

Prevalence and cardiovascular risk of self-medication in urban area of Tebessa (Algeria) population

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Abstract

Self-medication is a very common and alarming practice practiced by many people and can pose health risks, which awakens the importance of knowing this practice among all groups of society and cardiovascular risks it may entail on their health. This study aims to identify the extent of the prevalence of self-medication among the population in the urban areas of the city of Tebessa (Algeria). A quantitative cross-sectional descriptive study was conducted on 200 volunteers of different ages, with data collected from the application of models. The data was analyzed using Microsoft Office Excel 2013. The results showed that the studied population data showed a predominance of females, educated and married people. The practice of self-medication was spread by 90%. The results confirmed that the reason for self-medication lies mostly in avoiding paying the price of treatment and the lack of time to visit a doctor, with a percentage of more than 24 %. The results also showed that the symptoms related to self-medication lie mostly in pain and cold, with the presence of several side effects of this self-medication. The results also showed that the majority of drugs consumed in self-medication lie in the anti-cold medicines section, with the identification of personal knowledge and medicines as a means of knowing the medicine. In conclusion, it is assumed that knowing the cardiovascular risks and reasons that self-medication or even unsafety may cause when starting to take a drug without medical guidance is one of the factors affecting not self-treatment.

Keywords : Self-medication, drugs, cardiovascular risk, anti-pain, Tebessa

Introduction

A drug "is any substance or composition presented as having curative or preventive properties with regard to human or animal diseases, as well as any product that can be used in humans or animals or that can be administered to them, in order to establish a medical diagnosis or to restore, correct or modify

their physiological functions by exerting a pharmacological, immunological or metabolic action” [1].

According to the World Health Organization (WHO), the free consumption of drugs or self-medication consists of an individual having recourse to a drug, on his own initiative or that of a loved one, with the aim of treat a condition or symptom that he has identified himself, without having recourse to a health professional [2]. This consumption particularly affects adults over the age of 40. Indeed, the use of painkillers and anti-inflammatories increases with age and it is estimated that, at any given time, 80% of people over the age of 40 are taking painkillers and anti-inflammatory treatments in developed countries [3]. Over-the-counter (OTC) drugs, available without a prescription, are considered by health professionals and the general population to be safe products with few adverse effects . Over-the-counter (OTC) drugs, available without a prescription, are considered by health professionals and the general population to be safe products with few adverse effects [4].

Medicines must meet standards for storage and use. However, non-compliance with these standards can have socio-sanitary consequences on the lives of consumers on everything when using self-medication without the advice of doctors and without a prescription (Poisoning, organic malformations, cancers, unexplained deaths, environmental pollution, etc.) [5].

Self-medication is defined as "the use without medical prescription, by people for themselves or for their relatives and on their own initiative, of drugs considered as such and having received marketing authorization with the possibility of assistance and advice from pharmacists” [6]. Self-medication generally targets fairly benign problems first (pain, fatigue, insomnia, cough, constipation, minor allergies, colds, flu, etc.). It is also used by patients who, out of modesty, do not want to show their symptoms to the doctor. It is a process of empowerment of the patient in relation to the doctor [7]. The aim of this study is to determine the factors determinants of this practice, as well as to identify the factors determinants of this practice and provide information on the hazards that self-medication may entail in Tebessa people while taking into account the risk factors of this practice.

Methodology

This is a quantitative cross-sectional descriptive study conducted in voluntary peoples with 17 to 90 years living in the urban area of tebessa (Algeria). The Tebessa state is located in the north east of Algeria, 600 km from Algiers. It is bordered to the north by the wilaya of Souk Ahras, to the south by the wilaya of El Oued, to the east by Tunisia and to the west by the wilaya of Oum El Bouaghi and the wilaya of Khenchela (figure 1) [8].

This study complied with all ethical principles related to research with human beings according to Resolution, and was approved by the local Ethics Committee No. (35 EC/CMB/FNSL/EU2021) of of the Department of Cellular and Molecular Biology, Faculty of Natural Sciences and Life,

University of El Oued, Algeria. Inclusion criteria were: Age greater than 17 years; and be resident in the urban area of the Tebessa . Were excluded from the study all those who refused to sign the Informed Consent (IC); patients with mental disorders with difficulties to understand the research and hospitalized in hospital beds. For a period of 3 months, from March 1 to May 30, 2021, we conducted a cross-sectional descriptive study in the wilaya of Tébessa, to make a general assessment of the situation of use of painkillers and antibiotics in self-medication. During the interviews, we identified the social rights of the people who participated in our questionnaire and described the social, all information was sent in absolute anonymity and the results are used for scientific purposes only. For the organization of the collected data, they were released in the Microsoft Office Excel 2013 spreadsheet in order to calculate the absolute frequency and relative frequency, which will be analyzed through tables.



Figure 1. Location map of the wilaya of Tebessa

Results

sociodemographic characteristics

According to the results cited in Table 1, it was observed that more than 70% of the citizens surveyed are women who practice self-medication, while men represent a lower percentage of 30%. We observe from our results that all the different age categories are practically represented in our survey of self-medication, to try to have a general assessment of any age category (table 1). According to the level of study of the citizens questioned that they use self-medication, it was observed that 30% are academics, following by the different levels from high school to primary with a percentage over 52%, and finally uneducated citizens which represents a percentage of 18%. According to the family situation of the citizens surveyed, it was observed that more than 62% of married people use self-medication, followed by single people with a percentage of more than 22%, the other divorced family situations, a percentage equal to and less than 16% for each situation. For

this question, Table 1 indicates that 88% of citizens are insured, while 12% of citizens are uninsured.

Table 1. Profile of the interviewed in the urban area tebessa (Algeria), according to sociodemographic characteristics

Characteristic		N	(%)
Gender	Male	60	30
	Fiminine	140	70
Age	Less than 20 years old	20	10
	20 to 60 years old	140	70
	Over 20 years old	40	20
Educational level	Illiterate	32	18
	Educated	104	52
	High school	60	30
Social case	Married	124	62
	Single	44	22
	Divorced	32	16
Health insurance of the interviewed	Yes	176	88
	No	24	12

Information about Self-medication

For people who take the drugs without medical advice, we observed that 90% of the citizens surveyed said yes, while 10% answered no (table2). Regarding the frequency of the use of medicines for self-medication over a month, a percentage of 39% was recorded for those who answered often (5 to 10 times), 36% for citizens who rarely use (5 times) , and 25% for citizens who use very often (10 times) . For the symptomes for the use of self-medication by the citizens surveyed, a percentage of more than 38% was observed for the three reasons which are (avoid paying a consultation 24%, symptoms are banal 12%, which follows by reason (I don't have time to see a doctor) with a percentage of 28%, and 20% for reason (drugs are expensive), and for other causes (influenced by advertising) with an equal percentage or less by 16%. For the most treatable causes by self-medication, we observe a percentage of 50% of the citizens surveyed treating the pain alone by self-medication, followed by colds and flu with a percentage of 36%, and for the other symptoms diarrhea, fever and disorder of sleep, the citizens surveyed declare a lower percentage of 14% for each symptom. (Table2). Finally for the side effects of self-medication, we observe 18% of the citizens surveyed suffer from allergies, and a percentage of 10% for digestive disorders, and a percentage of 9 and 7% for the effects of asthenia and cardiac disorder respectively.

Table 2. Data collection from respondents about Self-medication

Characteristic		N	(%)
Self-medication without medical advice	Yes	180	90
	No	20	10
The frequency of self-medication	Less than 5 times	72	36
	5 to 10 times	78	39
	Over than10 times	50	25
Why self-medication	Avoid paying consultation, symptoms are commonplace	48	24
	No time to see a doctor	56	28
	Drugs are expensive	40	20
	knowledge in the field	32	16
Symptomes for use self-medication	the pain	100	50
	colds and flu	72	36
	diarrhea, fever or trouble sleeping	28	14
The side effects of self-medication	allergies	36	18
	digestive disorders	20	10
	asthenia	18	9
	heart trouble	14	7
	Without side effect	112	56

Information about drugs used in self-medication

For the use of drug classes in self-medication, a percentage of more than 50% was observed for the use of analgesics, followed by anti-influenza with a percentage of 30%, and for the other anti-allergic drug classes 3%, anti-inflammatories 4 %, contraceptive with 6% and antibiotics with 7% (table 3). We observe from the source of the use of drugs in self-medication that the citizens surveyed use the drugs based on information that comes from: their own initiative with a percentage of 46%, advice from pharmacists with a percentage of 44 %, local advice and internet with a percentage of 38% for each source. For information that comes from advertising, it represents a percentage of 36%, and a percentage of 8% from prescription renewals (table 3). For the choice of your self-medication medicines by the citizens surveyed, we observe a percentage of 60% for citizens who choose the medicine according to the pharmacist's orientation, and more than 30% choose according to the price and the brand respectively, and 10 % who say is not important. After the analysis obtained on the reading of notices, we note that most of the citizens surveyed answered yes for the reader of notices with a percentage of 60%, and 40% answered no (table 3). After the analysis obtained, we notice that most citizens do not pay attention to the reader of the expiry date of the medicine used in self-medication with a percentage of 70%, unlike the others who read the expiry date with a percentage by 30% (table 3).

Table 3. Data collection from respondents about drugs

Characteristic		N	(%)
Drug classes of self-medication	Analgesics	100	50
	Influenza	60	30
	Hypo-allergenic	6	3
	anti-inflammatories	8	4
	Contraceptive	12	6
	Antibiotics	14	7
Information Sources about drugs	Own initiative	92	46
	Pharmacist's advice	88	44
	Relatives advice and internet	76	38
	Prescription renewal	16	8
Choice of drugs in self-medication	Orientation of the pharmacist	120	60
	The price	60	30
	The mark	20	10
Read medicine leaflets	Yes	120	60
	No	80	40
Read drug expiration date	Yes	140	70
	No	60	30

Discussion

Self-medication is defined as "the use without medical prescription, by people for themselves or for their relatives and on their own initiative, of medicines considered as such and having received marketing authorization with the possibility of assistance and advice from pharmacists [9]. The average age of our patients was 32 years old, with a maximum age of 90 years old. The most representative age group was that of 20 to 60 years. Our results are almost similar to that of Orlando et al., [10] in 2020 who report a predominance of the age group from 21 to 30 years old. We observed a female predominance, ie 70%, against 30% for men. This is explained by the fact that women are more active in the purchase of medicines. The results of our study are different from those of a study conducted by Saha et al. 2022 which reports a male predominance, i.e. a frequency of 57.6% [11].

The level of study is variable with 30% being university students, 52% educated and finally uneducated citizens which represents a percentage of 18%. So self-medication is practiced by all socio-professional strata, the level of education could, perhaps, be mitigated the risks associated with the use of analgesics Anti-inflammatory and antibiotics without medical advice, this level of education would not be enough on its own to explain this phenomenon with regard to the precautions for use required by these products [12]. In the results of side effects of self-medication,

we observe that 18% of the citizens surveyed suffer from allergies, and a percentage of 10% for digestive disorders, and a percentage lower than 10% for the two effects asthenia, heart disorder respectively. Our results are Conradi with those of Al-Saadoon et al., which report that 60% of clients knew the medications were free of adverse effects [13].

About results of reasons for the use of self-medication by the citizens surveyed, we observed a percentage of more than 38% for the three reasons which are (avoid paying for a consultation, symptoms are banal, I know my illness), the other cause are differentiated. This is due to the trivialization of the symptoms treated by this class (headaches, dental pain, etc.) and the underestimation of the harmful and hepatotoxic effects [14]. Results of the most treatable symptoms by self-medication, we observe a percentage of 50% of the citizens surveyed, above all treating the pain alone by self-medication. a study of De-Sanctis et al., confirms that Several reasons for this self-medication reported by pharmacists were pain (muscular, dental, menstruation, joint) in 89.13%, headache in 78.26%, fever in 65.22%, sexual infections in 60.87%.%) [15].

For the use of drug classes in self-medication, a percentage of more than 80% for the use of analgesics was observed. a study of Faqihi and Sayed, 2021 confirms that the classes of drugs consumed were, according to pharmacists, analgesics (71.74%); antibiotics (63.04%) and anti-inflammatories (28.26%) [16]. In another study conducted by Chindhalore more than 94.03% of analgesics are widely accepted as the drugs most frequently used in self-medication, followed by non-steroidal anti-inflammatory drugs [17]. Our results are comparable to those of a Pakistani study conducted by Kassa et al., 2022 where the authors report that the drugs most consumed in pharmacies are analgesics (39.3%); antibiotics (15.2%) and anti-inflammatories (10.9%) [18].

Conclusion

This study, which was conducted on the self-consumption of medicines by the residents of the city of Tebessa, revealed that most individuals use the medicine according to their knowledge of it, to avoid paying the doctor's costs, and also choose the medicine according to the pharmacist's directions. There are several risks that self-treatment can cause, which threatens public health. Hence, the pharmacist is the health professional responsible for promoting the rational use of medicines, in order to avoid potential risks that may occur during treatment.

Conflict of Interest

The authors declare that there is no conflict of interest

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