Prevalence and Factors Associated with Self-medication in Dermatology in Ouagadougou

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ABSTRACT

Background: Self-medication is a therapeutic mode consisting of taking medications without a medical prescription. In Burkina Faso in 2016, self-medication among patients with oral diseases was 30.4%. Self-medication, in addition to modifying the dermatological lesions and delaying the diagnosis, can be a source of cutaneous adverse drug reactions (toxidermia).

Objective: To investigate the determinants of self-medication among dermatology-venereology patients in Ouagadougou.

Methods: This was a cross-sectional study over 6 months from March to September 2021 in 3 dermatology departments in the city of Ouagadougou. Patients who practiced self-medication, and consented were included.

Results: The prevalence of self-medication was 15.6%. The reasons for self-medication include advice or influence of family and friends (54%), chronicity or recurrence of the disease (28.8%), the mystical or cultural nature of the disease (10.8%), and lack of financial resources (6.4%). Among the products used were traditional products and practices (42.8%), medicines sold in pharmacies (22%), "street medicines" (3.6%), cosmetics (4.8%), and a combination of several practices in 26.8% of respondents. Among the medicines sold in pharmacies were antibiotics (23.4%), non-opioid analgesics (16.8%) and antifungals (15.8%), antihistamines (10.4%), anti-inflammatories (9.5%), antiparasitic medicines (7.4%), anti-acne medicines (4.2%), antiseptics (3.1%), and a combination of medicines (9.4%). List I (non-prescription) medicines accounted for 81%. For traditional products, *Khaya senegalensis* (11.9%), *Tamarindus indica* (8.9%), and *Azadirachta indica* (5.9%) were the most used.

Conclusion: Self-medication was common among Dermatology patients in Ouagadougou. Traditional products were the main drug and advice from family and friends is the main source of motivation for this practice.

Keywords: Self-medication, Drug of the list I, *Khaya senegalensis, Tamarindus indica, Tamarindus indica*

Prévalence et Facteurs associés à L'automédication en Dermatologie à Ouagadougou

ABSTRAIT

Contexte: L'automédication consiste à prendre des médicaments sans prescription médicale. Au Burkina Faso en 2016, l'automédication au cours des maladies bucco-dentaires était de 30,4%. L'automédication, en plus de modifier les lésions dermatologiques, de retarder le diagnostic, peut être une source de toxidermie.

L'objectif: De cette étude était d'étudier les déterminants de l'automédication chez les patients consultants en dermatologie-vénérologie à Ouagadougou.

Méthodologie: Il s'est agi d'une étude transversale de mars à septembre 2021 dans 3 services publiques de dermatologie. Etaient inclus, les patients reçus en consultation, ayant pratiqués une automédication et consentants.

Résultats: La prévalence de l'automédication était de 15,6%. Plusieurs raisons motivaient l'automédication, notamment le conseil ou l'influence de l'entourage (54%), la chronicité ou récidive de la maladie (28,8%), le caractère mystique de la maladie (10,8%), et l'insuffisance de ressources financières (6,4%).

Parmi les produits utilisés, figuraient les produits et pratiques traditionnels (42,8%), les médicaments vendus en officine (22%), les « médicaments de rue » (3,6%), les produits cosmétiques (4,8%), une combinaison de produits et pratiques (26,8%).

Parmi les médicaments vendus en pharmacie figuraient les antibiotiques (23,4%), les antalgiques non opiacés (16,8%), les antifongiques (15,8%), les antihistaminiques (10,4%), les antiinflammatoires (9,5%), les antiparasitaires (7,4%), les antiacnéiques (4,2%), les antiseptiques (3,1%), une association de molécules (9,4%). Les médicaments de la liste I (ne devant être vendus sans ordonnance) représentaient 81%. Parmi les produits traditionnels, *Khaya senegalensis (*11,9%)*, Tamarindus indica (*8,9%) *et Azadirachta indica* (5,9%) étaient utilisées.

Conclusion: La pratique de l'automédication était courante chez les patients en dermatologie à Ouagadougou. Les produits traditionnels étaient la principale drogue et les conseils de la famille et des amis sont la principale source de motivation pour cette pratique.

Mots-clés: Auto-medication, Medicament de la liste I, *Khaya senegalensis, Tamarindus indica, Tamarindus indica*

Introduction

Self-medication is taking medications for therapeutic purposes without a medical prescription.[1] Self-medication refers to a behaviour whereby an individual, on his or her initiative (or that of a relative), resorts to a medication or a substance from which he or she expects a pharmacological effect beneficial to his or her health, whether for primary prevention, improvement of his or her condition or performance, relief of symptoms or modification of the course of an illness. The prevalence of self-medication varies worldwide. In Brazil, its prevalence was 16.1%.[2] In Ethiopia, a systemic review noted a prevalence ranging from 12.8% to 77.1%.[3] In southwestern Nigeria in 2012, 53.8% of students were self-medicating with antibiotics, and 46.3% with antimalarials.[4] In South East Asia, self-medication of antibiotics ranged from 7.3% to 85.59% in Indonesia.[5]

Self-medication is practiced in the management of almost all diseases, particularly skin diseases. The publicity and stigma attached to skin diseases lead patients to self-medicate to get rid of them as quickly as possible. In France, in Orleans, 22% of patients admitted for acute dermatosis self-medicated.[1] In 2014, Ling Zhang reported that 82.4% of psoriasis patients practiced self-medication in southwest China.[6] In Lomé Togo, the prevalence of self-medication in people with dermatological conditions increased from 44% to 67.7% from 2010 to 2012.[7,8] In Benin, Adegbidi reported that 68.4% of children seen in dermatology consultations in Cotonou practiced self-medication in 2012.[9] In Côte d'Ivoire in 2018, Kouassi noted that 44% of patients hospitalized who presented with bullous toxidermia consumed the inducing drugs by self-medication.[10] In Burkina Faso in 2016, self-medication was reported in 30.4% of people managed for oral diseases.[11]

Self-medication, in addition to modifying the dermatological lesions and delaying the diagnosis, can be a source of toxidermia, like toxic epidermal necrolysis which can result in serious morbidity and death.[13] The high cost of modern medicine and complementary explorations often associated with it, and the lack of universal health coverage favour self-medication.[14] In addition, the phenomenon known as "street drugs" is also a source of self-medication.

This study aimed to investigate the determinants of self-medication among patients consulting at three dermatology and venereology departments in the city of Ouagadougou.

Methodology

The study was conducted in three public health facilities providing dermatology care in the city of Ouagadougou: the dermatology and venereology department of the Yalgado Ouédraogo University Hospital (CHU YO), the dermatology unit of the Boulmiougou district hospital (CMA) and the Raoul

Follereau Centre (CRF). These centres are the oldest and most frequented centres for dermatological care in Ouagadougou.

This was a descriptive cross-sectional study that took place over 6 months from March to September 2021. Patients who were seen in a dermatological consultation, who practiced self-medication as part of the management of their dermatosis, and who consented to participate in the study were included, without distinction of sex or age. A questionnaire was used to fill in the different variables which were collected during an interview after the patient's consultation. Informed consent was obtained from the patients.

Authorization for data collection was obtained from the heads of the various health facilities. The questionnaire was anonymous and open-ended. The medications used for self-medication were listed by the patients or from the boxes or containers they were asked to bring to the review appointment. The medicines were then classified according to List I or List II. The types of drugs used were also classified and grouped by the investigators according to the answers obtained from the patients. List I and II medicines are subject to medical prescription and can only be obtained on presentation of a prescription written by a doctor, a dental surgeon, or a midwife. In addition, list I medicines (red box on the box) can only be dispensed for the duration of treatment stated on the prescription. List II medications (green box) can be dispensed several times on the same prescription during 12 months unless otherwise indicated by the prescriber. The data collected was analyzed using EPI info software version 7.2.1.0. The processing and analysis of the data respected confidentiality.

Results

Out of a total of 1604 patients (703 at the CHU-YO, 672 at the CRF, and 229 at the CMA of Boulmiougou) who were seen in these 3 health institutions in 6 months, 250 (15.6%) practiced self-medication. Of these 250 patients, 48.4% were seen at the CHU-YO, 35.6% at the CRF, and 16% at the CMA of Boulmiougou.

The median age was 32 years, with ages ranging from 5 months to 84 years. Other socio-demographic variables are in table I.

Table I: Socio-demographic variables of patients

Variable	n (%)
Self-medication	250 (15.6%)
Median age	32 years [5months-84]
Sex	
Female	139 (55.6%)
Male	111 (44.4%)
Occupation	
Pupils or students	72 (28.8%)
Informal sector workers	67 (26.8%)
Housewives	47 (18.8%)
Formal sector workers	37 (14.8%)
Out-of-school children	24 (9.6%)
Retired	3 (1.2%)

There were several reasons for self-medication, including advice, entourage pressure (54%), chronicity or recurrence of the disease (28.8%), the mystical or cultural nature of the disease (10.8%), and lack of financial resources (6.4%). The entourage (family, relatives, colleagues, friends, and neighbours) were the main motivators for the practice of self-medication, providing patients with medications from a stock of medicines from home, an old medical prescription, and information from social networks. The notion of insufficient finance included the high cost of consultations, complementary explorations, and the absence of health insurance. The mystical or cultural character alluded to the belief that the disease cannot be cured by modern medicine but by traditional or cultural practices such as the use of plant decoctions, individual or collective baths, poultices or drinks, or the use of various other substances.

Products used by patients for self-medication include modern medicines sold in pharmacies (22%), traditional products and practices (42.8%), "street medicines" (3.6%), cosmetic products (4.8%), and a combination of several practices for 26.8%.

These products were obtained by personal purchase (67.2%), as a gift from relatives (23.6%), or as a gift supplemented by a personal purchase (9.2%).

Among the medicines sold in pharmacies and used by patients for self-medication, several therapeutic

classes were found, including antibiotics (23.4%), non-opioid analgesics (16.8%), and antifungals (15.8%), antihistamines (10.4%), anti-inflammatories (9.5%), anti-parasitics (7.4%), anti-acne medications (4.2%), antiseptics (3.1%), and a combination of molecules (Table II).

Table II: Distribution of therapeutic classes of medicines used

Therapeutic class	Frequency (%)
Antibiotics	23.4
Non opioid analgesics	16.8
Antifungals	15.8
Antihistaminines	10.4
Antiinflammatories	9.5
Antiparasitics	7.4
Antiacneics	4.2
Antiseptics	3.1
Combination of molecules	9.4
Total	**100**

Antibiotics noted included amoxicillin, flucloxacillin, doxycycline, ciprofloxacin, lincomycin, erythromycin, cotrimoxazole, and fusidic acid. Anti-inflammatory drugs included Ibuprofen, diclofenac, and nuflimic acid. Anti-acne drugs were isotretinoin per os, local retinoids, and benzoyl peroxide. Antiparasitic agents included artemeter-lumefantrine, albendazole and metronidazole. Antifungals included fluconazole, itraconazole, griseofulvin for oral use and miconazole, ketoconazole, ciclopiroxolamine for topical use. Antihistamines included loratadine, desloratadine, cetirizine, hydroxyzine, chlorpheniramine, and mequitazine. Antiseptics included: chlorinated halogens, alcohols, and dyes (aqueous eosin).

The list I medications accounted for 81% of the products used for self-medication, including antibiotics, corticosteroids, and isotretinoin. List II drugs accounted for 11.6%. Non-listed drugs accounted for 7.4%.

As for the traditional products used, 40.4% could be identified by their scientific name. These were medicinal plants (68.6%) and edible plants (31.4%). Bark, leaves, and seeds were used by 43.3%, 26.9%, and 16.4% respectively [Table III, next page].

These plants were administered in the form of decoction for poultice, bath, and/or drink. Khaya senegalensis (11.9%), Tamarindus indica (8.9%) and Azadirachta indica (5.9%) were used.

Other traditional or cultural practices used by 29 people include the application of potash and/or ash by 17 people. The use of salt, vinegar, bicarbonate of soda, petroleum, human urine, sulphur, and tobacco was noted in one person for each substance. Collective mystical deliverance baths and the ingestion of goat liver were practiced by two people and one person respectively.

Groups of disorders for which patients do self-medication include allergic dermatoses (29.2%), adnexal pathologies (15.6%), infectious dermatoses (14.8%), a combination of dermatoses (24%), pigmentary disorders (6%), skin tumours (3.6%), disorders of keratinization and vascularisation, and pathologies of the skin (1.61%). Autoimmune bullous dermatoses, systemic diseases, overload dermatoses, and neutrophilic dermatoses represented 0.4% respectively (Table IV, next page).

From the patients' point of view, the dermatoses remained unchanged in 38.5%, worsened in 37.5%, partial remission was observed in 17.6%, and a recurrence in 6.5% with self-medication.

Discussion

The prevalence of self-medication (15%) in our series seems to be lower than those reported in the West African sub-region, although the prevalence was higher (48.4%) in certain hospitals (CHU YO). Indeed, the value of 48.4% noted in CHU YO hospital is comparable to those of African studies done in Togo (44%), in Côte d'Ivoire (67.7%), and in Antananarivo Madagascar (56.82%).[7,8,10,15] Among our patients, 28.8% justified their self-medication by the chronicity or recurrence of their dermatosis. These were undoubtedly chronic dermatoses. In Orléans, for the calculation of the prevalence of self-medication, only patients suffering from acute dermatosis were considered, and 22% had practiced self-medication.[1]

A slight preponderance of women who practiced self-medication in our series (55.6%) has been reported by

Table III: Distribution of plants used for self-medication

Element used in the plant n (%)	Scientific name (local name)	Family
Oil 5 (7.5)	*Azadirachta indica* (neem)	Meliaceae
	Olea europaea (olive)	Oleaceae
	Allium sativum (ail)	Amaryllidaceae
Seeds 11 (16.4)	*Curcuma longa* (curcuma)	Zingiberaceae
	Tamarindus indica (tamarin)	Caesalpiniaceae
	Borassus aethiopum (Kouangan)	Arecaceae
	Calotropis procera (Poutroupouga)	Apocynaceae
	Citrus limon (citronnier)	Rutaceae
	Combretum micranthum (kinkeliba)	Combretaceae
	Diospiros mespiliformis (Gaanga)	Ebenaceae
	Eucalyptus globulus (Eucalyptus)	Myrtaceae
Leaves 18 (26.9)	*Leptadenia hastata* (Lelogo)	Apocynaceae
	Lawsonia inermis (Henné)	Lythraceae
	Petroselinum crispum (Persil)	Apiaceae
	Ricinus communis (Ricin)	Euphorbiaceae
	Securidata longipedunculata (Kuikui pelga)	Polygalaceae
	Senna alata	Caesalpiniaceae
	Zea mays(maïs)	Poaceae
Root 1 (1.4)	*Ximenia americana* (Leima)	Olacaceae
	Acacia albida (Zaanga	Fabaceae
	Acacia nilotica (Pegninga)	Fabaceae
	Entada africana (Sarpaga)	Mimosaceae
	Anogeissus leiocarpus (Siga)	Combretaceae
	Eucalyptus globulus (Eucalyptus)	Myrtaceae
	Ficus sycomorus(Kakanga)	Moraceae
	Shaba senegalensis (Wedga)	Meliaceae
	Jatropha curcas (Wombebangmaam)	Euphorbiaceae
Bark 29 (43.3)	*Lannea microcarpa (Sabga)*	Anacardiaceae
	Lannea acida (Sabtoulga)	Anacardiaceae
	Khaya senegalensis(Kouka)	Apocynaceae
	Sclerocaria birrea (Nobga)	Anacardiaceae
	Sterculia satigera (Pousmpouga)	Malvaceae
	Vitex doniana (Handga)	Lamiaceae
	Vitallaria paradoxa (Karite)	Sapotaceae
	Wissadula amplissima (Gomtilongo)	Malvaceae
Seve 3 (4.5)	*Aloe vera (Aloes)*	Aloeaceae

Table IV: Distribution of self-medicated skin diseases

Classification of skin diseases	Number	Frequency (%)
Allergic skin diseases (eczema, atopic dermatitis, urticaria, etc)	73	29.2
Adnexal pathologies (acne, other)	39	15.6
Infectious skin diseases (pyoderma, folliculitis)	37	14.8
Pigmentation disorders (hyperpigmentation, hypopigmentation)	15	6
Tumoral dermatoses	9	3.6
Keratinisation disorder (Keratoderma)	4	1.6
Disorder of vascularisation (angiomas)	4	1.6
Scalp pathology	3	1.2
Autoimmune bullous dermatoses	2	0.8
Nail pathology	1	0.4
Systemic disease	1	0.4
Dermatosis of overload	1	0.4
Neutrophilic Dermatosis	1	0.4
Association of dermatoses	60	24
Total	**250**	**100**

other authors. Razakanary also reported it in Madagascar (57.6%), Mouhari-Toure A in Togo (57.2%), Kouassi in Côte d'Ivoire (66.7%) and Soumah in Conakry (73.6%).[15,8,10,16] This preponderance is also noted by Estève in Orleans (53.15%) and the world.[1] Women (who take care of the sick in the family) are more likely to use health facilities in Africa, consume more drugs for various reasons, and are therefore more likely to self-medicate.

Although the median age of the patients in our study was 30.9 years, and the 20-30 age group was in the majority, 10% of patients were children aged 0-5 years. Thus, from the age of 5 months, parents subject their children to self-medication. Soumah reported a similar average age of 27.3 years in Guinea.[16] Estève, on the other hand, found a higher average age of 44.3 years.[1]

Several socio-professional categories were found, with a predominance of those who were not salaried or had a non-stable job, notably children (9.6%), pupils/students (28.8%), housewives (18.8%), retired people (1.2%) and employees in the informal sector (26.8%). Kouassi also reported that 57.14% of the patients worked in the informal sector, and 32.3% were pupils and students.[10] On the other hand, Razakanary noted a predominance of self-medication in workers in the tertiary sector in Madagascar (38.4%).[15]

The lack of financial resources, the high cost of consultations and complementary explorations, and the absence of health insurance are cited as reasons for self-medication. Indeed, 10.6% of patients in Adegbidi's study justified their self-medication by the high cost of a dermatological consultation.[9] This cost ranges from 2000F to 4000F CFA (3 to 5 US dollars) in public facilities in Ouagadougou for one month. Moreover, these patients with financial difficulties are more receptive to the influence of their relatives who provide them with medicines from home stocks or old medical prescriptions. An observed 23.6% of the products used by the patients in our series were donated by their relatives. Adegbidi also reported that 30.8% of patients were influenced by their family and friends to self-medicate.[9] Similarly, Kombaté noted that advice from friends and family was a source of self-medication.[8]

While a Togolese study in 2010 highlighted the distance to health centres as a factor justifying self-medication, this was not the case in our series.[8] The supply of dermatological care has been expanded in the city of Ouagadougou from 2 to 6 public health structures from 2010 to 2020. Dermatological care is also available in more than twenty private clinics.

The first recourse of the Burkinabe population to care

is towards traditional therapy, and the data from our study confirm this; 42.8% of patients who self-medicated first used traditional products for their treatment. This observation is also reported by African authors with variable frequencies from one country to another: 37.9% in Togo, 24% in Madagascar, and 17.5% in Benin.[7,8,15,9]

Medicines sold in pharmacies were used by 22% of patients. The proximity of the pharmacy and the easy access to the medicine explain this value. This is also noted by Nigerian authors.[4]

The list I drugs normally delivered by non-renewable prescriptions unless otherwise stated by the prescriber was used in 81% of cases, indicating a dysfunction in the dispensing of drugs in pharmacies that can have serious repercussions on the health of users. Indeed, a teratogenic molecule such as isotretinoin cannot be dispensed without a prescription.[17] The same applies to corticosteroids and antibiotics. Adegbidi also reported that antibiotics (17.9%) were mostly used during self-medication in Benin.[9] Kombaté and Razakanary noted the use of corticosteroids without a prescription.[8,15]

Although the phenomenon of the use of "street drugs" is growing in African countries, it is seen in only 3.6% of our patients, while Mouhari-Toure reported 23.9% in Togo.[7]

The substances used in traditional treatments are not always specified by the patients, hence only 40.4% could be identified in our study. These plants were administered in the form of decoction for poultice, bath, and/or drink. Oshikoya reported that the decoctions of several plants were used for self-medication in their study.[18] In our series, these included Khaya senegalensis (11.9%), Tamarindus indica (8.9%), and Azadirachta indica (5.9%). In Senegal, Niang reported that certain plants used by patients induced erythroderma.[19] Further studies are needed to evaluate the pharmacological effects of these plants on dermatoses to take advantage of them. Other traditional or cultural practices such as the use of potash and/or ash may cause dermatitis and are frequently observed in our context. This was also reported by Ouédraogo in Ouagadougou and Traoré in Ouahigouya.[20,21]

The use of self-prescribed cosmetics by our patients (4.8%) is lower than the values found by other African authors, 13.3% by Adegbidi, 32.5% by Degboe, and 12% by Boui in Congo.[9,22,23]

Allergic dermatoses predominate among the conditions that were self-medicated, reflecting the regression of infectious pathologies with the improvement of hygiene conditions and living standards. Self-medication did not improve the evolution of the dermatosis according to the patients, hence the subsequent recourse to a dermatology consultation.

Conclusion

Self-medication is common among patients with dermatological diseases and more common in females, aged on average in their thirties, with irregular incomes. Among the substances used, traditional products predominate, notably Khaya senegalensis, Tamarindus indica, and Azadirachta indica. This is followed by medicines sold in pharmacies, which are on List I or II. The main source of motivation for this practice is the people around them, who sometimes supply them with the medications. Awareness of the dangers involved and effective measures to ensure strict compliance with good dispensing practices in pharmacies are essential.

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