

THE RELATIONSHIP BETWEEN KNOWLEDGE LEVEL AND SELF-MEDICATION BEHAVIOR OF ANALGESIC DRUGS

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ABSTRACT

Self-medication is a method of self-treatment used to treat common ailments and minor illnesses without a doctor's prescription. Analgesics are among the most commonly used medications in self-medication. This study aims to determine the relationship between knowledge levels and analgesic self-medication behavior in the Nampu Village community, Purwodadi City. Data were collected using a cross-sectional design with random sampling. The sample size was 98 respondents. Questionnaire data were analyzed using the Spearman rank-sum test. The study was conducted from March to May 2025. The results showed that 19 (19.4%) respondents had good knowledge, 43 (43.9%) had sufficient knowledge, and 36 (36.7%) had poor knowledge. Regarding analgesic self-medication behavior, 57 (58.2%) had good knowledge, 28 (14.8%) had sufficient knowledge, and 13 (6.9%) had poor knowledge. In the Spearman rank correlation test, a correlation coefficient of 0.330 was obtained with a p-value of 0.018, indicating a significant relationship between the level of knowledge and self-medication behavior regarding analgesic drugs. Keywords: Analgesics, Community, Behavior, Self-medication, Level of Knowledge.

Keywords: analgesics; behavior; level of knowledge; self-medication society

INTRODUCTION

Health is one of the most important aspects of life, when someone is sick, they will try to get well again. Common ways people try to recover include seeing a doctor or self-medicating. Self-medication is the most common approach people take before seeking care from a healthcare professional (Sriyatul Adawiyah, 2017). Self-medication is a method of treatment performed independently to address common minor ailments and symptoms experienced by the general public, such as fever, pain, dizziness, cough, flu, stomachaches, intestinal parasites, diarrhea, skin conditions, and others (Restiyono, 2016). Self-medication also carries a number of risks, particularly in developing countries where the population is less educated about health issues and tends to prefer using inappropriate medications (Muhammad Rifki, 2024).

Self-medication behavior is influenced by several factors, including perceptions of illness, the availability of medications on the market, and access to accurate information about their use; one aspect that impacts self-medication behavior itself is the level of knowledge (Ahmed et al., 2020). The level of knowledge is the most critical factor in shaping an individual's behavior, because the higher the level of knowledge, the better's self-medication behavior (Pratiwi, 2024). Data from the Central Statistics Agency indicates that the percentage of the population engaging in self-medication in Indonesia in 2021 (84.23%), 2022 (84.34%), and 2023 (79.74%), while in Central Java in 2021 (83.91%), 2022 (82.55%), and 2023 (73.30%). This data indicates that the public prefers to self-medicate rather than seek healthcare services (Central Bureau of Statistics, 2024).

Pain relievers, or analgesics, are among the most common used medications for self-medication. Non-opioid analgesics include acetylsalicylic acid, paracetamol, and NSAIDs (*nonsteroidal anti-inflammatory* drugs) such as ibuprofen, sodium diclofenac, mefenamic acid, and piroxicam, which are pain relievers or analgesics commonly used in self-medication (Ilmi *et al.*, 2021).

Nampu Village is located in Purwodadi City, where the majority of residents work as farmers. The residents of Nampu Village have only completed elementary or junior high school, so their lack of understanding about medications especially analgesics has led to several cases of analgesic misuse in Nampu Village, Purwodadi City. People in this village typically purchase pain relievers, such as paracetamol, Bodrex Ekstra, Oskadon, and Paramex, at pharmacies or small shops to treat muscle aches or pain excessively after work in the fields without considering the side effects of the medication they take. Residents of Nampu Village in Purwodadi usually take this medication every day so that the pain they feel after working in the fields goes away.

METHOD

The research method used in this study is a quantitative descriptive method with a *cross-sectional* research design. The study population for this research consists of the entire community of Nampu Village in Purwodadi City. The research was conducted from March to April 2025.

The population for this study consisted of the entire community of Nampu Village in Purwodadi City. The sample for this study consisted of a subset of the community in Nampu Village, Purwodadi City, comprising 98 respondents who met the inclusion criteria. The inclusion criteria for this study were residents of Nampu Village, Purwodadi City, Ages 17–50, residents of Nampu Village, Purwodadi City, who can read and write, residents of Nampu Village, Purwodadi City, who were willing to participate as respondents; residents of Nampu Village, Purwodadi City, who had previously self-medicated and consumed

RESULT AND DISCUSSION

Respondent Characteristics

The respondent characteristic data in this study include age, gender, and work in the fields again, but there are also people who rely on medication, so every time they head out to work in the fields, they have to take their medicine first in order to be able to work; otherwise, they will feel dizzy, weak, and unable to work at full capacity. analgesic medication. The exclusion criteria were: residents of Nampu Village, Purwodadi City, aged under 17 – 50 years; residents of Nampu Village, Purwodadi City, who could not read or write; residents of Nampu Village, Purwodadi City, who were unwilling to participate as respondents; residents of Nampu Village, Purwodadi City, who were unwilling to participate as respondents.

The sampling technique used in this study was *random sampling*. *Random sampling* is a method of selecting a sample from a population that is carried out randomly without regard to the strata within that population (Sugiyono, 2019). This study employed univariate and bivariate analyses. Univariate analysis. The univariate analysis used was descriptive; bivariate analysis is an analysis that is conducted to test the relationship between two variables that are suspected to be correlated or related (Notoatmodjo, (2018). In this bivariate analysis, the *Spearman rank correlation test* was used. gender, education, and occupation. The classification of respondents based on their characteristics aims to obtain information regarding the identity of the respondents who were the subjects of the study. The results of the data are described as follows:

Table 1
Frequency Distribution Data of Respondents

Respondent	Total (%)
Age	17-30 Years
	55 (56,1%)
	31-40 Years
Gender	19 (19,4%)
	41-50 Years
	24 (24,5%)
Highest Level Of Education	Female
	69 (70,4%)
Occupation	Male
	29 (29,6%)
	Elementary
	12 (2,2%)
	Junior High School
	37 (37,8%)
Occupation	Senior High School
	22 (22,4%)
	Vocational High School
	25 (25,5%)
	Bachelor
	2 (2%)
	Housewife
Occupation	41 (66,3%)
	Private Sector Employee
	41 (66,3%)
	Farmer
	36 (19,4%)
	Teacher
Occupation	9 (12,2%)
	Shopkeeper
	1 (1%)
Occupation	Not Yet Working
	10 (10,2%)

Table 1 shows that the number of respondents who self-medicated with analgesics in this study was 55 (56.1%) for those aged 17–30 years, 19 (19.4%) for those aged 31–40 years, and 24 (24.5%) for those aged 41–50 years. Individuals aged 17–30 are in the process of adjusting to a new lifestyle, social responsibilities, and their role as independent members of society. They begin to develop greater awareness and knowledge regarding their own and their family’s health, making self-medication a more common practice (Hurlock, (2011). People aged 17–30 are part of the productive age group who are actively working, attending college, or engaging in intense physical activity; as a result, their busy schedules often lead to complaints such as headaches, muscle pain, or fatigue and tend to opt for quick fixes, such as taking painkillers to relieve symptoms like pain so they can resume their activities (Central Statistics Agency, 2021). People aged 17–30 can be considered adults, so their thinking is more mature and they often make decisions on their own (Ardianto *et al.*, (2023)

Table 1 shows that, among the respondents who self-medicated with analgesics in this study, 69 (70.4%) were female and 29 (29.6%) were male. The results of this study are consistent with the research conducted by Meliza(2022), which found that a higher proportion of women self-medicate with analgesics compared to menn. Women are more likely to self- medicate with analgesics due to biological factors (pain sensitivity), social factors (their role as family health managers), and habits (experience and access to medication), with women showing higher rates of over-the-counter medication use than men (Central Bureau of Statistics, Health Statistics, 2021).

Based on Table 1, the educational levels of the respondents practicing self-medication with analgesics in this study were as follows: elementary school (SD), 12 respondents (12.2%); junior high school (SMP), 37 respondents (37.8%); senior high school (SMA), 22 respondents (22.5%); vocational high school (SMK), 25 respondents (25.5%); and bachelor's degree (S1), 2 respondents

(2%). These data indicate that educational level influences the decision-making process regarding the rational use of medication. Adequate knowledge influences public self-medication behavior in terms of maintaining a healthy lifestyle and administering treatment rationally (Susanti et al., 2022). Educational level is directly proportional to the level of health knowledge; individuals with a secondary education tend to possess a basic understanding of analgesic use but lack in-depth knowledge regarding appropriate dosages, side effects, contraindications, and usage instructions (Notoatmodjo Soekidjo, 2010).

Based on Table 1, the occupations of the respondents who practiced analgesic self-medication in this study were as follows: housewives (n=41; 66.3%), private-sector employees (n=36; 19.4%), farmers (n=9; 12.2%), teachers (n=1; 1%), and the unemployed (n=10; 10.2%). These findings align with the study conducted by Meliza (2022), which identified housewives and those in other categories as the largest group (n=79; 45.14%). Housewives engage in self-medication more frequently due to their social role as managers of family health and their child-rearing responsibilities; additionally, limited time and access to healthcare services lead them to choose self-treatment as a practical solution (Hurlock, 2011). Housewives often rely on personal experience or recommendations from family and neighbors when using medication. They are also more influenced by advertisements or information from drugstores rather than medical consultations, making analgesic self-medication the primary solution for minor pain complaints such as headaches, muscle pain, or menstrual cramps (Depkes RI, 2008).

The characteristics of the respondents based on the analgesic drugs used for self-medication in this study are as follows:

Table 2:
Characteristics of Self-Medication Drugs Previously Used

Over-the-Counter Medications Previously Used	Number (%)
Paracetamol	65 (66.3%)
Ibuprofen	19 (19.4%)
Mefenamic acid	12 (12.2%)
Sodium Diclofenac	2 (2%)
Total	98 (100%)

Based on Table 2, the analgesic drugs used for self-medication were paracetamol (used by 65 or 66.3% of respondents), ibuprofen (19 or 19.4%), mefenamic acid (12 or 12.2%), and diclofenac sodium (2 or 2%). These results align with research conducted by Oktaviani (2024), which found paracetamol to be the most frequently used drug for self-medication. Paracetamol is an over-the-counter (OTC) drug that is relatively safe when used at the recommended dosage, making it easily accessible to the public without a doctor's prescription (Katzung, 2017). It is an effective analgesic-antipyretic for relieving mild to moderate pain (such as headaches, muscle pain, and menstrual cramps) and reducing fever. Paracetamol is considered safer because it does not cause gastric irritation, making it a primary choice for self-medication (Mulyono, 2012). As an OTC drug and a medication permitted for sale in pharmacies without a prescription (OWA), it can be obtained at pharmacies as well as at local shops in Nampu Village, Purwodadi City, without a doctor's prescription (Ilham et al., 2024). Ibuprofen and mefenamic acid are used less frequently due to concerns regarding gastric side effects (Goyal et al., 2017).

Based on the data obtained, the overall level of knowledge among the residents of Nampu Village, Purwodadi City, is as follows:

Table 3
Respondent Criteria Based on Knowledge Level

Level of Knowledge	Percentage
Good	19 (19,4%)
Fair	43 (43,9%)
Poor	36 (36,7%)
Total	98 (100%)

Based on Table 3, it is evident that the majority of the community in Nampu Village, Purwodadi City, Central Java, falls into the "poor" category regarding their knowledge of analgesic self-medication (43 individuals, or 43.9%). This result aligns with research conducted by Meliza (2022) in Trembulrejo Village, Blora, which showed that the majority of respondents (72.40%) possessed "fair" knowledge. An individual's level of knowledge is heavily influenced by their education level, experience, and the information they receive. Knowledge not grounded in valid sources tends to result in misconceptions or only partial understanding (Notoatmodjo Soekidjo, 2010). A low level of knowledge can be attributed to several factors, such as limitations in facilities and infrastructure, costs, a lack of information regarding the medication obtained, and a low level of formal education. Regarding analgesic self-medication, the knowledge level of the Nampu Village community is dominated by the "fair" category. Knowledge levels are influenced by various factors, including education, information or mass media, experience, age, gender, and occupation (Riyanto, 2013).

Based on the data obtained, the overall self-medication behavior of the residents of Nampu Village, Purwodadi City, is as follows:

Table 4
Respondent criteria based on self-medication behavior

self-medication behavior	Percentage
Good	57 (58,2%)
Fair	28 (14,8%)
Poor	13 (6,9%)
Total	98 (100%)

Based on Table 4, it can be seen that the majority of self-medication behaviors of analgesics among the residents of Nampu Village, Purwodadi City, fall into the good category, namely 52 (58.2%). Respondents who performed self-medication behaviors well were based on .past experiences with successful treatment outcomes and the perception that the condition being treated is mild, as well as the convenience, speed, and relatively low cost of the treatment. Suboptimal self-medication practices may arise when individuals fail to read medication labels or consult pharmacists or pharmacy staff regarding the drugs they are taking; such oversights can lead to medication errors (Efayanti et al., 2019). The study results indicate that the majority of respondents demonstrated good self-medication practices regarding analgesics. Behaviors grounded in knowledge tend to be superior and more appropriate than those lacking such knowledge (Notoatmodjo, 2012). Good health-related behavior is not merely a matter of action; it is also underpinned by knowledge and a positive attitude toward the risks and benefits associated with those actions (Notoatmodjo, 2010).

The results of the test regarding the relationship between the level of knowledge and analgesic self-medication behavior yielded a calculated r-value of 0.330 and a significance value (p-value) of 0.018. Since the p-value is less than 0.05, it can be concluded that there is a significant relationship between the level of knowledge and analgesic self-medication behavior; however, the correlation value of 0.330 falls into the low category according to the classification by Sugiyono (2019), which states: 0.00 - 0.25 : very low; 0.26 - 0.50 : moderate; 0.51 - 0.75 : strong; 0.76 - 0.99 : very strong; 1 : perfect.

Research conducted by Kassie (2019) indicates that the public's level of knowledge influences self-medication behavior; however, it is not the sole dominant factor. Other contributing factors include personal experience, family or environmental influences, over-the-counter medication advertisements in the media, access to informal health information, and levels of education and socioeconomic status. Consequently, while efforts to improve public knowledge regarding analgesic use must continue, they should be accompanied by other educational and promotional interventions—such as village-level outreach, information dissemination by healthcare professionals, and restrictions on misleading medication advertisements (Kassie et al., 2018). These findings align with research conducted by Melizsa (2022), which identified a relationship between knowledge levels and analgesic self-medication behavior. Other studies similarly suggest that the relationship between knowledge and analgesic self-medication behavior is significant; specifically, when the public possesses good knowledge regarding analgesic self-medication, then the quality of public behavior regarding self-medication will improve accordingly; conversely, if the public possesses low knowledge regarding analgesic self-medication, their behavior in practicing such self-medication will also be poor (Pratiwi, 2024).

CONCLUSION

Regarding the level of knowledge concerning analgesic self-medication among the residents of Nampu Village, Purwodadi City, the majority (43 or 43.9%) fell into the "sufficient" category; meanwhile, regarding analgesic self-medication behavior, the majority (57 or 58.2%) fell into the "good" category. Based on the Spearman rank correlation test results, a significance value of 0.018 (< 0.050) was obtained, indicating a relationship between the level of knowledge and analgesic self-medication behavior among the residents of Nampu Village, Purwodadi City.

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