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Mothers' Knowledge and Self-Medication for Toddler Coughs: A Cross-Sectional Study at a Pharmacy in Tangerang Area (2024)

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Artikel Penelitian

Abstract: *Cough is a common symptom among toddlers, triggered by factors such as air pollution, weather changes, and allergies. In Tangerang, the prevalence of coughs in toddlers is notably high, leading many mothers to self-medicate their children. This study aims to assess the relationship between the mothers' knowledge and their self-medication behavior for treating toddler coughs at a pharmacy in Tangerang. This analytical observational study used a cross-sectional study involving 80 respondents. The data were collected through questionnaires, and univariate analysis was conducted to determine the frequency distribution of respondents by age, education, occupation, and sources of information regarding self-medication. Bivariate analysis using the Chi-Square method was employed to examine the relationships between these variables. The study found that most respondents were aged 18-44 years, with 38% having completed high school, 81.25% working as housewives, and 42.5% receiving information about self-medication from healthcare professionals. Despite 62.5% of the respondents having low knowledge about cough self-medication, 60% of them exhibited positive self-medication practices for treating coughs in toddlers. The analysis revealed no significant relationship between the mothers' knowledge levels and their self-medication behavior. In conclusion, the majority of mothers at Apotek Bintang Tangerang possess limited knowledge about self-medicating toddler coughs, yet they demonstrate positive self-medication behavior. Additionally, there is no significant correlation between their knowledge level and their behavior.*

Keywords: *Behaviour, Cough, Knowledge, Medicine, Self-medication*

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Abstrak: Batuk merupakan gejala umum yang sering dialami oleh balita, dipicu oleh berbagai faktor seperti polusi udara, perubahan cuaca, dan alergi. Di wilayah Tangerang, prevalensi kasus batuk pada balita tergolong tinggi, sehingga banyak ibu melakukan swamedikasi terhadap aknya. Penelitian ini bertujuan untuk menilai hubungan antara tingkat pengetahuan ibu dan perilaku swamedikasi batuk pada balita di sebuah apotek di wilayah Tangerang. Penelitian ini merupakan studi observasional analitik dengan desain potong lintang (*cross-sectional*) yang melibatkan 80 responden. Data dikumpulkan menggunakan kuesioner, kemudian dianalisis secara univariat untuk mengetahui distribusi frekuensi responden berdasarkan usia, pendidikan, pekerjaan, dan sumber informasi mengenai swamedikasi. Analisis bivariat dilakukan menggunakan metode *Chi-Square* untuk mengevaluasi hubungan antarvariabel. Mayoritas responden berusia antara 18–44 tahun, dengan 38% memiliki tingkat pendidikan terakhir

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SMA, 81,25% bekerja sebagai ibu rumah tangga, dan 42,5% memperoleh informasi tentang swamedikasi dari tenaga kesehatan. Meskipun 62,5% responden memiliki tingkat pengetahuan rendah mengenai swamedikasi batuk, sebanyak 60% menunjukkan perilaku swamedikasi yang positif dalam menangani batuk pada balita. Hasil analisis menunjukkan bahwa tidak terdapat hubungan yang signifikan antara tingkat pengetahuan ibu dan perilaku swamedikasi batuk pada balita. Sebagian besar ibu di Apotek Bintang Tangerang memiliki pengetahuan yang terbatas terkait swamedikasi batuk pada balita, namun menunjukkan perilaku swamedikasi yang positif. Selain itu, tidak ditemukan hubungan yang signifikan antara tingkat pengetahuan dan perilaku tersebut.

Kata kunci: Batuk, Obat, Pengetahuan, Perilaku, Swamedikasi

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Introduction

Coughing is a common symptom of Upper Respiratory Tract Infections (URTI) in toddlers, often triggered by environmental factors such as air pollution, weather changes, and allergies. According to data from 2023, the prevalence of cough in toddlers was estimated at 15% (1,2). The 2018 Indonesia Basic Health Research (RISKESDAS) reported a 4.4% prevalence of URTI among toddlers nationwide and a significantly higher rate of 22.09% in Tangerang (3).

Cough is one of the leading causes of outpatient visits among children and is often perceived by caregivers as a minor condition that can be managed at home. Over-the-counter (OTC) medications are widely accessible and commonly used for symptom relief, especially in households with limited access to immediate healthcare. Appropriate home management using OTC medication can help reduce unnecessary doctor visits, lower healthcare costs, and improve caregivers' autonomy in managing minor illnesses.

A study in 2013 found that 74.5% of housewives in Lampung practiced self-medication for symptoms like cough and cold (4). Another study revealed that 30.77% of respondents self-medicated for cough, with 14.3% doing so for their children (5,6). However, inappropriate self-medication may lead to irrational drug use and potential adverse effects. Knowledge plays a key role in determining whether self-medication is done appropriately. A 2015 study reported that 67% of self-medication practices were influenced by the respondent's level of knowledge (7). Research conducted in Depok found that many mothers had difficulty differentiating between types of cough medications, indicating low knowledge levels (8). Further, 51.45% of respondents had low knowledge about self-medication, and 56.2% had poor self-medication practices (9).

This study is the first to investigate the knowledge and self-medication behaviour of mothers treating toddler coughs at a pharmacy in Tangerang, which offers comprehensive self-medication services, including counseling and home care. The study aims to increase public awareness about proper self-medication and encourage health services to assess related issues.

Methods

This study used a cross-sectional method with an analytical observational study design. The inclusion criteria were all mothers who have toddlers aged 1-5 years and practice self-medication for their toddlers' coughs for any type of cough, as well as those who purchase cough medicine at Bintang Pharmacy in Tangerang.

The next inclusion criteria are mothers aged 18–60 years who are willing to sign informed consent. The exclusion criteria are respondents who work as healthcare professionals. The sample calculation in this study was performed using the Slovin formula to calculate the sample size within a population. The population was based on Pareto A data on OTC children's cough medicine sales at Bintang Pharmacy in Tangerang. From this data, it was found that the number of consumers who purchased cough medicine for toddlers in the last three months was 152 peoples. Using a margin of error of 10%, the calculated sample size was 60 -respondent. An additional 10% was added to the actual sample size to avoid sampling error, bringing the total sample size to 66 respondents. The dependent variable in this study is the accuracy of self-medication for cough medicine by mothers for toddlers. The independent variable in this study is mothers' knowledge. The confounding variables in this study are age, occupation, education, and sources of information.

This study was conducted from March to May 2024 at Bintang Pharmacy in Tangerang, located at Jaha Jatake Prapatan Jaha Kp, Gg. Kubur Bungaok, Caringin, Legok, Banten, West Java. The study was approved by the Ethics Committee of the School of Medicine and Health Sciences, Atma Jaya Catholic University of Indonesia, with the number 26/01/KEP-FKIKUAJ/2024. Data collection was carried out using a questionnaire via Google Forms and printed questionnaires. The link to the form was provided through a barcode scan available at Bintang Pharmacy in Tangerang. The questionnaire consisted of four components: an informed consent form, 6 items on respondent demographic data, 10 items assessing respondent knowledge about self-medication for toddler

coughs, and 10 items assessing respondent behavior regarding self-medication for toddler coughs. Questionnaire about self medication knowledge were awarded 1 point for each correct response and 0 points for incorrect answers. The results of respondents knowledge were classified into three categories: high (76%-100%), moderate (60%-75%), and low (<60%). Respondents filled out the questionnaire with the assistance of the researcher. The questionnaire was modified from Yulia's (2023) study and validated (10). The validity test was carried out using correlation tests with the SPSS instrument. The validity is considered valid if the calculated r-value is greater than the r-table, with a significance level of 5%. The reliability test was performed using Cronbach's Alpha, and it is deemed valid if the resulting value is greater than 0.6 (11). Validity and reliability tests were conducted using a questionnaire distributed to 40 respondents who practiced self-medication for coughs. The r-table value was 0.304 (which is less than the calculated r-value), and Cronbach's Alpha was 0.636 for the knowledge section and 0.622 for the behavior section of the questionnaire.

The data obtained from the respondents were then processed and checked for completeness by the researcher, followed by coding and entry into a computer program or software. Next, the data was checked to ensure no errors were made during data entry (12). Univariate analysis was used to describe each variable in the study, including the frequency distribution of respondents based on age, education, occupation, and sources of information regarding the accuracy of cough medicine use in self-medication (13). Bivariate analysis was used to determine the relationship between two variables to draw conclusions. A p-value of <0.05 indicates a significant relationship. Bivariate analysis can also be used to examine the odds ratio, which is the ratio of the odds to evaluate the relationship between two variables. The method used in the bivariate analysis in this study is Chi-Square (13).

Self-medication behavior was assessed using a Likert scale. The questionnaire featured two types of questions: positive (scored as follows: 1 = Strongly disagree, 2 = Disagree, 3 = Agree, 4 = Strongly agree) and negative (scored as 1 = Strongly agree, 2 = Agree, 3 = Disagree, 4 = Strongly disagree). Self-medication behavior was measured using the following formula: Y = highest score × number of questions; X = lowest score × number of questions

The highest score is 4, and the lowest score is 1, with a total of 10 questions. Positive or negative self-medication behavior can be calculated using the formula: Total Score /Maximal score × 100%. The resulting percentage is then categorized into two groups based on the median: Positive self-medication if > 75% and negative self-medication if < 75% (14).

Result and Discussion

The validity and reliability tests conducted on the questionnaire with 40 respondents were confirmed to be valid. The r-table value was 0.304 (which is less than the calculated r-value), and Cronbach's Alpha was 0.636 for the knowledge section and 0.622 for the behavior section of the questionnaire.

In this study, 80 respondents met the inclusion criteria. As presented in Table 1, all respondents were aged 18–44 years, with the majority having completed high school (47,5%), working as housewives (81.25%), and receiving information about self-medication from healthcare professionals (42.5%).

Tabel 1. Respondent Characteristics

Variable	*Total (n=80)*	*Percentage (%)*
Age		
18 – 44 years	80	100.0
45 – 59 years	0	0
>60 years	0	0
Education		
SD	6	7.5
SMP	23	28.75
SMA	38	47.5
Work		
Housewife	65	81.25
Private employee	9	11.25
Civil servant	6	7.5
Information sources		
Social media	26	32.5
Family and Relatives	20	25.0
Health professions	34	42.5

The results of the analysis regarding respondents' knowledge about self-medication for toddler coughs are divided into three groups: high, moderate, and low. Based on Table 2, the majority of respondents (62.5%) have low knowledge.The study at Bintang Pharmacy Tangerang revealed that the majority of mothers (62.5%) had low knowledge regarding self-medication for toddler coughs. This lack of knowledge is influenced by factors such as the educational background of the mothers, with most having only completed high school (47.5%). Research by Gayatri (2024) and Damayanti (2022) suggests that higher education correlates with better knowledge (15,16). Higher education is education pursued by an individual, including associate's degree, bachelor, master, specialist, and doctoral degrees offered by universities. High school or Senior High School is an educational level taken to prepare for higher education. Another factor that can influence mothers' lack of knowledge is employment. The majority of the respondent mothers at Bintang Pharmacy Tangerang are unemployed and are housewives. Darsini's (2019) research states that knowledge can be obtained from various sources of information, such as social media and personal or other' experiences (17). This is in line with Gustina's 2015 research, which found that people with jobs receive information more frequently, thus increasing their knowledge level (18).

Tabel 2. Characteristics of Respondents' Knowledge

Variable	Total (n=80)	*Percentage* (%)
Knowledge		
High	2	2,5
Moderate	28	35
Low	50	62,5

The results of the analysis on self-medication behavior for toddler coughs can be seen in Table 3, showing that the majority of respondents (60%) exhibit positive self-medication behavior for their toddlers' coughs. This positive behavior is influenced by external factors such as the environment and sources of information. The majority of the respondent mothers received information about self-medication from healthcare professionals. Therefore, the majority of respondents can exhibit positive behavior in self-medication. This is supported by Solehati's 2019 research, which states that sources of information are related to a person's behavior (19). Information sources can be obtained through various means, including the environment, social media, or healthcare professionals. Healthcare professionals are personnel with a health education background who provide healthcare services, such as doctors, nurses, and pharmacists. According to Alfarista's 2013 research, information received and processed in the brain can influence cognitive aspects, which will affect a person's behavior (20). Another factor that can influence positive self-medication behavior is the presence of healthcare professionals at the pharmacy. Bintang Pharmacy Tangerang is a pharmacy that offers self-medication services. There is one pharmacist and three pharmaceutical technicians on duty for each shift to provide drug information and counseling services to patients. According to Roseno's research, pharmacists are ideally positioned to make patients aware of rational drug use, especially in self-medication behavior (21). Positive self-medication behavior can be influenced by the pharmaceutical services provided by pharmaceutical staff.

Tabel 3. Respondents' Behavioral Characteristics

Variable	Total (n=80)	*Percentage* (%)
Knowledge		
Positive	48	60
Negative	32	40

In this study, the categories of the knowledge variable were combined. The "high" category was merged with the "moderate" category, resulting in two categories for the knowledge variable: "moderate" and "low" The results were then analyzed using Fisher's exact test, and the findings are as follows (Table 5). The results are similar to Table 4; there is no relationship between knowledge and self-medication behavior.

The relationship between mothers' knowledge of cough self-medication - and their self-medication behavior - was examined using

the chi-square test in the SPSS software. The analysis aimed to determine the relationship between the level of mothers' knowledge about self-medication for coughs and their self-medication behavior in toddlers (Table 4). There is no relationship between knowledge and self-medication behavior (p >0.05). These results are consistent with Novita's 2023 research, which found no significant relationship between knowledge and self-medication behavior for common colds, with a significance value of 0.206 (22). According to Notoadmojo (2014), behavior based on good knowledge will yield more consistent results compared to behavior not based on knowledge (23).

Table 4. Analysis of Knowledge Level Related to Cough Self-Medication

Research variable	Variable description	Behavior				Total		P-value
		Negative		Positive				
		n	%	n	%	n	%	
Knowledge	High	0	0	2	100	2	100	0,246
	Moderate	9	32,1	19	67,9	28	100	
	Low	23	46	27	54	50	100	

Table 5. Bivariate Analysis of Knowledge and Behavior

Research Variable	Variable Description	Behavior				Total		P-value
		Negative		Positive				
		(n)	(%)	(n)	(%)	(n)	(%)	
Knowledge	Low	23	46	27	54	50	100	0,238
	Moderate	9	30	21	70	30	100	

The study faced several limitations, including a lack of research on other influencing factors like socioeconomic and geographical aspects. Limitations also exist in the self-medication parameters, where self-medication behavior must follow a positive self-medication algorithm or appropriate self-medication guidelines. Another limitation is that the study was conducted only at a single Pharmacy, making it less representative of other populations.

Conclusion

The majority of mothers at Bintang Pharmacy in Tangerang have insufficient knowledge, yet they exhibit positive self-medication behavior for treating coughs in toddlers. This study demonstrates that there is no significant relationship between mothers' knowledge of self-medication for coughs and their self-medication behavior for treating coughs in toddlers at Bintang Pharmacy in Tangerang.

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Conflict of Interest

The authors declare no conflict of interest.

Referensi

1. Kementerian Kesehatan Republik Indonesia. Mengenali Gejala ISPA dan Tindakan yang Perlu Dilakukan [Internet]. Available from: https://ayosehat.kemkes.go.id/mengenali-gejala-ispa-dan-tindakan-yang-perlu-dilakukan
2. Direktorat Jenderal Pelayanan Kesehatan. Memahami Batuk [Internet]. Available from: https://yankes.kemkes.go.id/view_artikel/2522/memahami-batuk
3. Badan Penelitian dan Pengembangan Kesehatan. Laporan Nasional Riskesdas 2018. Jakarta: Lembaga Penerbit Badan Penelitian dan Pengembangan Kesehatan; 2020. 628 p. Available from: https://repository.badankebijakan.kemkes.go.id/id/eprint/3514/

4. Supardi S, Raharni R, Jamal S. Pola penggunaan obat, obat tradisional dan cara tradisional dalam pengobatan sendiri di Indonesia. Bul Penelit Kesehat. 2005 Jun 23;33:192–8.
5. Arrang ST, Cokro F, Sianipar EA. Rational Antibiotic Use by Ordinary People in Jakarta. MITRA J Pemberdaya Masy. 2019 May 21;3(1):73–82.
6. Ricardo MAE, Oktadoni O, Sidharti L. Swamedikasi pada Anak : Sebuah Tinjauan Pustaka. J Kesehat Dan Agromedicine. 2021 Dec 3;8(2).
7. Farizal F. Faktor-faktor yang Mempengaruhi Pasien Melakukan Swamedikasi Obat Maag di Apotek Bukittinggi. J Kesehat Perintis. 2015 Dec 21;2(4):275142.
8. Hubungan Pengetahuan Ibu dengan Perilaku Swamedikasi Batuk pada Balita di Posyandu Matahari Kecamatan Cimanggis Kota Depok | Indones J Med Sci.
9. Fuaddah AT. Description Of Self-Medication Behavior In Community Of Subdistrict Purbalingga, District Purbalingga. J Kesehat Masy. 2015 Mar 2;3(1):610–8. A
10. Yulia M, Aprillia A, Jamal R. Profil Pengetahuan Pasien Terhadap Swamedikasi Obat Batuk Di Apotek Kota Bukittinggi. SITAWA J Farm Sains Dan Obat Tradis. 2023 Jan 30;2(1):26–35.
11. Sufandi UU, Priono M, Aprijani DA, Wicaksono BA, Trihapningsari D. Uji Usability Fungsi Aplikasi Web Sistem Informasi Dengan Use Questionnaire (Studi Kasus: Aplikasi Web Sistem Informasi Tiras Dan Transaksi Bahan Ajar). J Pendidik Teknol Dan Kejuru. 2022 Apr 10;19(1):24–34.
12. Metodologi Penelitian Kesehatan Sc [Internet]. Available from: https://idoc.pub/documents/metodologi-penelitian-kesehatan-sc-d49gg77ye2n9
13. Heryana A. Analisis data penelitian kuantitatif. Penerbit Erlangga, Jakarta. 2020 Jun:1-11.
14. Riyanto; BA. Kapita Selekta Kuesioner: Pengetahuan dan Sikap dalam Penelitian Kesehatan. Salemba Medika; 2014. Available from: //digilib.fk.undip.ac.id/index.php?p=show_detail&id=32&keywords=
15. Gayatri NKWD, Suryaningsih NPA, Tunas IK, Ardinata IPR. Pengaruh Pengetahuan Orang Tua Terhadap Perilaku Swamedikasi Analgetika Di Kota Denpasar. J Cahaya Mandalika. 2023 Jun 20;4(3):98–110.
16. Damayanti M, Sofyan O. Hubungan Tingkat Pendidikan Terhadap Tingkat Pengetahuan Masyarakat di Dusun Sumberan Sedayu Bantul Tentang Pencegahan Covid-19 Bulan Januari 2021. Maj Farm. 2022 Apr 30;18(2):220–6.
17. Darsini D, Fahrurrozi F, Cahyono EA. Pengetahuan ; Artikel Review. J Keperawatan. 2019 Jan 28;12(1):13–13.
18. Gustina G. Gambaran Tingkat Pendidikan, Pekerjaan dan Pengetahuan Ibu terhadap Penimbangan Anak Usia 0-5 Tahun di Wilayah Kerja Puskesmas Paal X Kota Jambi Tahun 2015. Sci J. 2016;5(1):39–45.
19. Solehati T. Hubungan Sumber Informasi Dengan Pengetahuan Dan Sikap Siwa Sd Dalam Pencegahan Kekerasan Seksual. J Ilm Ilmu Kesehat Wawasan Kesehat. 2019 Feb 3;5.
20. Alfarista DA, Rahmawati I. Hubungan Sumber Informasi Dengan Perilaku Seksual Berisiko Remaja Di Kecamatan Sumbersari Kabupaten Jember. Artikel Ilmiah Hasil Penelitian. Mahasiswa. 2013.
21. Roseno M, Widyastiwi W, Alifia S, Rahmadhani MS. Behaviour of Community Pharmacy Service Provider towards Self Medication Services: Study in Two Cities in West Java. Pharmacon J Farm Indones. 2023 Dec 31;20(2):140–50.
22. Fitriyani NE, Widowati DA, Kholifah N. Hubungan Tingkat Pengetahuan terhadap Perilaku Swamedikasi Common Cold pada Siswa Farmasi di SMK Ma'arif Nu 2 Ajibarang. J Penelit Sains Dan Kesehat Avicenna. 2024 Jan 28;3(1):36–42.
23. Notoatmodjo; S. Promosi Kesehatan dan Perilaku Kesehatan : Edisi Revisi 2014. Rineka Cipta; 2014.