other less frequent pathogens are Streptococcus pyogenes, Staphylococcus aureus, and more rarely, anaerobic Gram-negative bacilli such as Escherichia coli or Pseudomonas aeruginosa [3]. The recurrence rate of the otitis media is high in children. Most children have at least one episode of AOM, with a peak incidence between ages 6 and 11 months; by age 3 years, 50–85% of children have had acute OM. Recurrent AOM (≥ 3 episodes) is common, affecting 10–20% of children by age 1 year. Nearly 40% of older children eventually have six or more total episodes [4]. Therefore, otitis media more common in pre-school age children who considered as one of the difficulties to diagnose and discover this infection as the communication language is less in this group age. The most common manifestation of AOM is otalgia that may accompanied by fever, otorrhea, hearing loss, difficulties in eating, drinking, or sleeping because chewing, sucking, and lying down can cause painful pressure changes in the middle ear [5]. In infants and children, the main symptoms were present as crying, irritability, sleeplessness and pulling on the ears which highly indicate earache in children beside other constitutional clinical symptoms which make it more difficult to be noticed by the parents [3]. There are many risk factors for AOM which include younger age, allergies, craniofacial abnormalities, exposure to environmental smoke or other respiratory irritants, family history of recurrent acute otitis media, gastroesophageal reflux, immunodeficiency, no breastfeeding, pacifier use and upper respiratory tract infections [6]. Previously, the clinical diagnosis of AOM was based on symptomatology without otoscopic findings of inflammation. In contrast, the updated American Academy of Pediatrics guideline specifies otoscopic criteria for the diagnosis. Therefore, the otoscopic diagnostic criteria of AOM

include bulging of posterosuperior tympanic membrane, decreased membrane mobility, fluid behind the tympanic membrane, TM opacity, disappearance of handle of malleus and its short process, erythema of TM. The physical examination may indicate conductive deafness of the affected ear [7]. The Management of AOM should begin with adequate analgesia [8]. Ibuprofen and acetaminophen have been shown to be effective [9]. Also, topical analgesics, such as benzocaine, can also be helpful [10]. In recent years, the increase in bacterial resistance has become a problem; therefore, deferring strategy in using antibiotics is advised in children who are present with mild symptoms and less likely to get benefit from antibiotics [11]. In addition, recent studies showed that without antibiotics, AOM resolves spontaneously within 24 h in approximately 60% of children and within 3 days in approximately 80% of children [4]. Therefore, observation may be an option in those six to 23 months of age with unilateral AOM, or in those two years or older with bilateral or unilateral AOM [7]. In the other hand, antibiotics should be routinely prescribed for children with AOM who are six months or older with severe signs or symptoms, and for children younger than two years with bilateral AOM. High-dose amoxicillin is the antibiotic of choice for treating acute otitis media in patients who are not allergic to penicillin. Oral cephalosporins, such as cefuroxime (Ceftin), may be used in children who are allergic to penicillin. In children with persistent symptoms for more than 48-72h, Augmentin is the best choice [6]. Ignorance of AOM manifestations or inaccurate diagnosis can lead to unnecessary treatment with antibiotics and contribute to the development of antibiotic resistance and other serious life-threatening complications. The most common complication is acute mastoiditis. Other complications are facial paralysis due to compression and edema of the facial nerve, labyrinthitis owing to the spread of the infection from the middle ear or from the mastoid cells, and meningitis either as a result of direct spread or bacteremia [3]. So, the parents should have a good understanding and background about the disease including its manifestation, possible cause and the ways of management whether by observation or using antibiotics as well as the possible complications that can occur if left untreated or ignored.

- **Aim:**

A cross-sectional study was conducted to assess the parents' awareness and knowledge about acute otitis media and ways of its management.

- **Objectives:**
 1. Determining the level of awareness about acute otitis media among parents.
 2. Assessing the knowledge of parents about the causes, manifestations and complications of AOM.
 3. Assessing parents' perspective knowledge about the management of acute otitis media.

METHODS:

- **Study design:**

A descriptive study (cross-sectional study) was conducted online.

- **Sample size:**

- The sample size was statistically calculated with confidence level of 95% and margin of error 5%.

- Sample size: 385

- **Subject and Study tools:**

- **Subject:**

Parents from Al-Hassa, Saudi Arabia.

- **Inclusion:**

Parents (either father or mother) having children aged 2 -10 years old.

- **Exclusion:**

Other child's relatives such as grandfather, grandmother, uncles, aunts, brothers, sisters and cousins.

- **Study tools:**

Questionnaires were distributed among parents.

- **Questionnaires component:**

Self-designed questionnaires were used to be answered by parents. In which the first part was requesting personal data such as the gender of the parent and his/her age. The gender, age and the rank of child among his/her siblings, the residence, attended kindergarten or school. There was a part in the questionnaires designed to ask whether the participants were having an experience about the AOM or not. This served out in the process of categorizing and comparing data. Additionally, They also included questions asking about their knowledge regarding the causes, features of the AOM. Also, there were questions which measured their insight about the dealing actions that must be taken in such a situation and the suitable management. And what were the parenteral actions including using of home remedies or non-prescribed antibiotics, and how they were obtained the information from media or from visited the ENT physician.

- **Study area:**

The study was carried out in Al-Hassa, Saudi Arabia's Eastern Province.

- **Study date and time:**

It was conducted within a period of one month(from Nov 2017 until Jan 2018).

- **Statistical analysis:**

- The data were processed and statistically analyzed by using Statistical Package for the Social Sciences (SPSS) v 21.0.

- The data were statistically processed using chi-square to estimate the relationship between categorical variables.

- Data were presented in the form of tables in order to test the significance and graphs as a visual aid.

- **Ethical considerations:**

An authorization letter was received from the KFU research ethic committee. And a verbal consent was obtained individually from the study participants.

RESULTS:

Table 1 demonstrates the socio-demographic characteristics of the respondents (n = 449) and their children. The majority of the participating parents(76.6%) were mothers. Most of them belong to the age groups 26-35 and 36-45 (26.0% and 43.0% respectively). More than half of their children were males (57.2%) and aged more than five years (53.5%). Respondents from Al-Ahsa represented the majority of (79.5%) the study population.

Concerning symptoms, more than half (57.6%) of the parents agreed that acute otitis media was associated with a combination of earache, discharge from ear, nasal congestion and/or rhinorrhea. Sixty subjects (16.0%) considered pain in ear as the most common presenting symptom while, 10.7% stated that fever was part of acute otitis media. In children less than two years, the recorded manifestations by the parents were continuous crying or pulling of ears or both of them (18.2%, 18.2% and 27.0% respectively). About one-third (32.4%) of parents did not observe any of these manifestations on their children. There was a statistically significant association between previous experience with a child with acute otitis media and the knowledge of parents about clinical manifestations of this disorder ($p < .05$) (**table 2**).

For the cause of acute otitis media, more than half (53.2%) of all respondents did not know the cause. Bacterial and viral infections were attributed as causes by 20.4% and 15.2% respectively. The view

that acute otitis media is caused by viruses was significantly more reported by parents with acute otitis media experience ($p=0.42$). Considerable percentages of the participating parents agreed that acute otitis media in children was related to the presence of nasal obstruction, nasal allergy or faulty feeding (62.1%, 45.9% and 52.6% respectively). Fortunately, physician consultation was the first priority (92.2%) of the parents if one of their children developed manifestations of acute otitis media, whereas the use of home remedies or antibiotics without prescription was considered by only 22% and 38% respectively. Regarding the role of antibiotics in management of acute otitis media, 44.3% of the parent's view considered it was necessary, while

15.6% opposed this concept. Most of (72.6%) the study participants justified the importance of proper management of acute otitis media and assured that negligence might cause serious complications. About one-fourth (25.8%) did not know the sequel. The level of knowledge about causes, management and attitude were significantly higher ($p<.05$) among parents with previous experience with acute otitis media compared to their counterparts (**table 3**).

Tables 4 & 5 show absence of significant association between the age of parents and their level of knowledge about clinical manifestations, causes, and complications of acute otitis media in children.

Table 1: Socio-demographic characteristics of the respondents and their children.

		N = 449	% 100
Parents	Mother	344	76.6
	Father	105	23.4
Age of parents (years)	≤25	59	13.2
	26-35	116	26.0
	36-45	192	43.0
	>45	80	17.9
Sex of child	Male	254	57.2
	Female	190	42.8
Age of child (years)	<1	38	8.5
	1-3	105	23.4
	4-5	66	14.7
	>5	240	53.5
Residence	Al-Ahsa	357	79.5
	Other	92	20.5

Table 2: Knowledge about clinical manifestations of acute otitis media.

		Did you have a child with acute otitis media?										P
		Yes 204(45.4%)		No 145(32.3%)		May be 72(16.0%)		Don't know 28(6.2%)		Total 449(100%)		
		N	%	N	%	N	%	N	%	N	%	
Symptoms	Pain in ear	26	12.9	13	16.7	19	26.8	2	8.0	60	16.0	<.001*
	Decreased hearing	7	3.5	1	1.3	2	2.8	3	12.0	13	3.5	
	Discharge from ear	13	6.5	1	1.3	2	2.8	2	8.0	18	4.8	
	Rhinorrhea	0	0.0	4	5.1	0	0.0	0	0.0	4	1.1	
	Nasal congestion	2	1.0	5	6.4	0	0.0	1	4.0	8	2.1	
	Cough	1	0.5	1	1.3	0	0.0	0	0.0	2	0.5	
	Vertigo	3	1.5	0	0.0	0	0.0	0	0.0	3	0.8	
	Headache	1	0.5	2	2.6	1	1.4	1	4.0	5	1.3	
	General weakness	2	1.0	1	1.3	0	0.0	0	0.0	3	0.8	
	Vomiting	0	0.0	2	2.6	1	1.4	0	0.0	3	0.8	
	Fever	13	6.5	14	17.9	8	11.3	5	20.0	40	10.7	
Combination	133	66.2	34	43.6	38	53.5	11	44.0	216	57.6		
Manifestations in a child Less than two years	Continuous crying	32	20.4	15	15.0	11	21.2	2	9.5	60	18.2	<.001*
	Sleeplessness	3	1.9	5	5.0	3	5.8	2	9.5	13	3.9	
	Pulling ears	29	18.5	14	14.0	13	25.0	5	23.8	61	18.5	
	Combination	62	39.5	9	9.0	12	23.1	6	28.6	89	27.0	
	No	31	19.7	57	57.0	13	25.0	6	28.6	107	32.4	

*Significant

Table 3: Knowledge about causes, management and complications of acute otitis media.

		Did you have a child with acute otitis media?										P
		Yes 204 (45.4%)		No 145 (32.3%)		May be 72 (16.0%)		Don't know 28 (6.2%)		Total 449(100%)		
		N	%	N	%	N	%	N	%	N	%	
What are the causes of AOM?	Bacterial infection	33	16.3	38	26.4	15	20.8	5	17.9	91	20.4	.042*
	Viral infection	41	20.2	18	12.5	7	9.7	2	7.1	68	15.2	
	Congenital anomaly in ear	6	3.0	1	0.7	0	0.0	0	0.0	7	1.6	
	Don't know	103	50.7	73	50.7	44	61.1	18	64.3	238	53.2	
	Viral and bacterial	5	2.5	9	6.2	3	4.2	0	0.0	17	3.8	
	Congenital anomaly in ear complicated by infection	15	7.4	5	3.5	3	4.2	3	10.7	26	5.8	
Is there a relationship between AOM and nasal obstruction?	Yes	146	71.6	84	57.9	37	51.4	12	42.9	279	62.1	.002*
	No	14	6.9	15	10.3	4	5.6	1	3.6	34	7.6	
	May be	37	18.1	30	20.7	23	31.9	11	39.3	101	22.5	
	Don't know	7	3.4	16	11.0	8	11.1	4	14.3	35	7.8	
Is there a relationship between AOM and nasal allergy?	Yes	109	53.4	61	42.1	26	36.1	10	35.7	206	45.9	.021*
	No	27	13.2	19	13.1	6	8.3	1	3.6	53	11.8	
	May be	50	24.5	46	31.7	32	44.4	14	50.0	142	31.6	
	Don't know	18	8.8	19	13.1	8	11.1	3	10.7	48	10.7	
Is there a relationship between AOM and faulty feeding?	Yes	116	56.9	76	52.4	33	45.8	11	39.3	236	52.6	.119
	No	17	8.3	23	15.9	8	11.1	6	21.4	54	12.0	
	May be	35	17.2	21	14.5	18	25.0	3	10.7	77	17.1	
	Don't know	36	17.6	25	17.2	13	18.1	8	28.6	82	18.3	
How do you behave if your child developed AOM manifestations?	Physician consultation	193	94.6	131	90.3	66	91.7	24	85.7	414	92.2	.048*
	Observe child without treatment	0	0.0	5	3.4	1	1.4	2	7.1	8	1.8	
	Home remedies	7	3.4	2	1.4	1	1.4	0	0.0	10	2.2	
	Use antibiotics without prescription	4	2.0	7	4.8	4	5.6	2	7.1	17	3.8	
	Don't know	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
Is antibiotic necessary in treatment of AOM?	Yes	108	52.9	56	38.6	26	36.1	9	32.1	199	44.3	<.001*
	No	33	16.2	24	16.6	13	18.1	0	0.0	70	15.6	
	May be	47	23.0	33	22.8	26	36.1	7	25.0	113	25.2	
	Don't know	16	7.8	32	22.1	7	9.7	12	42.9	67	14.9	
Ignorance of treatment of AOM may lead to	Serious complications	154	75.5	105	72.4	53	73.6	14	50.0	326	72.6	.025*
	Nothing	2	1.0	5	3.4	0	0.0	0	0.0	7	1.6	
	Don't know	48	23.5	35	24.1	19	26.4	14	50.0	116	25.8	

*Significant; AOM: acute otitis media

Table 4: Association between the age of parents and the knowledge about clinical manifestations of acute otitis media.

		Age of parents										P
		<25		26-35		36-45		>45		Total		
		N	%	N	%	N	%	N	%	N	%	
Symptoms	Pain in ear	2	4.8	12	12.8	26	15.3	20	29.0	60	16.0	.072
	Decreased hearing	4	9.5	1	1.1	5	2.9	3	4.3	13	3.5	
	Discharge from ear	3	7.1	2	2.1	11	6.5	2	2.9	18	4.8	
	Rhinorrhea	0	0.0	1	1.1	2	1.2	1	1.4	4	1.1	
	Nasal congestion	1	2.4	3	3.2	3	1.8	1	1.4	8	2.1	
	Cough	0	0.0	2	2.1	0	0.0	0	0.0	2	0.5	
	Vertigo	0	0.0	1	1.1	1	0.6	1	1.4	3	0.8	
	Headache	1	2.4	1	1.1	3	1.8	0	0.0	5	1.3	
	General weakness	0	0.0	1	1.1	2	1.2	0	0.0	3	0.8	
	Vomiting	1	2.4	2	2.1	0	0.0	0	0.0	3	0.8	
	Fever	9	21.4	10	10.6	13	7.6	8	11.6	40	10.7	
	Combination	21	50.0	58	61.7	104	61.2	33	47.8	216	57.6	
Manifestations in a child less than two years	Continuous crying	9	18.4	15	16.5	29	21.0	7	13.5	60	18.2	.609
	Sleeplessness	2	4.1	1	1.1	6	4.3	4	7.7	13	3.9	
	Pulling ears	7	14.3	18	19.8	25	18.1	11	21.2	61	18.5	
	Combination	10	20.4	30	33.0	36	26.1	13	25.0	89	27.0	
	No	21	42.9	27	29.7	42	30.4	17	32.7	107	32.4	

Table 5: Association between the age of parents and the knowledge about causes, management and complications of acute otitis media (OM).

		Age of parents										P
		<25		26-35		36-45		>45		Total		
		N	%	N	%	N	%	N	%	N	%	
What are the causes of OM?	Bacterial infection	25	43.9	23	19.8	31	16.1	11	13.8	90	20.2	.057
	Viral infection	3	5.3	15	12.9	37	19.3	12	15.0	67	15.1	
	Ear congenital anomaly	1	1.8	1	0.9	3	1.6	2	2.5	7	1.6	
	Don't know	17	29.8	63	54.3	107	55.7	51	63.8	238	53.5	
	Viral and bacterial	5	8.8	4	3.4	5	2.6	3	3.8	17	3.8	
	Congenital anomaly complicated by infection	6	10.5	10	8.6	9	4.7	1	1.2	26	5.8	
Is there a relationship between OM and nasal obstruction?	Yes	44	74.6	69	59.5	112	58.3	53	66.2	278	62.2	.208
	No	7	11.9	7	6.0	16	8.3	4	5.0	34	7.6	
	May be	7	11.9	29	25.0	47	24.5	17	21.2	100	22.4	
	Don't know	1	1.7	11	9.5	17	8.9	6	7.5	35	7.8	
Is there a relationship between OM and nasal allergy?	Yes	30	50.8	55	47.4	82	42.7	39	48.8	206	46.1	.822
	No	7	11.9	11	9.5	28	14.6	6	7.5	52	11.6	
	May be	18	30.5	36	31.0	61	31.8	26	32.5	141	31.5	
	Don't know	4	6.8	14	12.1	21	10.9	9	11.2	48	10.7	
Is there a relationship between OM and faulty feeding?	Yes	30	50.8	68	58.6	103	53.6	34	42.5	235	52.6	.122
	No	13	22.0	13	11.2	17	8.9	11	13.8	54	12.1	
	May be	6	10.2	17	14.7	37	19.3	16	20.0	76	17.0	
	Don't know	10	16.9	18	15.5	35	18.2	19	23.8	82	18.3	
How do you behave if your child Developed OM manifestations?	Physician consultation	55	93.2	109	94.0	173	90.1	75	93.8	412	92.2	.156
	Observe child without treatment	3	5.1	0	0.0	3	1.6	2	2.5	8	1.8	
	Home remedies	0	0.0	1	0.9	7	3.6	2	2.5	10	2.2	
	Use antibiotics without prescription	1	1.7	6	5.2	9	4.7	1	1.2	17	3.8	

	Don't know	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
Is antibiotic necessary In treatment of OM?	Yes	26	44.1	56	48.3	85	44.3	32	40.0	199	44.5	.806
	No	8	13.6	17	14.7	30	15.6	14	17.5	69	15.4	
	May be	13	22.0	24	20.7	53	27.6	23	28.8	113	25.3	
	Don't know	12	20.3	19	16.4	24	12.5	11	13.8	66	14.8	
Ignorance of treatment of OM may lead to:	Serious complications	44	74.6	86	74.1	138	71.9	57	71.2	325	72.7	.748
	Nothing	1	1.7	3	2.6	2	1.0	0	0.0	6	1.3	
	Don't know	14	23.7	27	23.3	52	27.1	23	28.8	116	26.0	

DISCUSSIONS:

In our research, we studied the parental awareness regarding acute otitis media in affecting children. The aim of the present study was to explore parent's knowledge about the causes, manifestations, complications and the management of AOM in the eastern region of Saudi Arabia (Al-Ahsa).

In general, the results showed that more than half (57.6%) of the parents agreed that acute otitis media was associated with a combination of earache, discharge from ear, nasal congestion and/or rhinorrhea. Compared to recent survey of german-speaking parents, 92.7% of them generally agreed that intensive earache was associated with AOM, and 53.4% generally agreed that fever is part of AOM [12]. Another study accords these symptoms, and in addition that young children may also present with nausea, vomiting, diarrhea and conductive hearing loss [13]. In children less than two years, the recorded manifestations by the parents were continuous crying or pulling of ears or both of them. Compared to the study that conducted in German most of the parents (75%) reported AOM symptom including fever and ear pain [14]. Another study of Spanish Otolaryngologist agreed that irritability and sleeplessness are common [3].

Regarding the causes of AOM, more than half (53.2%) of all respondents did not know the cause. Bacterial and viral infections were proposed as causes by 20.4% and 15.2% respectively. So, most of them believed about bacterial infection more than viral infection. Similarly, other studies confirmed that bacterial infection is the most common knowing cause of AOM among parents [12]. Recent analysis study of 10 similar studies established that bacterial infection remains the leading oto-pathogens in most of the populations [15]. Additionally, according to our study participating parents they considered that acute otitis media in children is related to the presence of nasal obstruction, nasal allergy or faulty feeding (62.1%, 45.9% and 52.6% respectively).

According to the parental attitudes towards AOM treatment for their children 89.9% of the respondents

generally agreed that pediatrician's opinion is being of great importance. Whereas, almost 40% would generally accept the "wait and see" strategy and only give an antibiotic once symptoms have persisted for 2 days or worsened overnight. The same percentage of parents preferred to use antibiotics immediately [12]. In contrast to our study, fortunately, physician consultation was the first priority 92.2% of the parents, whereas the use of home remedies or immediate use of antibiotics without prescription was considered by only 22% and 38% respectively. While using the "wait and see" strategy was approximately 18% of the population.

Regarding the role of antibiotics in management of acute otitis media, 44.3% of the parent's view showed that it was necessary, while 15.6% disapproved. The reported proportion in our study is largely corresponds to findings of other authors in which 45.7% of parents agreed that AOM needs antibiotic treatment [12]. These findings might indicate that parents underestimate the self-limiting character of uncomplicated AOM in children.

Most of the parents (72.6%) participated in our study greatly evaluated the importance of proper management of acute otitis media and accord that overlooking might cause serious complications. This is consistent with results of other studies that evaluated parents' concerns about long term-effect of AOM especially on hearing and communication [16].

CONCLUSION:

Otitis media is a common condition among children and one of a leading cause of health care visits and antibiotic prescription. In which the parents' awareness and knowledge about the disease and initial warning manifestations of the condition, play an important role in early diagnosis as well as early management which in turn prevent the possible serious complication that could happen. As our research findings have demonstrated that the parents' awareness about the otitis media is good regarding the manifestation and early symptoms of the condition but it's clear that there's a large defect in the management knowledge practically the antibiotics

use. Therefore, health education programs to rectify the lack of parents' awareness regarding the management part are needed. In addition, primary health care providers should participate in raising and improving the awareness among the parents during the consultation by explaining well the fundamentals and methodology when dealing with this type of disease to reduce the serious complications that could arise due to negligence of the proper treatment of this disease.

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REFERENCES:

1. **Ahamed A, Krishnamoorthy K (2016):** Otitis Media in Children: A Review. *Journal of Pharmaceutical Sciences and Research*, 8(8):844-849.
2. **Rovers M, Schilder A, Zielhuis G, Rosenfeld R (2004):** Otitis media. *Lancet*, 363(9407):465-73.
3. **Cervera J, Villafruela M, Castillo F, Rubio A, Rodrigo C, Liria G, Picazo J (2007):** National Consensus on Acute Otitis Media. *Acta Otorrinolaringol Esp.*, 58(6):225-31.
4. **Teele DW, Klein JO, Rosner B (1989):** Epidemiology of otitis media during first seven years of life in children in greater Boston: a prospective, cohort study. *J Infect Dis*, 160(1):83-94.
5. **William J, Parkers (2017):** Middle ear infections. Available at: <https://kidshealth.org/en/parents/otitis-media.html>
6. **Harmes K, Blackwood R, Burrows H, Cooke J, Harrison R, Passamani P (2013):** Otitis Media: Diagnosis and Treatment. *AAFP*, 88(7):435-440.
7. **Lieberthal A, Carroll A, Chonmaitree T, et al (2013):** The diagnosis and management of acute otitis media. *Pediatrics*, 131(3):964-999.
8. **Hagan J, Coleman W, Foy J, et al (2001):** The assessment and management of acute pain in infants, children, and adolescents. *Pediatrics*, 108(3):793-797.
9. **Bertin L, Pons G, d'Athis P, Duhamel J, Maudelonde C, Lasfargues G, Guillot M, Marsac A, Debregeas B and Olive G (1996):** A randomized, double-blind, multicentre controlled trial of ibuprofen versus acetaminophen and placebo for symptoms of acute otitis media in children. *Fundamental & Clinical Pharmacology*, 10(4):387-92.
10. **Hoberman A, Paradise JL, Reynolds EA, Urkin J (1997):** Efficacy of auralgan for treating ear pain in children with acute otitis media. *Archives of Pediatrics & Adolescent Medicine*, 151(7):675-8.
11. **Venekamp R, Sanders S, Glasziou P, Del Mar C and Rovers M (2013):** Antibiotics for acute otitis media in children. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/23440776>
12. **Kautz-Freimuth S, Redaelli M, Samel C, Civello D, Altin S and Stock S (2015):** Parental views on acute otitis media (AOM) and its therapy in children - results of an exploratory survey in German childcare facilities. *BMC Pediatrics*. doi: 10.1186/s12887-015-0516-3.
13. **Leibovitz E, Greenberg D (2004):** Acute Otitis Media in Children: Current Epidemiology, Microbiology, Clinical Manifestations, and Treatment. *Chang Gung medical journal*, 27(7):475-88.
14. **Fortanier A, Venekamp R, de Hoog M, Uiterwaal C, van der Gugten A, van der Ent C, Hoes A and Schilder A (2015):** Parent-Reported Symptoms of Acute Otitis Media during the First Year of Life: What Is beneath the Surface?. Available at: <https://doi.org/10.1371/journal.pone.0121572>
15. **Van Dyke M, Pirçon J, Cohen R, Madhi S, Rosenblüt A, Macias Parra M, Al-Mazrou K, Grevers G, Lopez P, Naranjo L, Pumarola F, Sonsuwan N and Hausdorff W (2017):** Etiology of Acute Otitis Media in Children Less Than 5 Years of Age: A Pooled Analysis of 10 Similarly Designed Observational Studies. *The Pediatric Infectious Disease Journal*, 36(3):274-81.
16. **Meherali S, Campbell A, Hartling L and Scott S (2018):** Understanding Parents' Experiences and Information Needs on Pediatric Acute Otitis Media. *Journal of Patient Experience*. Available at: <https://doi.org/10.1177/2374373518771362>