

# Public Knowledge on Over the Counter Analgesics at Private Pharmacy Store in Makassar City Indonesia

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## Abstract

**Objectives:** To determine the level of public knowledge of Makassar City on the use of Analgesics Over the Counter (OTC) drugs in the self-medication to pain treatment and also determined the role of the pharmacist in providing information about OTC to the community.

**Method:** This research is a quantitative approach cross-sectional study using a questionnaire which has been modified and validated. The sampling method used is incidental sampling by distributing questionnaires to the respondents that conducted in 3 Private Pharmacy Store in the city of Makassar.

**Result:** From 215 questionnaire, 200 were filled in correctly and analyzed (respond rate 93%). Paracetamol generic is the most popular analgesic (54.5%) of the questioned respondent prefer it to relieve the pain (Headache). More than 53% of respondent did not know how to take medicine and 60.5% of respondent were not read brochure before taking medicine. The respondent more confidence with doctor and family recommendation than the pharmacist in consultation.

**Conclusion:** The level of knowledge about the use of analgesic drugs Makassar city community still low and the role of the pharmacist as a source of drug information providers needs to be improved.

**Keywords:** Knowledge, Analgesics, OTC, Pharmacy.

## Introduction

Self-medication is the treatment of common health problems with medicines especially designed and labeled for use without medical supervision and approved as safe and effective for such use<sup>1</sup>. Medicines for self-medication are often called 'nonprescription' or 'over the counter' (OTC) and are available without a doctor's prescription through pharmacies<sup>2</sup>. When practiced correctly, self-medication can save the time spent in waiting to see a doctor, may be economical and also offer savings for medical schemes and the national

healthcare system. The WHO has also pointed out that responsible self-medication can help prevent and treat ailments that do not require medical consultation and provides a cheaper alternative for treating common illnesses<sup>3</sup>. With self-medication, the individual bears primary responsibility for the use of self-medication products. All parties involved in self-medication should be aware of the benefits and risks of any self-medication product<sup>4</sup>.

More over, the consumers are not aware of the safety of these drugs and its frequent use may result in various adverse effect. It is the part of patients to read out the label packaging instructions for OTC medications to know how much one should take, the possible side effect that may encounter and the various condition and drug interactions should be considered before taking OTC drugs. Pharmacist and drug companies will have an increasingly important role in giving information and advices to the patients<sup>5</sup>.

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Analgesics are the most widely and frequently used non-prescription medications. There are many analgesic drugs, dosage forms and analgesic therapeutic procedures available today. This will certainly also persist in the future, since there will never be a single analgesic drug suitable for all patients and all types of pain because of considerable inter-individual variability in the effect of analgesics. Even a respected analgesic drug will not relieve pain in all patients<sup>6</sup>.

Urge of self-care, feeling of sympathy towards family members in sickness, lack of health services, poverty, ignorance, misbelieves, extensive advertisement and availability of drugs in other than drug shops are responsible for growing trend of self-medication<sup>7</sup>. Previous studies have confirmed that among the other age groups, OTC medicines are purchased and more often used by elderly patients who frequently have multiple comorbid diseases, and therefore use polypharmacy. As a result, drug-drug interactions between OTC and prescription medicines (Rx) may occur. While patients are aware of possible drug-drug interactions between Rx medicines, patient knowledge regarding interactions between OTC and Rx medicines has not been well studied, although the occurrence of the aforementioned interactions has been described as frequent<sup>8,9</sup>.

Self-treatment of common illnesses by people is common in developing countries. Common reasons cited for self-medication are inaccessibility of health care facilities, economic constraints and previous experience of illness. Positive and responsible attitudes towards self-care and self-medication are spreading throughout the world. There is a demand by consumers for more information and particularly for reliable sources of information about healthcare in general and medicines in particular. In a comprehensive survey, members of patients' organizations expressed their strongest agreement with the need for improving healthcare systems through accurate, relevant and comprehensive information, to help them make informed decisions about treatment. Today the internet is emerging as a major source of information on health issues and (with appropriate quality control) offers great promise in helping people with self-care<sup>10</sup>.

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Study on self-medication shows that it is influenced by many factors such as education, family, society, law availability of drugs and exposure to advertisements. A high level of education and professional status has been mentioned as predictive factor for self-medication. Pharmacist can play very important and active role in advising and educating consumers on the correct use of OTC analgesics. It is essential that the practicing pharmacists have information about patients' preferences, habits and individual experience in OTC analgesics in order to improve and rationalize their use<sup>11</sup>.

## **Materials and Method**

This research is a quantitative approach cross sectional study using a questionnaire (Lefterofa and Getov, 2004) which has been modified and validated with the permission of the manufacturer's questionnaire. The sampling method used is incidental sampling by distributing questionnaires to the respondents. The sampling technique used in this study is a sampling method that is incidental sampling technique based on chance, that anyone who accidentally/incidentally met with investigators can be used as a sample, when viewed people who happen to encounter it suitable as a data source Further data collection and statistical analysis.

## **Results and Discussion**

**Result:** The result were based upon the data capture from 200 patients. The prevalence of self-medication was reported as percentages. Of the 215 questionnaires distributed, 200 (93.00%) were answered and the rest were probably ignored by the patients and noticed a certain difficulty in answering.

## Discussion

According to the demographic of the respondent characteristic, distribution of respondents by gender can be seen in Table 1. The majority of respondents were female as much as 128 respondents (64%), while male respondents as much as 72 respondents (36%). Distribution of respondents by age of the respondents is shown in Table 2. The majority of respondents were in the age group of 21-30 years as many as 64 respondents (32%) and the 61-70 age group are in the minority as much as 11 respondents (6%). This is due to the majority of people who visit the city of Makassar pharmacies that are in the age range 21-30 years. Distribution of respondents by education level of respondents can be seen in Table 3. The majority of respondents are at the level of high school education/equivalent as much as 111 respondents (55.5%). Based on the data obtained in table 3., the visitors pharmacies mostly work as a student and a housewife who had high school/equivalent.

The results of analysis based on long-term use OTC analgesics on the respondents as shown in Table 4. shows 57 respondents (28.5%) Long-term use of analgesics. Anti-inflammatory steroids used in high doses and for a long period can cause serious side effects on the gastrointestinal tract. In the stomach, COX - 1 produces prostaglandin (PGE2 and PGI2) that take action to keep the gastric mucosa. Nonselective NSAIDs inhibit COX-1 and COX-2, because of these NSAIDs reduce prostaglandin cytoprotective effects, these drugs often cause serious side effects in the upper gastrointestinal, including GI bleeding and ulcer. NSAIDs also likely to cause nephrotoxic. This is due to prostaglandin PGE2 and PGI2 is a powerful vasodilator involved in the control of renal blood flow and excretion of salt and water. Inhibition of renal prostaglandin synthesis may cause sodium retention, decreased renal blood flow and renal failure, especially in patients with conditions associated with catecholamine release vasoconstrictor and angiotensin II (eg, congestive heart failure, cirrhosis). In addition, NSAIDs may cause interstitial nephritis and hyperkalemia. Long-term abuse of analgesic for many years associated with papillary necrosis and chronic renal failure.

In Table 4. shows that the majority of respondents often experience headaches as many as 89 respondents (44.5%). According to the results of interviews with respondents, one of the causes of headaches they experienced because of the effect of changes in employment and erratic weather in the city of Makassar

lead to headache accompanied by fever (influenza symptoms). In table 5, can be seen the healing of headaches experienced by respondents relieved by taking a generic paracetamol. One cause of many community people using generic paracetamol in pain management because these drugs earlier known to the public. This is according to the data (table 11) that the resources that they get the most from the experience of the family, in other words that they get the information from generation to generation.

The results of the analysis by the parties suggested the respondent to use analgesics can be seen in Table 7. shows the majority of respondents were 86 respondents (43%) get advice from a doctor. This shows that the people of the city of Makassar are increasingly aware of health. If the pain it will go to the doctor and ask for advice from a medical expert for treatment. In addition to asking the advice of medical experts, according to the second largest number of 60 respondents (30%) ask for advice from others in this family. This is because the tribal customs Bugis-Makassar has a sense of high concern among families with each other.

Based on the data obtained 8. tables majority of respondents obtain drug information from the physicians as much as 43 respondents at 21.5%, followed by obtaining information from the family as much as 42 respondents at 21%. This proves that the level of trust in the family is still greater than the trust of the medical experts. But not so significantly different that differ only 0.5%.

In Table 6, data showed that the majority of people taking the drug did not read the brochure first (60.5%). This means that the level of public awareness is still low. This proves the lack of attention from medical experts in providing information about the importance of the rules of use of OTC analgesics. This proves the lack of role and the attention of medical experts in providing information related to the drug. Drugs information service which is the duty of the pharmacist cannot run well. The importance of reading the brochure for the use of OTC analgesic drug that is not in accordance with the rules of use can cause serious side effects.

Data from table 8, which highlighted the role of the pharmacist as a primary source of information that only 12% of drugs. This data is still far from the 21% physician role as a conduit of information medicine. The role of pharmacists simplest is to educate the public so that the drugs appropriately. What is meant here is

how to take the drug if the drug is taken before or after meals, as well as how to give the right. Therefore, as pharmacists, need to convey to the public the importance of reading the brochure for the use of OTC analgesic drug that is not in accordance with the rules of use can cause serious side effects.

### Conclusion

**Based on the data obtained, it can be concluded that:**

1. The level of knowledge about the use of analgesic drugs Makassar city community still low.
2. The role of the pharmacist as a source of drug information providers needs to be improved.

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### References

1. Awad A, Al-Rabiy S, Abahussain E. Self-Medication Practices among Diabetic Patients in Kuwait. *Med Princ Pract* [Internet]. 2008 [cited 2019 Apr 17];17(4):315–20. Available from: <https://www.karger.com/Article/FullText/129612>
2. Gupta VK, Gupta CD, Patel JR. Assessment of awareness and attitudes towards Over-The-Counter (OTC) drugs amongst urban population: a questionnaire based Study. *Res J Pharm Biol Chem Sci*. 2012;3(2):1037-41.
3. Sontakke SD, Bajait CS, Pimpalkhute SA, Jaiswal KM, Jaiswal SR. Comparative study of evaluation of self-medication practices in first and third year medical students [Internet]. Vol. 2, *International Journal of Biological & Medical Research Int J Biol Med Res*. 2011 [cited 2019 Apr 17]. Available from: [www.biomedscidirect.com](http://www.biomedscidirect.com)
4. Henry J, Handu S, Khalid A, Khaja A, Sequeira R. Evaluation of the Knowledge, Attitude and Practice of Self-Medication among First-Year Medical Students. *Med Princ Pract* [Internet]. 2006;15(4):270–5. Available from: [http://www.agu.edu.bh/research/paper\\_info.aspx?paperid=798](http://www.agu.edu.bh/research/paper_info.aspx?paperid=798)
5. Subin MZ, Vidya V, Halima OA, Geethu G, Devika N. MONITORING THE SAFETY ASPECTS OF OVER THE COUNTER MEDICATIONS [Internet]. Vol. 2012, *IRJP*. 2012 [cited 2019 Apr 17]. Available from: [http://familydoctor.org/familydoctor/en/drugs-procedures-devices/over-](http://familydoctor.org/familydoctor/en/drugs-procedures-devices/over-the-counter-analgesics-use)
6. Lefterova A, Getov I. STUDY ON CONSUMERS' PREFERENCES AND HABITS FOR OVER-THE-COUNTER ANALGESICS USE [Internet]. Vol. 12, *Cent Eur J Publ Health*. 2004 [cited 2019 Apr 17]. Available from: <https://cejph.szu.cz/pdfs/cjp/2004/01/09.pdf>
7. Scholars Research Library. M saleem, C.Dilip CS, A.K A. Der pharmacia lettre. [Internet]. Vol. 3, *Der Pharmacia Lettre*. Scholars Research Library; 2011 [cited 2019 Apr 17]. 91-98 p. Available from: <https://www.scholarsresearchlibrary.com/abstract/self-medication-with-over-the-counter-drugs-a-questionnaire-based-study-2971.html>
8. Sihvo S, Klaukka T, Martikainen J, Hemminki E. Frequency of daily over-the-counter drug use and potential clinically significant over-the-counter-prescription drug interactions in the Finnish adult population. *Eur J Clin Pharmacol* [Internet]. 2000 Sep [cited 2019 Apr 17];56(6–7):495–9. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/11049013>
9. Olesen C, Harbig P, Barat I, Damsgaard EM. Absence of 'over-the-counter' medicinal products in on-line prescription records: a risk factor of overlooking interactions in the elderly. *Pharmacoepidemiol Drug Saf* [Internet]. 2013 Feb [cited 2019 Apr 17];22(2):145–50. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/23097415>
10. Verma RK, Mohan L, Pandey M, Rohit M, Verma K. Evaluation of self medication among professional students in North India: proper statutory drug control must be implemented [Internet]. Vol. 3, *Asian Journal of Pharmaceutical and Clinical Research*. 2010 [cited 2019 Apr 17]. Available from: <https://innovareacademics.in/journal/ajpcr/Vol3Issue1/270.pdf>
11. Gavronski M, Volmer D. Safety concerns in simultaneous use of prescription and 'over-the-counter' medicines- results of patient survey in Estonia. *Springerplus* [Internet]. 2014 Dec 17 [cited 2019 Apr 17];3(1):143. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/25674444>