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The Influence of Parents' Knowledge Level on the Behavior of Paracetamol Syrup Use in the Community and Health Service Facilities in the City of Bandung

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Abstract

This study aims to determine the analysis of the influence between the level of knowledge on the behavior of using paracetamol syrup in parents in the community and health care facilities in the city of Bandung. The research method used was analytic-correlation in a cross sectional approach. The sampling technique used was accidental sampling. Data collection was carried out using a questionnaire with data analysis using the Spearman Rank correlation test. The results showed that the level of knowledge of parents or guardians in the community (community) and three health care facilities in Bandung City (Pharmacy, Clinic, Puskesmas) the majority had high knowledge (65.13%). The behavior of using paracetamol syrup in parents or guardians in the community (community) and three health care facilities (Pharmacies, Clinics, Puskesmas) the majority had very good behavior (67.58%). In this study, the level of knowledge affects the behavior of paracetamol syrup use in the community (community) and three health care facilities in Bandung City (Pharmacies, Clinics, Puskesmas). So that the better the knowledge, the better the behavior of using paracetamol syrup.

Keywords: Knowledge; Behavior; Paracetamol syrup.

INTRODUCTION

The issue of irrational drug use remains a global problem to this day. Irrational drug use is often encountered in daily practice, both through prescriptions and the use of drugs without a prescription. Lack of knowledge can lead to inappropriate behavior towards drug use, which in turn can be related to low drug effectiveness and drug resistance if antibiotics are used. In addition, this also has the potential to cause drug abuse such as irrational drug use. The consequences include side effects, drug poisoning, and even disorders. (Ministry of Health of the Republic of Indonesia, 2011).

The knowledge possessed by patients regarding drugs is one indicator that can be used to measure the quality of drug administration. According to research by Horvat and Kos (2015), as many as 93-100% of patients already know the general information and how to use the drugs received, but only 16% know the considerations for choosing the drug, and 20% of patients know the side effects. In a study conducted by Destiani *et al.*, (2018), the level of patient knowledge of drugs or doses was only 21%. This will have an impact on the community who will use drugs.

The problem of drug use that often occurs in society is the lack of knowledge about the correct and wise use of drugs. Independent drug use in Indonesia is very high and health workers do not provide complete information about the correct use of drugs (Ministry of Health, 2015). One of the drugs that is often used in independent drug use is paracetamol syrup. This is in line with Sholihah's research which states that paracetamol is also widely used in children to reduce fever (Sholihah, 2020).

The latest problem that has now emerged regarding syrup is that the Food and Drug Supervisory Agency has banned and found several syrup products containing EG (Ethylene Glycol) and DEG (Diethylene Glycol) which are suspected of triggering acute kidney

failure in children, which is the reason for the need for knowledge of the correct use of drugs in parents. With knowledge related to the correct use of drugs, it is hoped that it will be a supporting factor in reducing morbidity rates in diseases that are given independent therapy and also improving the quality of healthy life in the community.

Therefore, studying the level of knowledge is important, because people who have good knowledge have a positive influence on rational drug use behavior, so researchers aim to determine the relationship between the level of knowledge and the behavior of using paracetamol syrup in the community and health service facilities in Bandung City.

METHODS

This study was conducted in the community and three health service facilities (Pharmacy, Clinic, and Health Center) in Panyileukan District, Bandung City. The sample used in this study were parents/guardians, both male and female, aged 17-65 years who are currently and will use paracetamol syrup. This data collection was carried out with a cross-sectional approach using a questionnaire that had been tested for validity and reliability. This study aims to determine the correlation between knowledge and behavior of using paracetamol syrup in the elderly. In this study, the number of samples taken was calculated based on the Slovin sample formula. This study used the Spearman correlation. The Spearman Correlation Test is a non-parametric data analysis that can be used when the data is not normally distributed or the data is measured in the form of rankings, and does not have parameter information (Firdaus, 2020). The basis for decision making is based on probability values. If the p value <0.05 then there is a significant relationship between the variables or the hypothesis is accepted, but if the p value> 0.05 then there is no significant relationship between the variables or the hypothesis is rejected (Firdaus, 2020).

Evaluation of knowledge variable data is carried out by comparing the number of correct answer points and the expected points (highest) then multiplied by 100%. Respondents' knowledge of paracetamol syrup is classified into three categories, namely high knowledge if respondents answer the questionnaire with a score of 80-100%, moderate knowledge if respondents answer the questionnaire with a score of 60-79% and low knowledge if respondents answer the survey with a score <59% (Maharianingsih *et al.*, 2022). The main topics of the questionnaire in the knowledge variable are about the accuracy of indications, rules for taking medication, how to use medication, how to use medication, the dangers of using medication if expired, the dangers of using medication, contraindications, dosage and storage.

Meanwhile, to interpret the results of measuring drug use behavior, a Likert scale is used by calculating the index (%). The formula for calculating the index of each variable is (total score/maximum score) x 100. Then the assessment interval is determined into three categories, namely very good if the respondent answers the questionnaire with a total score of 80-100%, good if the respondent answers the questionnaire with a total score of 60-79%, and poor if the respondent answers the questionnaire with a total score <59% (Maharianingsih *et al.*, 2022). The drug use behavior questionnaire refers to the Theory of Planned Behavior (TPB) which has been used since 1986 as a theory and model in health behavior. This TPB method is divided into 3 dimensions, namely attitudes, perceptions of behavioral control and subjective norms (Kurniawati *et al.*, 2023).

RESULTS AND DISCUSSION

Respondent Characteristics

Respondents involved in the study were 258 parents or guardians (Table 1). The respondents came from different data collection locations, namely 58 respondents were parents or guardians who were buying paracetamol syrup for self-medication purposes at a Pharmacy in Bandung City, 50 respondents who received a prescription for paracetamol syrup at a Clinic in Bandung City, 50 respondents who received a prescription for paracetamol at a Community Health Center, and 100 respondents in one of the Sub-districts in Bandung City.

Table 1: Respondent Characteristics

Respondent Characteristics	F (n = 258)	%
Gender		
Male	194	75,2
Female	64	24,8
Age		
17-25	21	8,1
26-35	100	38,8
36-45	92	35,7
46-55	27	10,5
56-65	18	7,0
Education		
SD	11	4,3
SMP	29	11,2
SMA	130	50,4
College	88	34,1
Work		
Doesn't work	112	43,41
Work	146	56,59

Frequency Distribution of Knowledge Level

Frequency Distribution of Knowledge Level in Pharmacy

The level of knowledge regarding the use of paracetamol syrup in parents who visited a pharmacy in Panyileukan District, most of them had high knowledge, namely 38 respondents (63.8%). Meanwhile, the number of respondents with moderate knowledge was 16 respondents (27.6%) and the number of respondents with low knowledge was only 5 respondents (8.6%) (table 2).

This can be influenced by age, occupation, education, environmental factors, socio-culture (Notoatmodjo, 2012). In this study, the level of knowledge of respondents tended to be high because the last education of the majority of respondents had attended college, where according to Alduraibi's research (2022) the higher the level of education, the better the level of knowledge so that they are more careful about their health.

Table 2: Distribution of Knowledge in Pharmacy

Variable	Category	F	%
Level of Knowledge	High	38	65,5
	Medium	16	27,6
	Low	4	6,9
Total		58	100,0

In addition, knowledge can also be influenced by age where in this study the age limit for the sample is 17 years old where at that age a person begins to enter late adolescence. Late adolescence can be said that children at that time in terms of physical and intelligence have approached perfection (Haditono, 2006).

Frequency Distribution of Knowledge Level in Clinic

Table 3: Distribution of Knowledge in Clinic

Criteria	Frequency	Percentage
Low	4	8
Medium	18	36
High	28	56
Total	50	100

In this study, the majority of parents/guardians of child patients who were treated at the Panyileukan clinic had a relatively high level of knowledge (56%) (table 3). This can be caused by the education factor. where most parents/guardians have a high school/vocational high school education. Education plays an important role in increasing a person's knowledge of health issues. The level of education affects the ease with which a person absorbs and understands the knowledge they have acquired, and in general the higher a person's education, the better their knowledge.

Based on the results of the study, almost all parents/guardians of children who were treated at the Panyileukan clinic had a rational understanding in using paracetamol independently. This is because most respondents have met the criteria for rational drug use and have received the right information regarding drug use from pharmacists or pharmaceutical technicians. With rational use of drugs, it is hoped that the chances of recovering from the disease and avoiding adverse side effects can be greater.

Frequency Distribution of Knowledge Levels in Health Centers

Based on table 4. obtained the frequency distribution of knowledge about fever in children using paracetamol in the Health Center. Based on the results of the study it can be seen that 1 person (2%) has low knowledge, 16 people (32%) have moderate knowledge and 33 people (66%) have good knowledge.

Table 4: Distribution of Knowledge in the Health Center

Criteria	Frequency	Percentage
Low	1	2
Medium	16	32
High	33	66
Total	50	100

A person's level of knowledge is influenced by several things, namely education received well from the school environment, family or from other people. Can be obtained through various information media such as books, the internet and other mass media. The increasing age and knowledge of a person also affects the mindset that is increasingly developing. This is in accordance with what was found by Wawan and Dewi (2011), that the factors that influence a person's level of knowledge are education, work, age, environment and socio-culture.

These results show that respondents with higher education, the majority have quite good knowledge. The increase in respondents' knowledge about fever in children using paracetamol is in line with the increase in the respondent's level of education. This is in accordance with Notoadmodjo's theory (2007) which states that the higher a person's level of education, the better their knowledge.

Respondents with higher education have quite good and good knowledge more than respondents with basic education, but respondents with secondary education have quite good and good knowledge not much different from respondents with higher education. This shows that knowledge is not always absolutely influenced by education alone. In addition to education, knowledge can also be influenced by age, sources of information, social relationships, and experience (Notoadmodjo, 2007).

Based on the results of the study, researchers observed that in addition to education factors, there are likely social relationship factors and sources of information. Both factors greatly influence respondents' knowledge about fever in children using paracetamol.

Frequency Distribution of Knowledge Levels in Society

In this study, the majority of respondents were at a low level, namely 7%, this was influenced by several factors such as lack of information regarding knowledge of the use and storage of paracetamol syrup. Therefore,

efforts are needed to improve knowledge of the proper use of drugs in the Cipadung Kidul Community, Bandung City, such as communication, information and education about the proper use of paracetamol.

Table 5: Frequency distribution of Knowledge Level in the Community

Variable	Category	F	%
Level of Knowledge	High	73	73,0
	Medium	20	20,0
	Low	7	67,0
Total		100	100,0

Frequency Distribution of Drug Use Behavior

Frequency Distribution of Drug Use Behavior in Pharmacies

Drug use behavior in parents who visited one of the pharmacies in Panyileukan District had very good behavior, namely 35 respondents (60.3%), good behavior 17 respondents (29.9%) and respondents who had poor behavior were only 6 respondents (10.3%) (table 6). In this study, respondents tended to have very good drug use behavior, this is because respondents believe in the benefits of using drugs where the use of drugs is more practical than checking with other health facilities. Then the distance of the residence is close to the pharmacy so that respondents experience ease in using drugs. This is in line with Sari's research (2020) that people have good drug use behavior because it is cost-effective, saves time and the use of drugs is used as first aid before seeking treatment at other facilities. Furthermore, respondents believe that family members who suggest the use of drugs are the right thing to do so that it has a big impact on using drugs. In addition, the phenomenon of paracetamol syrup containing solvents such as propylene glycol which can potentially contain ethylene glycol (EG) and diethylene glycol (DEG) contamination with levels exceeding the specified requirements can trigger Atypical Progressive Acute Renal Failure (AGPA) in children causing parents to have very good drug use behavior (Maharianingsih *et al.*, 2022). This is in line with Kurniawati's research (2023) where the drug use behavior of patients is classified as high or very good.

Table 6: Frequency distribution of drug use behavior in pharmacies

Variable	Category	F	%
Drug Use Behavior	Very Good	35	60,3
	Good	17	29,9
	Not Good	6	10,3
Total		58	100,0

Frequency Distribution of Drug Use Behavior in Clinics

The behavior of drug use in the elderly who received a paracetamol prescription at the Clinic, the majority of whom had good behavior, amounted to 27 people (54.0%) (Table 7). The main factors influencing drug use behavior were previous experiences of illness and recommendations from friends and family based on their own experiences. Research conducted by Ha, Nguyen, & Nguyen (2019) also found that supporting factors in self-medication were previous experiences of illness and recommendations from close people.

Table 7. Frequency Distribution of Drug Use Behavior at the Clinic

Criteria	Frequency	Percentage
Not Good	1	2
Good	27	54
Very Good	22	44
Total	50	100

Frequency Distribution of Drug Use Behavior in Health Centers

From the results of filling out the questionnaire by 50 respondents, the frequency distribution of behavior regarding fever in children using paracetamol was obtained. Based on the research instrument score. Based on table 8. it can be seen that 7 people (14%) have good behavior, and 43 people (86%) have very good behavior.

Table 8: Frequency Distribution of Drug Use Behavior at the Health Center

Criteria	Frequency	Percentage
Not Good	0	0
Good	7	14
Very Good	43	86
Total	50	100

Frequency Distribution of Drug Use Behavior in Society

Based on the data analysis above, the behavior of parents in this study is mostly in the strongly agree category, as many as 80 respondents (80%). The research data obtained on parental behavior mostly has the strongly agree category, meaning that parental behavior towards independent drug use in the Cipadung Kidul Community, Bandung City is quite good. This study is in accordance with research conducted by (Maharianingsih, 2022) that the level of education and knowledge have the most influence on drug use behavior.

Table 9: Frequency Distribution of Drug Use Behavior in the Community

Variable	Category	F	%
Drug Use Behavior	Very Good	80	80,0
	Good	20	20,0
	Not good	0	0,0
Total		100	100,0

Relationship between Knowledge and Behavior
Relationship between Knowledge and Behavior in Pharmacy

Table 10: Relationship between Knowledge and Behavior in Pharmacy

Relationship	Sig.	Correlation Coefficient
Knowledge with Behavior	0.000	0.921

The relationship between Knowledge and Behavior obtained a significance value of 0.000, the value is <0.05, so H0 is rejected and H1 is accepted, which means that there is a relationship between Knowledge and drug use behavior. At a correlation coefficient of 0.921, it means that the level of closeness of the relationship (correlation) between the Knowledge and Behavior variables is 0.921 or falls into the very strong criteria. The correlation coefficient value is 0.921, where the value is positive, which means that the relationship between the two variables is in the same direction. Thus, it can be concluded that the higher the Knowledge, the Behavior will also be very good.

This study has the same results as Nurliana's study (2023) which states that there is a significant relationship between knowledge and the behavior of using fever medication in children. This is in line with Oktaviana's study (2017) which revealed that there is a significant relationship between knowledge and the rational use of paracetamol in self-medication. Likewise, the results of Maharianingsih's study (2022) which revealed that knowledge has a relationship to drug use behavior.

Knowledge is one of the components that influences a person's behavior. In drug use, the level of knowledge is very important to measure an individual's understanding of how to use drugs properly. (Lolita *et al.*, 2017). Several factors influence how knowledge is formed. Internal factors consist of things within the individual that influence the formation of knowledge, such as level of knowledge, age, personal experience, and how they socialize. External factors consist of things outside the individual that influence the formation of knowledge, such as the environment around the individual. In everyday life, knowledge can influence attitudes and behavior (Rosyidah & Zainal, 2020).

Relationship between Knowledge and Behavior in Clinic

Table 11: Relationship between Knowledge and Behavior in the Clinic

Relationship	Sig.	Correlation Coefficient
Knowledge with Behavior	0.000	0.379

Based on the results of the study, the Sig. value is 0.000 <0.05, thus it can be decided that H0 is rejected and H1 is accepted, which means that there is an influence between the level of knowledge and the behavior of using paracetamol syrup. At a correlation coefficient of 0.379, it means that the level of closeness of the relationship (correlation) between the Knowledge and Behavior variables is 0.379 or falls into the strong criteria.

This is in line with the research of Meinitasari (2021) which shows that there is a significant relationship in the same direction between the level of knowledge and the behavior of using antibiotics.

Relationship between Knowledge and Behavior in Health Centers

Table 12: Relationship between Knowledge and Behavior in Health Centers

Relationship	Sig.	Correlation Coefficient
Knowledge with Behavior	0.000	0.752

The relationship between knowledge and behavior at the Health Center was analyzed using the Spearman test where the results showed a sig value of 0.000. A sig value of less than 0.05 indicates that there is a significant influence of the level of knowledge on the behavior of paracetamol drug use in children at the Panyileukan Health Center. This is in line with research conducted by Pratiwi *et al.*, (2019) regarding the significant influence between knowledge, attitudes, and the ability to communicate drug information on drug use behavior.

As health workers, especially in the pharmaceutical field, they have a role as educators on information on how to use paracetamol in children in increasing respondent knowledge and can form positive attitudes and behaviors so that they can treat fever using paracetamol independently so that it can be controlled and also directed.

Relationship between Knowledge and Behavior in Society

Table 13: Relationship between Knowledge and Behavior in Society

Relationship	Sig.	Correlation Coefficient
Knowledge with Behavior	0.000	0.337

The results of this study are the same as Alduraibi's (2022) study that a person's level of knowledge will affect their ability in decision-making and public awareness, so that the community can behave according to their knowledge.

The results of the study showed that the p value was 0.000 <α = 0.05, which indicated that Ho was rejected, it can be concluded that there is a relationship

between the level of knowledge and the level of behavior in Cipadung Kidul Village, Bandung City. In addition, the correlation coefficient value of 0.337 indicates that there is a significant level of correlation between the knowledge and behavior variables.

CONCLUSIONS

The level of knowledge of parents or guardians in the community (society) and three health service facilities in Bandung City (Pharmacy, Clinic, Health Center) mostly have high knowledge category. The behavior of using paracetamol syrup medicine in parents or guardians in the community (society) and three health service facilities (Pharmacy, Clinic, Health Center) mostly have very good behavior category. In this study, the level of knowledge influences the behavior of using paracetamol syrup medicine in the community (society) and three health service facilities in Bandung City (Pharmacy, Clinic, Health Center). So the better the knowledge, the better the behavior of using paracetamol syrup medicine.

The limitations of this study are the lack of exploration of other factors that can influence the behavior of using medicine other than the level of knowledge and the limited time of the study was short so that it could not see changes in knowledge and behavior over time.

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