



# Knowledge Level of Yayasan Gracia Sustain TK/SD Medan Teachers about Acute Otitis Media

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## ABSTRACT

**Background.** Acute Otitis Media (AOM) is a rapidly developing inflammatory condition within the middle ear that commonly occurs in children. Kindergarten / elementary school teachers educate children who may also have indications of AOM, so if these teachers have a sufficient level of knowledge about AOM, it will be easier to identify and especially prevent it. This study set intended to investigate parents' attitudes and knowledge on treating their children's acute otitis media

**Methods.** This study is a descriptive study that uses a cross-sectional analytic approach. Sampling was done using the total sampling method using a questionnaire. The research subjects were 70 teachers at Yayasan Gracia Sustain kindergarten/primary school in Medan. Data were analyzed using the SPSS version 25 application.

**Results.** The results of the analysis of 70 teachers at Yayasan Gracia Sustain kindergarten/primary school Medan showed that 7 teachers (10.0%) had good knowledge, 63 teachers (90.0%) had moderate knowledge, and no teachers had low knowledge.

**Conclusion.** The teachers of Yayasan Gracia Sustain kindergarten/primary school in Medan have a moderate level of knowledge about AOM.

**Keywords:** Teachers, Acute Otitis Media, Knowledge

## ABSTRAK

**Latar belakang.** Otitis Media akut (AMA) adalah kondisi peradangan yang berkembang pesat di telinga tengah yang biasanya terjadi pada anak-anak. Guru TK / SD mendidik anak-anak yang mungkin juga memiliki indikasi AMA, jadi jika guru-guru ini memiliki tingkat pengetahuan yang cukup tentang AMA, akan lebih mudah untuk mengidentifikasi dan terutama mencegahnya. Penelitian ini dimaksudkan untuk menyelidiki sikap dan pengetahuan orang tua tentang mengobati otitis media akut pada anak-anak mereka

**Metode.** Penelitian ini merupakan penelitian deskriptif yang menggunakan pendekatan Analisa potong lintang. Pengambilan sampel dilakukan dengan menggunakan metode total

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*sampling menggunakan angket. Subjek penelitian adalah 70 guru di TK/SD Yayasan Gracia Sustain di Medan. Data dianalisis menggunakan aplikasi SPSS versi 25.*

**Hasil.** Hasil analisis terhadap 70 guru di TK/SD Yayasan Gracia Sustain Medan menunjukkan bahwa 7 guru (10,0%) memiliki pengetahuan baik, 63 guru (90,0%) memiliki pengetahuan sedang, dan tidak ada guru yang memiliki pengetahuan rendah.

**Kesimpulan.** Guru-guru Yayasan Gracia Sustain TK / SD di Medan memiliki tingkat pengetahuan yang moderat tentang AOM.

**Kata kunci:** Guru, Otitis Media Akut, Pengetahuan

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## 1 Introduction

Acute otitis media (AOM) occurs in children aged between 3 months and 3 years, with the peak incidence occurring at 6 to 11 months of age.[1] Based on research conducted by Simbolon in 2018 [2], children aged between 2-5 years have the highest risk of experiencing AOM.

The highest prevalence of AOM in the world occurs in several regions, including West and Central Africa 43.37%, South America 4.25%, Eastern Europe 3.96%, East Asia 3.93%, Asia Pacific 3.75%, and Central Europe 3.64%. In the UK, approximately 30% of children visit the pediatrician each year due to AOM. Meanwhile, there are an estimated 20 million children in the United States who experience AOM each year. In Southeast Asia, Indonesia has the fourth highest prevalence of ear disease at 4.6%. The other three countries with high prevalence are Sri Lanka 8.8%, Myanmar 8.4%, and India 6.3%.[3]

The prevalence of AOM in North Sumatra reached 2.2%, East Jakarta reached 5.38%. Although these figures come from limited studies in these areas, this information provides an initial picture of the incidence rate of AOM in the region.[1]

The exact reasons for AOM are not well understood by many parents. Information was provided to parents via health professionals, the Internet, intimate social contacts, and general practitioners. Few parents remember being given a thorough discussion of the advantages and disadvantages of AOM therapy choices. Many parents were misinformed about the causes of acute otitis media. The main reasons parents saw a general practitioner (GP) were to treat symptoms like pain and fever or to get reassurance about potential consequences. Many parents felt that taking antibiotics would prevent complications and speed up recovery. When their child was ill, the majority of parents sought information from their general practitioner (GP); nevertheless, other health experts, the internet, and strong social connections were also valuable sources of information. Not many parents remembered. [4]

There hasn't been much research done on what parents anticipate will happen when their child has acute otitis media, though, or how these expectations evolve. For the consultation to go as well as possible, general practitioners must be aware of the expectations and level of information

held by parents. If AOM is not managed well, it can lead to additional costs and the risk of complications that can potentially impair a child's development. Therefore, adults need to give extra attention and appropriate treatment to AOM to prevent its negative impact on children's health and development. The researcher felt the need to research kindergarten / elementary school teachers who are often in contact with students. The researcher chose teachers from Yayasan Gracia Sustain TK / SD Medan as the sample because kindergarten / elementary school teachers educate children who may also have indications of AOM, so if these teachers have a sufficient level of knowledge about AOM, it will be easier to identify and especially prevent it. The teachers are adults and understand better, and also interact a lot with children at school. So, teachers can participate in playing a role in educating about AOM disease.

This study set intended to investigate parents' attitudes and knowledge on treating their children's acute otitis media.

## **2 Method**

This study is a descriptive study that uses a cross-sectional analytic approach. Sampling is done using the Total Sampling method. The population that became the subject of this study were all teachers who worked at the Yayasan Gracia Sustain TK/SD Medan, with a total of 70 people.

The sample required for this study must meet the inclusion and exclusion criteria of the study. The inclusion criteria: is a teacher who works at Yayasan Gracia Sustain TK / SD Medan and is willing to fill out a questionnaire. The exclusion criteria: respondents did not fill out the questionnaire completely. The main data was collected through a questionnaire method which was distributed to all teachers of Yayasan Gracia Sustain TK/SD Medan. This questionnaire aims to explore the teachers' level of knowledge about AOM.

Furthermore, the level of knowledge is categorized into three, namely good category ( $>75\%$ ), moderate category ( $40-75\%$ ), and low category ( $<40\%$ ). Data analysis in this study were collected and analyzed with the IBM SPSS version 25 statistical program application.

## **3 Result**

From Table 1, the majority of teachers were in the age group of 21-25 years (34.3%), female (77.1%), Strata 1 (100.0%), and were married (52.9%).

**Table 1** The Characteristics of Respondents

Characteristics	Frequency (n)	Percentage (%)
Age (year)		
21-25	24	34.3
26-30	16	22.9
31-35	9	12.9
36-40	5	7.1
41-45	3	4.3
46-50	1	1.4
51-55	6	8.6
>55	6	8.6
Gender		
Male	16	22.9
Female	54	77.1
Education Level		
Strata 1	70	100.0
Marriage status		
Married	37	52.9
Not married	33	47.1

Table 2, shows that questions number 1 and number 5 received correct answers from all respondents, namely 70 people (100.0%). On the other hand, question number 8 was the most answered incorrectly with 62 people (88.6%).

**Table 2** Frequency Distribution of Knowledge about AOM

No	Questions	Knowledge			
		Right		Wrong	
		n	%	n	%
1	What do you know about acute otitis media (AOM)?	70	100.0	0	0
2	The characteristics of people with acute otitis media are?	29	41.4	41	58.6
3	The main precipitants of AOM are?	42	60.0	28	40.0
4	AOM (acute otitis media) is usually caused by?	67	95.7	3	4.3
5	Who is usually more susceptible?	70	100.0	0	0
6	Children are usually susceptible to acute otitis media at what age?	24	34.3	46	65.7
7	Why are babies also prone to acute otitis media (AOM)?	37	52.9	33	47.1
8	Acute otitis media (AOM) lasts for?	8	11.4	62	88.6
9	Acute otitis media (AOM) occurs due to a decrease in?	68	97.1	2	2.9
10	The main way to avoid ear infections is?	20	28.6	50	71.4

Table 3, shows that there were 7 respondents (10.0%) who have good knowledge, 63 respondents (90.0%) have moderate knowledge, and there are no respondents who have low knowledge.

**Table 3** Frequency Distribution of Respondents' Knowledge Level about AOM

Level of Knowledge	Frequency (n)	Percentage (%)
Good	7	10.0
Moderate	63	90.0
Low	0	0.0
Total	70	100

From Table 4, the majority of respondents who had good knowledge were in the age group of 26-30 years (33.3%), with moderate knowledge, the majority were in the age group of >55 years (95.8%) and there were no respondents who had low knowledge. The number of respondents who had the highest prevalence of artist moderate knowledge.

**Table 4** Frequency Distribution of Knowledge Level Based on Age

Age (year)	Good		Moderate		Low		Total	
	n	(%)	n	(%)	n	(%)	n	(%)
21-25	2	12.5	14	87.5	0	0.0	16	100.0
26-30	3	33.3	6	66.7	0	0.0	9	100.0
31-35	0	0.0	5	100.0	0	0.0	5	100.0
36-40	0	0.0	3	100.0	0	0.0	3	100.0
41-45	0	0.0	1	100.0	0	0.0	1	100.0
46-50	0	0.0	6	100.0	0	0.0	6	100.0
51-55	1	16.7	5	83.3	0	0.0	6	100.0
>55	1	4.2	23	95.8	0	0.0	24	100.0
Total	7	10.0	63	90.0	0	0.0	70	100.0

From Table 5, males and females both had the highest prevalence of moderate knowledge. 49 female respondents (90.7%) and 14 male respondents (87.5%) had a moderate knowledge.

**Table 5** Frequency Distribution of Knowledge Level Based on Gender

Gender	Good		Moderate		Low		Total	
	n	(%)	n	(%)	n	(%)	n	(%)
Male	2	12.5	14	87.5	0	0.0	16	100.0
Female	5	9.3	49	90.7	0	0.0	54	100.0
Total	7	10.0	63	90.0	0	0.0	70	100.0

Table 6, shows that 70 respondents (100.0%) have an education level of Strata 1. 7 respondents (10.0%) had good knowledge, and 63 respondents (90.0%) had moderate knowledge.

**Table 6** Frequency Distribution of Knowledge Level Based on Education Level

Education Level	Good		Moderate		Low		Total	
	n	(%)	n	(%)	n	(%)	n	(%)
Strata 1	7	10.0	63	90.0	0	0.0	70	100.0
Strata 2	0	0.0	0	0.0	0	0.0	0	0.0
Strata 3	0	0.0	0	0.0	0	0.0	0	0.0
Total	7	10.0	63	90.0	0	0.0	70	100.0

From Table 7, both married and unmarried have the highest prevalence at moderate knowledge, 32 (85.6%) respondents in married status and 31 (93.9%) respondents in unmarried status.

**Table 7** Frequency Distribution of Knowledge Level Based on Marriage Status

Marriage Status	Good		Moderate		Low		Total	
	n	(%)	n	(%)	n	(%)	n	(%)
Married	5	13.5	32	86.5	0	0.0	37	100.0
Not Married	2	6.1	31	93.9	0	0.0	33	100.0
Total	7	10.0	63	90.0	0	0.0	70	100.0

#### 4 Discussion

The results of the analysis showed that the majority, about 90.0% of the 70 respondents, had moderate knowledge. There is no previous research either in Indonesia or internationally that specifically examines the level of knowledge of Yayasan Gracia Sustain TK/SD teachers in Medan about AOM. However, some previous studies in Indonesia and internationally have examined related topics. The following are some studies that have examined related topics regarding AOM. Based on research by Deviana et al. [5] in 2023 found that Parents' knowledge, attitudes, use, and behavior towards AOM had moderate knowledge. Salsabila et al. [6] in 2022 found that the Level of Knowledge, Attitudes, and Practices of General Practitioners in West Java, Indonesia regarding Inflammation of the Middle Ear had the results of low knowledge.

These results are in line with the research of Deviana et al. [5] in 2023 where the level of knowledge about AOM is in the moderate category. However, these results differ from the results of research conducted by Salsabila et al. [6] in 2022 where the level of knowledge was in the low category. From Table 4, it was found that good knowledge was more in the age group of 26-30 years, and moderate knowledge was more in the age group of >55 years. However, in research by Deviana et al. [5] in 2023 it was found that good knowledge was more at the age of 48-57 years. This result is different from the theory put forward by Notoatmodjo [7] in 2018 that knowledge will increase with age. These results are in line with research conducted by Deviana et al. [5] in 2023, Alhaddad et al. [8] in 2020, Dabholkar et al. [9] in 2021, and Qasim and Bayunus [10] in 2017. It was found that the level of knowledge in the female gender was more at the good and moderate knowledge than the male gender. Alharbi et al. [11] 2019 stated that there is a significant relationship between female gender and knowledge. All teachers who have an education level of Strata 1 are in the medium category. This result is different from the research conducted by

Deviana et al. [5] in 2023 where good knowledge was more often found in teachers with a history of high education (academic and college). Alharbi et al. [11] 2019 state that respondents with a history of high education tend to have good knowledge. All respondents have understood what middle ear inflammation is (100.0%). This result is different from the results by Deviana et al. [5] in 2023, where the majority of respondents did not know what inflammation of the middle ear was (74.8%). The majority of respondents did not know the symptoms of AOM sufferers (58.6%), whereas only 41.4% knew that discharge from the ear was a symptom. These results are in line with research conducted by Deviana et al. [5] in 2023 and Qasim and Bayunus [10] in 2017. The majority of respondents knew the main triggers of AOM, namely acute respiratory infections (60.0%), and the causes of AOM (95.7%). These results are different from the results of research by Deviana et al. [5] in 2023 and Qasim and Bayunus [10] in 2017. Where in the research of Deviana et al. [5] in 2023, those who did not know the causes or risk factors for AOM were 47.3%, and in the research of Qasim and Bayunus [10] in 2017, respondents who knew the causes or risk factors for AOM chose the answers of upper respiratory tract infections as much as 16.0% and allergies as much as 15.3%. Most of the respondents did not know how to avoid AOM. Research conducted by Deviana et al. [5] in 2023 showed that the majority of respondents knew that AOM could be avoided (84.5%). However, these results differ from research conducted by Qasim and Bayunus [10] in 2017, where only 43.0% of subjects knew that AOM was a disease that could be avoided. In the Alharbi et al. study [12], Gender was significantly positively correlated with knowledge, attitude, and practice in women. Di Berardino et al. [13] discovered that when it came to managing ears and hearing, women knew more than males. The age range of the parents is under thirty to over sixty years old. Of the parents, 5 percent were older than 60, while the bulk (61.1 percent) were between the ages of 31 and 45. Participants' knowledge about ear infections was positively correlated with age ( $p\text{-value} < 0.05$ ). Furthermore, Mukara et al. [14] discovered no connection between parents' age group and their awareness of their children's ear infections. The parents' educational attainment was distributed as follows: 52.1 percent had completed secondary school, 39.8 percent had completed primary school, and 5.1 percent had completed vocational training. Education and participant knowledge of ear infections were positively linked ( $p\text{-value} < 0.05$ ). About half of the parents (48 percent) were aware of one ear infection symptom, and roughly one-third (34 percent). A lot of parents are confused about taking antibiotics with taking medication to treat symptoms. This result is consistent with Greek research where nearly 70% of parents mistook antibiotics for other medications used to treat upper respiratory infections in their children [15].

From these results, it is important to educate teachers by suggesting to organize periodic counseling from health professionals, such as doctors and nurses, which aims to increase respondents' knowledge about AOM. Counseling can be expected to help teachers become more competent in understanding, and detecting AOM, which in turn can be of great benefit to students' well-being. Teachers should be directed to seek out reliable sources of information on AOM. This

can be obtained from scientific papers, books, journals, medical literature, and health guidelines that can help teachers deepen their knowledge.

## 5 Conclusion

From the study, it was found that the prevalence of Yayasan Gracia Sustain TK/SD teachers in Medan about AOM was moderate knowledge. It is recommended to make periodic counseling from health personnel, such as doctors and nurses, aimed at increasing knowledge about AOM. Further research can be recommended to deepen the understanding of the level of knowledge and possibly other factors that contribute to the level of knowledge of teachers on the topic.

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