Open Access Library Journal
2024, Volume 11, e11761
ISSN Online: 2333-9721
ISSN Print: 2333-9705

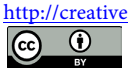
Factors Associated with Self-Medication in the VAP Health Area of Kampemba Health District in the Democratic Republic of the Congo

Erick Ngoy wa Mwamba[1], Keren Nkulu Mulenda[2], Bienfait Mwarabu Much'apa[3], Simon Ilunga Kandolo[3*]

[1]School of Public Health, University of Manono, Manono, Democratic Republic of the Congo
[2]School of Public Health Alumni, University of Lubumbashi, Lubumbashi, Democratic Republic of the Congo
[3]School of Public Health, University of Lubumbashi, Lubumbashi, Democratic Republic of the Congo
Email: *silungak@gmail.com, *ilunga.kandolo@unilu.ac.cd, *Profsimonilunga@gmail.com

How to cite this paper: Ngoy wa Mwamba, E., Nkulu Mulenda, K., Mwarabu Much'apa, B. and Ilunga Kandolo, S. (2024) Factors Associated with Self-Medication in the VAP Health Area of Kampemba Health District in the Democratic Republic of the Congo. *Open Access Library Journal*, **11**: e11761.
https://doi.org/10.4236/oalib.1111761

Received: May 29, 2024
Accepted: July 26, 2024
Published: July 29, 2024



Abstract

Introduction: The World Health Organization (WHO) defines responsible self-medication as the practice by which individuals treat ailments and conditions with medicines that are approved and available without a prescription and that are safe and effective once times used according to instructions. The objective of this work is to contribute to the fight against self-medication by the population of the VAP health area of the Kampemba health district in the Democratic Republic of Congo. **Methodology:** We conducted a cross-sectional descriptive study and the population of our study is made up, on the one hand, of 176 heads of households from the VAP health area of the Kampemba health district in the Democratic Republic of Congo. The data was collected using a questionnaire. **Results:** The following results were observed: Sex ($p = 0.04$), marital status ($p = 0.04$) and level of education ($p = 0.001$) are factors associated with self-medication; the most represented age group was that between 33 and 37 years old (52/176) or 29.55% followed by 28 and 32 (26/176) or 14.77%. And, the average age was 41 years old; the female gender was dominant (53%); 74.43% were married followed by 21 or 11.93% single; 60 heads of households or 34.09% were state agents compared to 38 or 21.59% in the private sectors; 20.83% of household heads had consumed more anti-inflammatories and painkillers with 58.3% compared to 2.5% with anti-infectives. Out of 176 heads of households, it appears that 120 heads of households practiced self-medication. **Conclusion:** Self-medication remains a major public health problem. Regulations in the purchase of medicines as well as awareness raising remain necessary to fight against this practice which has many consequences including drug poisoning and resistance to antibiotics.

Subject Areas

Public Health

Keywords

Self-Medication, Associated Factors, Kampemba, Lubumbashi

1. Introduction

Nowadays, resorting to self-medication is an increasingly common practice. It is nevertheless not without risk, and more particularly for the elderly, considered to be more vulnerable. In fact, they are generally more likely to experience adverse effects following taking medications, or even to experience interactions with other treatments. Despite these findings, we noticed a significant lack of information relating to their practices and representations related to self-medication [1].

According to a study carried out in France on drug prescription in general medicine, 70% are waiting for drugs in at least one case, 33% are waiting for them in cases of nasopharyngitis and bronchitis, and 15% in all three cases. 73% of respondents are looking for something other than simple advice whatever the situation. 67% do not resort to self-medication in any of these cases. The qualitative survey of 26 patients randomly selected from six general practitioners shows very high patient confidence in their treating doctor and his prescriptions. Medicine has a very positive representation for the most part: healing power, relief, safety, and confirmation of sickness. It is also a right for some and a bargaining chip. Few accept its replacement by advice if the doctor considers it useful and sufficient [2].

In Belgium, the use of self-medication is an increasingly common practice; between 2012 and 2016, the market share of self-medication among the entire pharmaceutical market increased from 32.3% to 39.6%, an increase of 7.3%. Self-medication is nevertheless not without risk, and more or particularly for the elderly [2].

In Morocco, in the city of Fez, the prevalence of self-medication is 77.67%, of which 53.76% are women. Adults between 18 and 45 years old are the most consumers, *i.e.* 59.60%. The least users of these drugs are people with the lowest level of education. Analgesics (paracetamol) are the most used products. The main causes leading to self-medication are lack of time, lack of money and advice from the pharmacist. Indeed, trust in pharmacist advice was the main source of self-medication, more than half (57.95%) [3].

In the study of A. Hounsa *et al.* on the self-medication of antibiotics from private pharmacies in the city of Abidjan in Ivory Coast, the results showed that 1123 purchases of antibiotics were observed, including 242 purchases made for self-medication (21.5%) [4].

A study on the use of self-medication in rheumatology, its prevalence and its

associated factors indicates that the use of self-medication was 73.3% and was motivated by dissatisfaction with treatment in 60%, by the advice of a relative in 11.1% and financial limits in 2.3% of cases [5].

The study of Gbeasor-Komlanvi *et al.* was conducted on the evaluation of self-medication in Lomé. They show that 1310 subjects whose median age was 32 years (interquartile range, (IIQ): [25 - 40] years) participated in the study and among them 30.92% had health insurance. The prevalence of self-medication was 80.28% (95% confidence interval, 95% CI: [77.99 - 82.38]). But the respondents mainly obtained analgesics (64.76%), antimalarials (41.66%) and antibiotics (33.88%) as part of self-medication. The reasons given for the practice of self-medication were knowledge of the disease, lack of its seriousness and lack of money. Factors associated with self-medication were lack of health insurance ($p < 0.0001$), age over 32 ($p = 007$) and lack of money ($p = 0001$) [6].

The epidemiological investigation focuses on self-medication in the Wilaya of Jijel. The authors of this study found that in a sample of 18 doctors and dentists, 15 veterinarians, 40 citizens and 30 pharmacists. Anti-infectives 53%, anti-inflammatories 17% and hormones 15% are the first three classes of the most consumed human and veterinary drugs. And, 85% of respondents declared having resorted to self-medication. This behavior is more common among people aged between 22 - 42 years; the drugs most affected by self-medication are associated with headaches 33% which belong to the therapeutic group of anti-inflammatories 23%. Unconsumed medicines are subsequently found in the environment with 60% in household trash [7].

In Kisangani, the third city in the Democratic Republic of Congo, self-medication accounts for 90% of malaria treatment. (Atoba Bokele *et al.*, 2013). While in the capital city Kinshasa, a study carried out at university clinics on self-medication indicates a prevalence of self-medication of 59.6% [8].

In Lubumbashi, a study carried out on the prevalence and characteristics of self-medication among students aged 18 to 35 residing at the Kassapa Campus of the University of Lubumbashi. The researchers reveal that out of 515 students consulted, self-medication had a prevalence of 99% with a portion of the subjects having started in adolescence (35%). 78.8% of respondents recognize that self-medication can lead to therapeutic failure through dose errors, unsuitable treatment, side effects and diagnostic errors. This practice is accepted as long as it allows the management of presumed benign and known illnesses or symptoms with the advantages of discretion and saving time and money. Malaria (82.4%), fever (65.5%) and headaches (65.5%) constitute the three main causes. Amoxicillin (98.2%), paracetamol (97.5%), ascorbic acid (91.6%) and quinine (79.4%) are the first four most consumed drugs [9].

In developing countries, infectious diseases remain the leading causes of morbidity and mortality. This situation could explain the use of large quantities of antibiotics observed in these countries. However, other factors are involved, including the wide availability of antibiotics in the community through different sources such as parallel drug markets and private pharmacies. In these latter plac-

es, antibiotics can be obtained without a medical prescription even though this practice is illegal. These practices described above may encourage inappropriate use of these medications through self-medication. Antibiotic self-medication is characterized by unjustified treatment at 22.4%, inappropriate choice of antibiotic at 25.8%, use of insufficient doses and inadequate treatment duration. Inappropriate use of antibiotics increases the risk of selection of resistant bacteria leading to the emergence of bacterial resistance. In addition, resistant bacterial strains spread quickly between individuals in environments where sanitary conditions are poor [4].

2. Methodology

This is a cross-sectional descriptive study going from September 2 to October 17 (*i.e.* one month) of the year 2022.

2.1. Study Population and Sampling

The population of our study consists of heads of households in the VAP health area of the Kampemba health district in the Democratic Republic of Congo. So, we have two study populations.

Concerning the heads of households, we used simple random sampling which allowed us to constitute a sampling base (list) from which all the households in the health area concerned by our study were included.

To determine the number of respondents, we considered the following characteristics:

n: desired sample size;

p: the prevalence of self-medication is 90% according to a study on the socio-economic determinants of self-medication with antimalarials in Kisangani in the Democratic Republic of the Congo;

e: precision parameter set to 5% or 0.05;

t: 1.96 is the typical value associated with the required 95% confidence level.

$N = 1.96^2 (p(1 - P))/e^2 = 1.96^2 (0.9 (1 - 0.9))/0.05^2 = 138$. And to increase our size, we added the non-response rate to 10%. Thus, the sample size is estimated at 176.

The 176 heads of households were selected randomly using the random function of the Excel software based on our survey list. As a limitation, in most cases we experienced resistance from certain household heads to collect information. certain targeted plots could not be included in our sample.

2.2. Data Collection and Analysis

We drew up a questionnaire based on which the data was collected.

The data were encoded using Microsoft Excel software, analyzed using Excel and Epi Info version 7.

2.3. Ethical Considerations

We ensured confidentiality, informed (verbal) consent and autonomy during

our investigation.

3. Results

In this section, we will present the results and interpretations of our study addressing the factors associated with self-medication, and our results are presented in the form of tables and figures.

Table 1 shows that the most represented age group was between 33 and 37 (52/176) or 29.55% followed by 28 and 32 (26/176) or 14.77%. The average age was 41 (±11 years).

Table 1. Distribution of heads of households by age.

Age	Frequency	Percentage
23 - 27	14	7.95
28 - 32	26	14.77
33 - 37	52	29.55
38 - 42	23	13.07
43 - 47	7	3.98
48 - 52	17	9.66
53 - 57	17	9.66
58 - 62	12	6.82
63 - 67	7	3.98
68 - 72	1	0.57
Total	**176**	**100.00**

In Table 2, it appears that the female gender was dominant (52.84%). and the sex ratio was 1.1 female to male.

Table 2. Distribution of heads of households by sex.

Sex	Frequency	Percentage
Female	93	52.84
Male	83	47.16
Total	**176**	**100.00**

In Table 3, it appears that self-medication among heads of households was 68.18%.

Table 3. Distribution of heads of households according to the practice of self-medication.

Pratique	**Frequency**	**Percentage**
No	56	31.82
Yes	120	68.18
Total	**176**	**100.00**

Table 4 shows that less serious illness (71/120) or 59.17% was the main reason for favoring heads of households to take pharmaceutical products without medical advice.

Table 4. Distribution of heads of households according to reasons for taking pharmaceutical products without medical advice.

Reasons	Frequency	Percentage
Family responsibility	14	11.67
Chronic disease	1	0.83
Less serious illness	71	59.17
Lack of money	22	18.33
Bad treatment received in health facilities	12	10.00
Total	**120**	**100,00**

Table 5 shows that 50.83% of household heads consumed 0 to 3 pharmaceutical products without going to a health facility compared to 1.67% with 8 to 11. And, the average number of drugs consumed was 4.

Table 5. Distribution of heads of households according to the number of medications by illness episode without going to a health facility.

Number of medications consumed	Frequency	Percentage
0 - 3	61	50.83
4 - 7	57	4750
8 - 11	2	1.67
Total	**120**	**100,00**

It appears from Figure 1 that anti-inflammatories and painkillers are the most used (58.3%) followed by vitamins and others (20.8%).

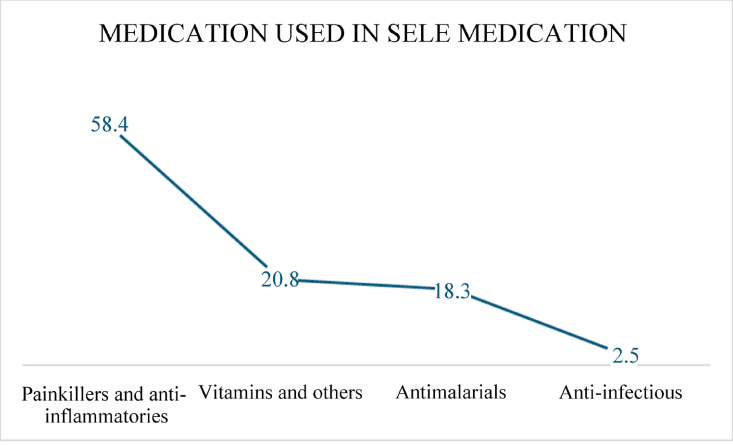


Figure 1. Distribution of heads of households according to the medication used in self-medication.

The average income per head of household was 233,821 ± 232,933 USD. Most heads of household had an income of 100 USD, and the minimum income per head of household was 75 USD (See Table 6).

Table 6. Distribution of costs expended by heads of households by episode of illness as well as monthly income in dollars.

Characteristics	Minimum	Mean (±SD)	Median	Maximum
Monthly income (USD)	75	233.4105 ± 232.933	177.5	200
Product cost per illness episode (USD)	2.5	4.7685 ± 4.35	3.5	25

Compared to the costs of products used per illness episode, the average cost was 4.7685 ± 4.35 USD. And, most household heads had spent $5; the maximum cost was $25.

Table 7 shows us that there is a statistically significant association between self-medication and gender (P-value = 0.04), marital status (P-value = 0.04) as well as the level of instruction (P-value = 0.001).

However, occupation has no statistically significant association with self-medication (P-value = 0.09).

Table 7. Factors associated with self-medication in the VAP health area of the Kampemba health district in the democratic republic of Congo.

	Self-medication Practice			
Variables	**Yes**	**No**	**Chi2**	**P-value**
Sex				
Female	57 (61.3%)	36 (38.7%)	4.3	0.04*
Male	63 (75.9)	20 (21.4)		
Marital status				
Lives as a couple	95 (72.5%)	36 (27.5%)	4.4	0.04*
Does not live as a couple	25 (55.6%)	20 (44.4%)		
Occupation				
Not occupied	14 (58.8%)	12 (46.2%)	2.9	0.09
Busy	106 (70.7%)	44 (29.3%)		
Educational level				
Primary	22 (100%)	0 (0%)	14.5	0.001*
Secondary	36 (56.3%)	28 (43.8%)		
University	62 (68.9%)	28 (31.1%)		

Legend: *: Significant.

4. Discussion

This study focused on the factors associated with self-medication in the VAP health area of the Kampemba health district. Requesting medication without a medical prescription from the pharmacy is common behavior and shared by many people; this is what we call self-medication, a well-known and widespread social phenomenon.

It was difficult for us to calculate the prevalence of self-medication in the VAP health area because the Kampemba Health District, like other Health District in the city of Lubumbashi, is experiencing a large-scale rural exodus that the health services The State in charge of statistics is unable to estimate the number of households. To recall, the country had its last census in 1984. We observed that the proportion of self-medication practice in our sample is 68.18%.

Our questionnaire was addressed to the head of the household (Man or woman found during our investigation) who had experienced at least one case of illness during the last three months preceding our study. All drugs used were modern medicine.

The prevalence of self-medication in our study is 68.18% as **Table 3** indicates.

In our study, the most represented age stratum of household heads was that understood between 33 and 37 years (52/176) or 29.55 % followed by that understood between 28 and 32 (26/176) or 14.55. 77 % as indicated by **Table 1**. The mean age was 41 years with a standard deviation of 11 years. These results are different from those found by Gbeasor-Komlanvi *et al.* with the average age of 32 years [6]. This difference may be justified on the fact that self-medication tends to increase with age. This could be explained by the fact that this age group is more professionally active in the Democratic Republic of Congo.

Table 2 indicates that the female gender was dominant (53%). These results are like that found by Gbeasor-Komlanvi *et al.* in Lomé with the predominance of the female gender with 53 % [6]. This female predominance could be explained by the fact that in the context of our study, men are often at work and women stay at home to take care of the household and the survey took place during working hours and men should only be absent.

Our study shows that less serious illness (71/120) or 59.17% was the main reason having pushed household heads to take pharmaceutical products without medical advice (**Table 4**).

Concerning the number of drugs consumed without attending a health training, it varied between 0 and 3 pharmaceutical products per illness episode in 50.83% of the cases (**Table 5**). This is in contradiction with the results found by Ndol *et al.* showing that the number of drugs consumed in self-medication varied between 1 and 7 (In DRC) [8].

Pharmaceutical products consumed by patients without reaching a sanitary structure were painkillers and anti-inflammatories with 58.3% followed by vitamins and others with 20.8%. Our results are like those found by Ndol *et al.* (In DRC) finding that the most used pharmaceutical products were analgesics and

antipyretics (44.3%), non-steroidal anti-inflammatory drugs (NSAIDs) (26.3%), antimalarials (20.6%) and the antibiotics (**Figure 1**). This can be explained by the fact that fever accompanied by malaria remains the main problem that pushes household heads to use pharmaceutical products without undergoing health training and the most used because of its availability on the market [8].

Table 6 shows us that the average income per household head was 233,821 (± 232,933 USD). The Maximum income was 200 USD while the minimum was 75 USD. Our results corroborate those found by Atoba Bokele *et al.* [10].

The factors associated with self-medication are gender (p-value = 0.04), marital status (p-value = 0.04) and level of education (p-value = 0.001). Our results contradict those of Nessib *et al.* Which found that in rheumatology self-medication recourse was not associated with either sex (p = 0.5), or level of education (p = 0.6) (**Table 7**). This can be explained by the fact that our two studies took place in different settings (Study Environment) [5].

5. Conclusions

This study carried on the factors associated with self-medication in Kampemba health district. It is a cross-sectional descriptive observational epidemiological study that was conducted among household heads to identify factors associated with self-medication.

Out of 176 household heads, it comes out that 120 household heads practiced self-medication with 68.18%.

Self-medication remains to this day a real public health problem in the VAP health area in Kampemba health district. An awareness is needed to put an end to this scourge.

Self-medication remains a real public health problem and it has many consequences: Drug intoxication, the abuse of antibiotics which contributes to antibiotic resistance… We suggest:

1) A law be passed by parliament prohibiting the purchase of certain medications without a medical prescription;

2) All pharmacies be listed;

3) Health education based on good medication practice be carried out using communication for behavior change as a communication strategy.

Conflicts of Interest

The authors declare no conflicts of interest.

References

[1] Mouton, E. (2019) Pratiques, représentations, et autres facteurs en lien avec l'automédication chez les personnes âgées de 65 ans et plus en Wallonie : Une étude qualitative exploratoire. Ph.D. Thesis, Université catholique de Louvain. http://hdl.handle.net/2078.1/thesis:19887

[2] France-Garet, A. (2011) Prescription médicamenteuse en médecine générale: Les attentes des français en cas de pathologies bénignes. Enquête d'opinion évaluant la

demande de traitement médicamenteux des Français. Ph.D. Thesis, UHP-Université Henri Poincaré.

[3] El Yallouli El Idrissi El Mehdi (2016) La pratique de l'automédication: Enquête dans la ville de Fès au Maroc. Master's Thesis. Mohammed V University in Rabat. http://biblio.medramo.ac.ma/opac_fmp/index.php?lvl=author_see&id=25708

[4] Hounsa, A., Kouadio, L. and De Mol, P. (2010) Automédication par les antibiotiques provenant des pharmacies privées de la ville d'Abidjan en Côte d'Ivoire. *Médecine et Maladies Infectieuses*, **40**, 333-340. https://doi.org/10.1016/j.medmal.2009.10.002

[5] Ben Nessib, D., Benbrahim, A., Maatallah, K., Ferjani, H., Triki, W., Kaffel, D., *et al.* (2021) Le recours à l'automédication en rhumatologie: Prévalence et facteurs associés. *Revue du Rhumatisme*, **88**, A299. https://doi.org/10.1016/j.rhum.2021.10.511

[6] Komlanvi, F.A., Zida-Compaore, W.I.C., Tairou, S. and Ekouevi, D.K. (2017) Evaluation de l'automédication dans les officines de Lomé, Togo. *Journal de la Recherche Scientifique de l' Université de Lomé*, **19**, 411-421.

[7] Abdelllouche, N., Aklouche, R., Kenioua, A. and Zouaghi, M.F.E. (2020) Enquete épidémiologique sur l'automédication dans la Wilaya de Jijel. Ph.D. Thesis, Université de Jijel.

[8] Mbutiwi Ikwa Ndol, F., Lepira Bompeka, F., Dramaix-Wilmet, M., Meert, P., Malengreau, M., Nseka Mangani, N., *et al.* (2013) L'automédication chez des patients reçus aux urgences médicales des Cliniques Universitaires de Kinshasa. *Santé Publique*, **25**, 233-240. https://doi.org/10.3917/spub.132.0233

[9] Chiribagula, V.B., Mboni, H.M., Amuri, S.B., kamulete, G.S., Byanga, J.K., Duez, P., *et al.* (2015) Prévalence et caractéristiques de l'automédication chez les étudiants de 18 à 35 ans résidant au Campus de la Kasapa de l'Université de Lubumbashi. *Pan African Medical Journal*, **21**, Article 107. https://doi.org/10.11604/pamj.2015.21.107.5651

[10] Atoba Bokele, C., Batina Agasa, S., Kayembe Tshilumba, C., Kazadi Musakayi, D., Lutumba, P. and Tshomba Oloma, A. (2013) Determinants socio-economiques de l'automedication aux antimalariens à Kisangani/RD Congo. *Revue Médicale des Grands Lacs*, **2**, 299-313.