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Original Research Article

Self-Medication between Reasons and Effects in Mostaganem (Northern West Algeria): About Two Drugs Sold without Medical Prescription, Paracetamol and Aspirin

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Abstract

Self-medication has become an emerging phenomenon that increasingly threatens public health. The purpose of this study is to determine the prevalence of self-medication at Mostaganem (northern west Algeria), for this, a cross-sectional descriptive study based on the collection of data by questionnaire addressed to pharmacists and patients who self-medicate; during the year 2019.The results obtained shows that women are often self-medicate (61%) than men (39%) with a sex ratio of 0.65. The most consuming category (76%) is aged between 30 and 50 years and has a university level. Paracetamol is the highest analgesic used with (75%), but the risk incurred by the self-medication with aspirin which is higher than paracetamol, for this reason, it is clear to consider rules for the proper use of self-medication in consultation and at pharmacy to prevent health population risks.

Keywords: Over The Counter (OTC) drugs, Patients, Pharmacies, Questionnaire

INTRODUCTION

Self-medication is an increasingly encouraged practice in today's society. It is justified by the economic context, demographics and the need for patient empowerment, but it can expose us to risks. In this context, we carried out this work to estimate the prevalence of this practice at Mostaganem region, to assess the influencing factors and the causes of this behavior. Self-medication is a practice that has been around for a long time; grandmothers' miracle recipes for treating mild illnesses at home are a kind of self-medication that is described as the use of drugs without a physician's prescription to treat self-recognized illness or symptoms, and an important health issue among the elderly (Seyede et al., 2017). According to the World Health Organization (WHO), self-medication consists in the fact that an individual resorts to a drug, on his own initiative or that of a loved one, in order to treat a condition or symptom that he identified himself, without having recourse to a health professional (World Health Organization, 2000). This practice may present a risk to the patients' health. For that purpose, we conducted a descriptive cross-sectional epidemiological study carried out in pharmacies practicing in Mostaganem region, during the year 2019; it was a direct interview with the customers who come at the pharmacy without a prescription to buy drugs called "over-the-counter drugs" or free sale drugs.

METHODS

Presentation of the study

It is a descriptive cross-sectional epidemiological study, which aims to describe the current situation and the epidemiological aspect of self-medication from a survey carried out on pharmacies practicing in Mostaganem region.

The survey process

We conducted a descriptive cross-sectional epidemio-

logical study, carried out on pharmacies located at Mostaganem region, the study was conducted during the year 2019, and it was a direct interview with the customers who come at the pharmacy without a prescription to buy drugs called “over-the-counter drugs” or free sale drugs. A questionnaire was composed of two parts; the first part depended on some information about the pharmacy sellers, the second part reserved to customers

RESULTS AND DISCUSSIONS

Through this study based on a direct questionnaire with pharmacists and customers who come to buy these two drugs without a prescription, two parts emerge, the first of which is addressed to pharmacists.

Among158 pharmacists investigated, 52% have a higher education level, 33% had a baccalaureate level, and 15% had a secondary level however, for the primary level, no response was given (Figure 1)

Regarding the prescribed dose for the two products, the majority of pharmacists have information about the prescribed dose, which is (3 to 4g / 24h) for paracetamol (Figure 2), and (1 to 2g / 24h) for Aspirin (Figure 3); these results are similar than that mentioned by Grézy (2013), where the majority of participants indicated aspirin maximum dose with 2 grams per day and paracetamol 4 grams per day. However 12% of them declared that they ignored the maximum recommended daily dose of paracetamol and aspirin respectively (Figure 2) and (Figure 3). This information lack can lead to risk, because exceeding the dose by more than 3g can lead to liver complications which inhibits its function and subsequently causes its poisoning (Jouet, 2014). Several case-control studies have shown an increased risk of gastrointestinal (GI) bleeding even with low-dose aspirin (Nicholas et al., 1999).

Concerning the first molecule recommended in the pain case, the majority of pharmacists recommend paracetamol (Figure 4) because of these antipyritic and anti-inflammatory properties, Several studies have shown that paracetamol is the leader of the most widely consumed products for self-medication (D'Almeida, 2003; Etame et al., 2017; Tuha et al., 2020; Mensur et al., 2018) seeing that the product's harmlessness to the patients’ health (Grézy, 2013). Paracetamol is an antipyretic and anti-inflammatory drug, which is mostly often–used to treat headaches and fever. This drug has become the basic reference for self-medication at Mostaganem region, for the economic reason since their price does not exceed 70 Dinars.

The second part of the survey, it focuses on some information about 217 customers that respond to the inclusion criteria, the basic profile of the study population is given in Table 1. Who the women self-medicate more often (61%) than men (39%) with a sex ratio of 0.65 (Table 1). This result was confirmed by several studies indicating that self-medication exists in both sexes and more in female customers (Tuha et al., 2020; Mensur et al., 2018; Christelle, 2014). For example, studies have shown that women self-medicate more than men. In Brazil (68.6% of women), China (75% of women) and Paris (60.6% are women) (De Paula et al., 2014; Shujuan et al., 2015; Chazaud, 2012), in pakistan (Hussain et al., 2010). In Saudi Arabia Kingdom (63%), (Sameer et al., 2020), so in Morocco, the consumption of non-prescription drugs is "significantly higher among women of all age groups and at all times. This female predominance is reflected in the fact, that women procure drugs by self-medication, for themselves as well as for their children (Christelle, 2014; Daniau, 2018; El Mehdi et al., 2016). In addition, young mothers (30–39 years old) who were highly educated were most likely to administer medication to their children using the family pharmacy (Petruta et al., 2020).

It seems that the adults aged between 40 and 50 years old are the most consumers of these two drugs with (33%), however this percentage decreases beyond the age of 50 reaching (09%), the average age of the patients was 37.13% (Table 1). Several factors can explain these results. On one hand, older people, retirees, may have more time available to consult their treating physicians compared to active people. On the other hand, they may also be more often suffering from chronic diseases and therefore consult their specialist physicians more frequently, as they may also have traditionally resorted more often to “grandmothers' remedies” than younger populations (Chazaud, 2012). 37% of our patients who self-medicate have a university level (Table 1) which gives them knowledge about these two drugs sold without a prescription and which they are used to treat common illnesses (Adhikary et al., 2014). Also in Romania, the study of (Petruta et al.) shows that married urban females with higher university or post-graduate education were more likely to self-medicate (Petruta et al., 2020). Several studies carried out around the world show that self-medication increased with the level of education (El Mehdi et al., 2016; Maryam et al., 2014). Also in Saudi Arabia, the study of Sameer Al-Ghamdi (2020) shows that the participants with university level education were more likely to self-medicate (Sameer et al., 2020). As regard to the information sources of these drugs use, 63% of patients buy these drugs according to their self-decision and only having and only (16%) of them take the pharmacist's advice in agreement (Table 2). Contrary to other studies which have shown that the most common source of information is the pharmacist (Chazaud, 2012). In this meaning, the World Health Organization has acknowledged the importance and role of pharmacists in patients’ self-medication and self-care. The pharmacists’ role has become essential for responsible self-medication without risk to patient health (Petruta et al., 2020).

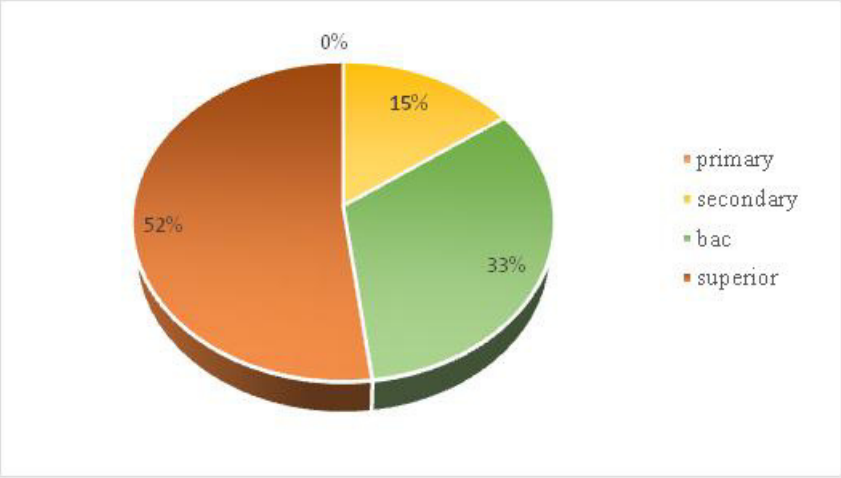

Figure 1. The distribution of the pharmacists according to the level of study

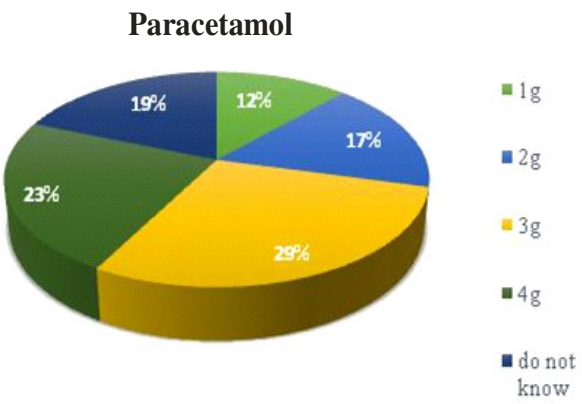

Figure 2. The distribution of the maximum daily doses of paracetamol indicated by the pharmacists

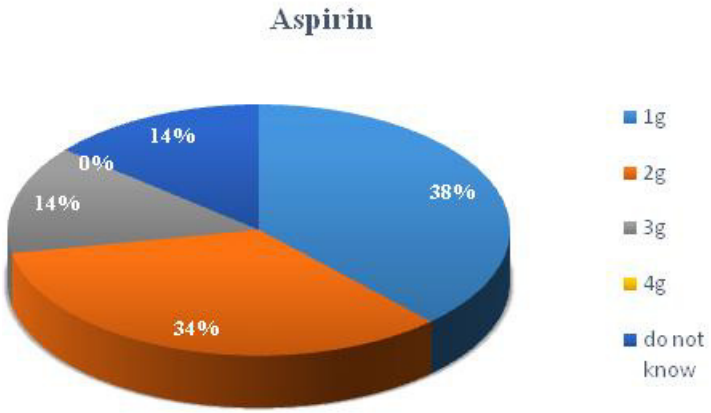

Figure 3. The distribution of the maximum daily doses of aspirin indicated by the pharmacists

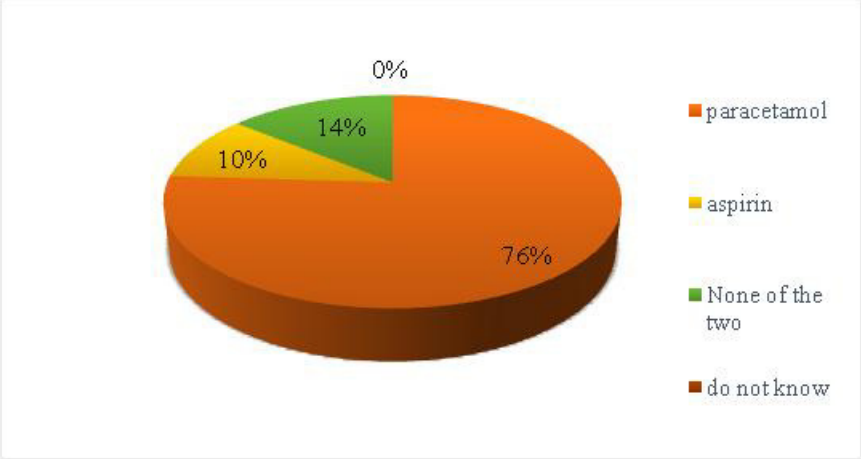

Figure 4. The distribution of the pharmacists according the molecule recommended as a first resort

Table 1. Socio-demographic characteristics of the study subjects

Variables		Percentage
Genre	Male	39%
	Female	61%
Age groups	10 - 20	2%
	21 - 30	24%
	31- 40	32%
	41-50	33%
	50 and above	9%
Education level	Illiterate	10%
	Primary	11%
	Secondary	20%
	Bac	22%
	superior	37%

Table 2. Sources of medicine for self-medication

Variables		Percentage
Source of medicine	Self-decision	63%
	Pharmacists	16%
	Friends	3%
	Book or internet	18%

Table 3. Self-medication causes

Variables		Percentage
The causes of self-medication	Lack of money	15%
	Lack of time	18%
	Information on medication	38%
	Common diseases	29%

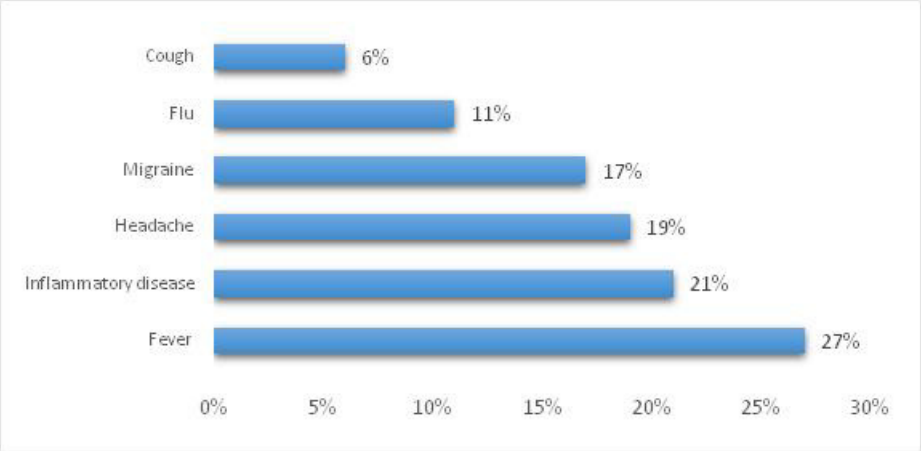

Figure 5. The self-medication diseases recorded during the study period

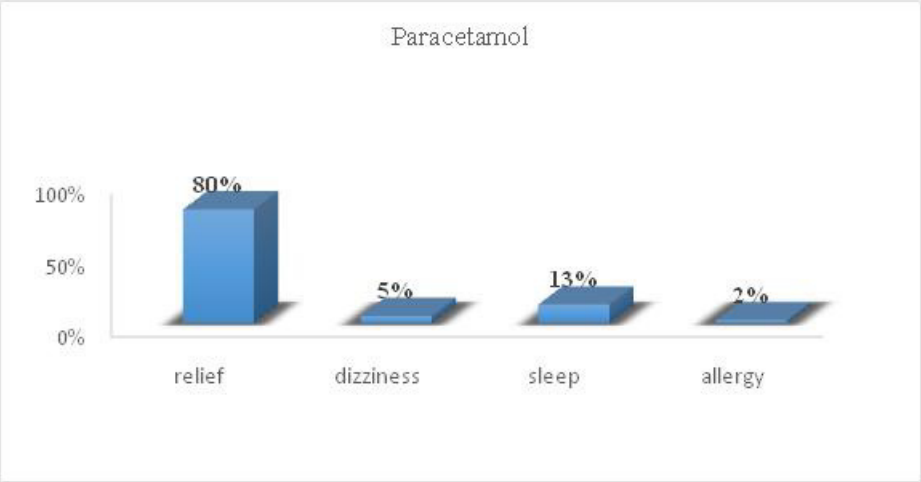

Figure 6. The side effects after taking paracetamol

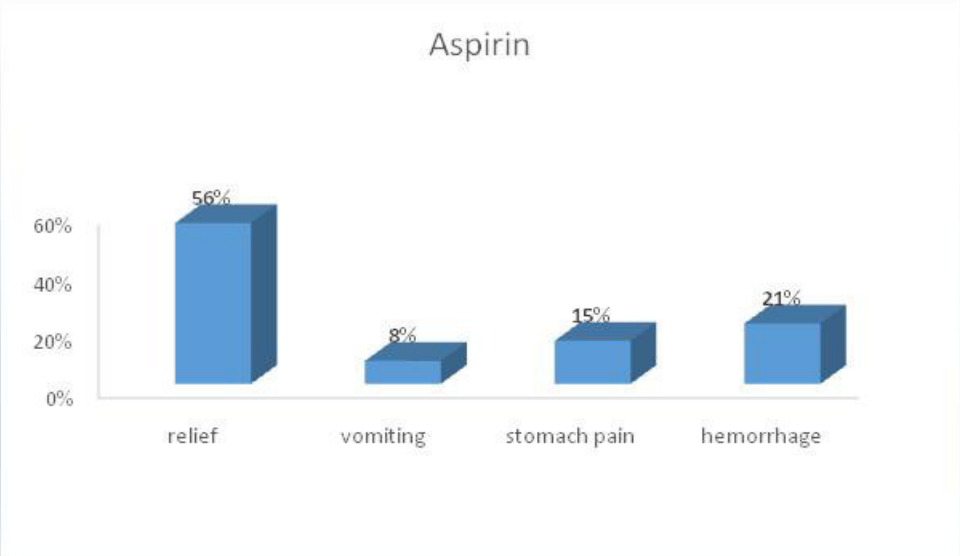

Figure 7. The side effects after taking aspirin

Among the major reasons for seeking self-medication, 38% of the responded say they have sufficient information for the cases use of these two drugs paracetamol and aspirin, 29% of participants resorted to self-medication to treat common illnesses, 18% of them, had lack of time and 15% felt doctor's fee was too high (table 03), what is not different from the results found by Mohseni M et al, 2019), indicated that the most important self-medication determinant factors were previous experience of disease, lack of access to physicians, and high costs of visit (Mohseni et al., 2018).

When asked about the ailment that self-medication diseases recorded during the study period, the majority mentioned that fever (21%), inflammatory disease (21%) and headache (19%) were the most registered for these two products taken (paracetamol and aspirin) (Figure 5). Other studies for example that of (Petruta Tarciuc et al., 2020) report that fever is the most commonly symptom treated with self-medication (Petruta et al., 2020), also the study of (Chakraborty and col, 2009) indicates that fever is the most commonly treated disease by self-medication (Chakraborty and Baidya, 2009).

Consumer awareness of the potential risks associated with the use of paracetamol, only 20% of patients reported having side effects after taking paracetamol, such as sleep (13%), dizziness (4%) and allergy (2%), however, the majority of patients are satisfied with the use of paracetamol because it relieves them (Figure 6). Also the study of (N.F.A. El Ezz, H.S. Ez-Elarab (2011) (Nahla et al., 2011) reports that (16.9%) said that they suffered from side effects, however the majority is satisfied by the use of this drug (Nahla et al., 2011). Concerning aspirin,

56% of patients confirm their relief and (44%) of them said that they suffered from side effects such as vomiting (08%), stomach pain (15%) and some hemorrhage (21%) (Figure 7). Note that the use of aspirin can cause bleeding in patients who have some hemorrhages because the role of aspirin is to increase the blood circulation (El Mehdi et al., 2016).

CONCLUSION

Self-medication is a widespread practice in Algeria and more particularly at Mostaganem region, especially among the educated population, relying on some knowledge and advice, often forgetting the serious consequences that this practice can cause. Both sexes practice self-medication with the predominance of the female sex (61%) with a sex ratio of 0.66, the age group situated between 40 and 50 years old is the most often self-medicate. 46, 39% of patients who self-medicate have a superior level, because they have knowledge of these two drugs sold without a prescription and they have used to treat common diseases that motivates the practice of self-medication in this category. 84% of patients buy the drugs without having the advice of pharmacists, and 13.26% of respondents said that he had side effects after taking these drugs, such as dizziness, allergy and sleep for the paracetamol, and vomiting, stomach pain, and hemorrhage for aspirin. Paracetamol is the first molecule recommended to treat fever, pain and inflammatory disease. It is therefore the most used in the case of tiredness accompanied by headaches, these drugs have become the basic reference for self-medication in Mostaganem patients, it is also for economic reasons since their price does not exceed 70 Dinars. Self-medication is a public health problem that prompts health professionals, including physicians, dispensing pharmacists, and the pharmaceutical industry to intervene at all levels to raise public awareness for this practice. Therefore, it is urgent to sensitize the population on the dangerousness of self-medication, in particular by setting up an information program on adverse effects, drug interactions and abuse of drug consumption. However, it is necessary to educate people for circumstances where they may self-medicate and when they must see a doctor. Hence, it seems necessary to take effective interventions to prevent and reduce self-medication. The literature recommended interventions for enhancing knowledge about the side effects of self-medication through media such as magazines, radio, and TV to reduce this practice among the Algerian population.

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