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ORIGINAL RESEARCH ARTICLE

Managing Medicinal Risks in Self-Medication

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Abstract
Background The practice of self-medication is exemplary in raising the question of medicinal uses and risks. In contrast to the biomedical or pharmacological view of self-medication, the anthropological approach looks to understand the logics that underpin it.
Objective Therefore, I wished to question how users choose the medicines they take and how they construct the modalities of their use. However, not only are the users conscious of the risks associated with pharmaceutical use, they even devise strategies that specifically aim to reduce these risks. Based on research carried out in France on how people use medicines in the context of self-medication, I examined the strategies they adopt in order to reduce the risks connected with such use.
Method This study relies on qualitative research. It combines interviews with users and anthropological observation, both conducted at the participants' homes, to reveal their uses, their decisions, their hesitations and the precautions they take regarding their medicines.
Results The logics underpinning the management of risks associated with medicinal consumption are varied. Thus we find quantitative and qualitative logics, in virtue of which users choose to limit their medicines depending on the number of different medicines or on their intrinsic qualities. Their choices hinge on a logic of cumulation and a logic of identity, where, in the former, users seek to increase or reduce their medicinal consumption to augment the efficacy of a medicine or, in the latter case, they aim to reduce the risks in relation to their personal characteristics. In the same way, the perception of risk that underpins consumption practices is organised according to the notions of risk in itself and risk for oneself, where risk is either considered to be inherent to the medicine or to be linked to the incompatibility between a given substance and a person's body. Managing risk is thus done in parallel to managing efficacy, where a balance is sought between maximising the latter and minimising the former. This either leads patients to limit the consumption of medicines because of their adverse effects, or, on the contrary, to consume them precisely for these effects. Risk reduction strategies often consist of verifying, experimenting with, and personalising treatments.
Conclusion Although users sometimes resort to practices that do not comply with biomedical recommendations, they do so in order to attain the values and exigencies of biomedicine as regards the validation or personalisation of treatments. However irrational and peculiar these practices

Key Points

People who practice self-medication are conscious of the adverse side effects of medicines and develop strategies based on social, cultural or symbolic logics to reduce such risks.

Although these strategies are not always in accordance with medical recommendations, they borrow from medical logics and values, such as the personalisation of treatment.

When considering lay behaviours with regard to pharmaceutical consumption, we must go beyond the simple discrimination between "good" and "bad" practices.

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may appear, the mechanisms on which they are based do not necessarily break away from medical recommendations. Therefore, anthropologically speaking, we cannot oppose good and bad practices in terms of medicinal uses, since what health professionals would consider to be bad practices are thought by patients to be in keeping with good use.

1 Introduction

Medicinal use is often divided into "good use" and "misuse" [1], meaning, respectively, uses which conform to medical recommendations, and those which fall into the category of inappropriate lay practices. In order to understand these practices, anthropology has shown the importance of not passing judgement in the light of medical knowledge, and of trying to decrypt their meaning, in particular by relating them to certain systems of thought or cultural representations. Lay medicinal uses follow their own logics, and are associated with how individuals perceive these medicines. In this respect, examining the uses of pharmaceuticals involves looking at the perceptions of their efficacy and of their risks. If this question can be asked regarding patients in possession of a medical prescription—and this has indeed been the object of numerous social sciences studies [2–5]—it can equally be asked about users who do not have a prescription, in other words within the framework of self-medication—a context in which choices have to be made between the various medicinal solutions on offer. The domain of self-medication is in effect more open to medicinal misuse than the context of prescription management, at least if the problem is perceived from the point of view of biomedical science [6, 7]. The risk associated with medicinal use is a central element in the growing debate on self-medication in the French public domain, and is often invoked by its critics. The practice is considered to be uncertain and risky by many health professionals in France [8], even though the public authorities widely promote self-medication today. A certain number of physicians and pharmacists relate to the patients' inability to know when they must consult a doctor and how to manage their medicinal uses [9]. In contrast to the biomedical or pharmacological view of self-medication, the anthropological approach seeks to understand the logics that underpin it. This raises the question of how users choose the medicines they take and how they construct the modalities of their use. It would be an error to believe, however—as the health authorities appear to do[1]—that individuals are not concerned with safety and that they are not aware of the risks associated with drug consumption and self-medication. In fact, users devise strategies that specifically aim to reduce these risks.

Yet, though these strategies sometimes escape biological logic, as we will see, the mechanisms on which they are based do not necessarily break away from medical recommendations. Based on a study carried out on the conditions and motivations for self-medication in France, I will examine the strategies adopted by patients to reduce any associated risks. I will show that while the modalities of medicinal use result from symbolic logics unique to each subject, they are nevertheless inspired by principles borrowed from biomedical logic.

Let us note that self-medication is perceived here as the act of taking a medicine of one's own accord without consulting a doctor for the case in question, whether the medicine is already in one's possession or is procured for this purpose in a dispensary or from another person.

2 The Question Today

The studies discussing lay medicinal use all highlight the resistance individuals sometimes express to these substances [5, 11, 12], or even their aversion to them [13, 14]. These forms of resistance have resulted in some interesting typologies that aim to account for the refusals and rearrangements that take place in terms of these medicines. In the direction taken by Dowell and Hudson [15], who distinguished between "passive users", "active users" and "rejecters", Pound et al. [16] distinguish between "passive accepters", "active accepters", "modifiers" and "rejecters". Chamberlain et al. [11], however, remarked that these typologies do not take into account the functioning of the complex phenomenon of resistance, to the extent that attitudes differ according to the medicines (some people resist certain medicines and not others) and according to the context (indeed, some people can avoid one medicine in situation X but not in situation Y). They noted that resistance is complex and variable, as Britten et al. [14] and Van der Geest [17] also highlighted.

Such resistance to pharmacology has led Webster et al. [18] to believe that users act according to a logic of "lay pharmacology", since individuals carefully examine the medicines' actions, therapeutic properties and effects. However, it seems that we can go as far as considering that they realise a form of "lay pharmacovigilance", to the extent that these rearrangements are not only based on a desire to maximise the effects but also to minimise the risks [19]. In these conditions, beyond the diverse causes of resistance these studies bring to light, it is appropriate to examine the strategies that organise it and to unearth the

[1] The health minister for example wrote, "For public health reasons, it is very important to change some types of behaviours by increasing awareness of the risks associated with inappropriate medicinal consumption" [10].

symbolic logics of lay practices intended to manage the risks associated with consuming pharmaceuticals within the framework of self-medication.

This article rests on empirical research concerning the social, cultural and cognitive mechanisms that underpin individual practices as regards self-medication [20]. To understand these mechanisms, anthropologists need to question the categories usually used on this subject. Indeed, to learn that an individual resorts to self-medication only in "benign situations"—a notion that is never defined—does not sufficiently illuminate what he/she regards as a "benign situation", what he/she calls "resorting to self-medication", his/her reasons for choosing such a drug or the strategies employed to reduce the associated risks or to increase its effectiveness. In order to decode such questions, a critical approach of the very notions on which the public health discourse is based is required, and their relevance needs to be tested through fieldwork. This involves studying a phenomenon without prejudging what the users do and think; thus, the practices and categories must be considered without any preconceptions. If the public health objective is to limit the risks involved in self-medication and to define the conditions of this recourse, the objective of anthropology is, not to attend to people's medical safety or to a safe use of drugs (a normative position that anthropologists should not assume), but to understand the social practices at work, the way in which individuals manage the risk associated with self-medication, and the meaning their practices take. This means that even if the answers to these questions may ultimately contribute to improving public health, this must not be the prime and sole aim. Otherwise, we run the risk of formulating questions that prevent us from grasping some facets of social life. It is precisely these unexpected aspects of social life that an anthropological approach can reveal.

3 Research Setting and Method

The research was carried out in Paris and involved 40 people of different ages (between 25 and 80 years old), of both sexes and from various socio-professional backgrounds (secretaries, teachers, paramedical professionals, architect, retired people, computer specialists, designer, air hostess, accountants, decorator, researcher, cleaners, business managers, soldier, shopkeepers and salesperson, engineers, employees, sommelier, administration officers, service agents, petroleum engineer, craftsman and no profession).

Anthropology works at what is called the "micro" level, in that it studies the discourses and practices of a small number of people. It is based on monographs and case studies. These provide the data to be analysed, which are collected over the long term. I met the people studied on several occasions, in order to understand (through their gestures, words and actions) their systems of thought. The people participating in the research were for the most part met through the "snowball" method. The first informants were chosen according to their availability and their fundamental characteristics (in particular that they were sufficiently autonomous to make decisions concerning their self-medication, that they were adults and not in insecure circumstances and lived in an urban environment, so they had roughly equal access to health services and pharmacies). These informants introduced us to other potential informants through their networks of acquaintances, who in turn referred us to other people, who were added to the sample group, which was built in this way. This allowed us to approach a relatively diverse population, thanks to the diversity of the acquaintance networks used; some suggested members of their family, others work colleagues, and others again referred us to association members, friends or neighbours who proved by the end to be very different from the first informants (in their social, economic and ideological positions). By forming a group of informants using close personal contacts, we move away from the first types of people studied. Moreover, we chose to multiply the points of departure of the networks, favourising the constitution of what could be considered a plurality of "snowballs", each original snowflake rolling along a different path. Indeed, this procedure reduced the difficulty of approaching people to discuss a topic as personal and intimate as treating one's body and affliction, and there was no need to pass through the intermediary of health professionals. My decision to use this means of inclusion was in no way intended to form a representative sample of the population (indeed this is not the aim of anthropology), at least in terms of the statistical acceptance of the idea of representiveness. In this regard, Hamel [21] makes a distinction between "statistical representiveness" and "theoretical representiveness". In this he follows Marcel Mauss' [22] view that "it is an error to think that the credit due to a scientific proposition narrowly depends on the number of cases that are used to verify it" (p. 391). In this way, a distinction is made between the object of the study[2] and the group of informants that represent it and provide a point of observation. For Hamel [24], the sample should be formed by using what he calls "methodological imagination" that places importance on the case to be studied presenting epistemological qualities that allow it to "represent" the group and authorise generalisation. As Bourdieu [25] wrote, "a well-constructed particular case

[2] A given cultural group (here, autonomous adults living in urban environments), belonging to the contemporary category called the "middle classes" in sociology (upper and lower, old and new) [23].

ceases to be particular" (p. 57). Therefore, this research does not claim to provide statistically representative results; it aims to discover certain mechanisms at work in the recourse to self-medication, and identify tendencies and systems of meaning, the diverse forms of which it also seeks to reveal.

The research was carried out at people's homes, and thus consisted for a large part of interviews—even if, in some cases, the interviews were combined with in situ observation—concerning the choices people made when experiencing a symptom. I was able to collect a certain number of accounts concerning pathological episodes, in order to understand the different scenarios of self-medicinal use. The interviews covered the subjects' past and present experiences. Moreover, I collected information from the informants on the conditions in which drugs held in their household medicine cabinets were acquired and used in order to obtain complementary material. How the examinations of the contents of household medicine cabinets were carried out depended on how the interview proceeded; sometimes the person studied was asked at a moment judged to be appropriate in connection to what he/she had just said or done, and sometimes the subjects themselves offered of their own accord during the interview.

The material collected is partially mixed with observations I made during a previous research project—which was carried out in France and involved 186 patients—on patient behaviour regarding medicines and prescriptions [3]. Although this previous research focussed on prescribed medicines (how the subjects perceive them and the conditions and modalities of their use), it was also possible to gather material concerning practices of self-medication.[3] Added to this data is information collected on Internet forums, garnered by reading the discussion threads between users of self-medication.

4 The Context

Today, the French public authorities widely encourage the practice of self-medication, perceiving it as an effective means of reducing social security costs. Various public policies aiming to promote self-medication have been introduced (a decree authorising direct access to medicines and the delisting of a certain number of pharmaceutical products). Although the public authorities now promote self-medication, the issue of safety is a central concern; its practice is considered to be uncertain and risky by many health professionals, as reflected in the Bulletin of the French National Medical Council [26]. The principal risk they cite is that of inadvisable drug use (overdoses, drug interactions, etc.). To control this uncertainty and to limit these risks, public authorities together with medical authorities have produced several recommendations for users, aiming to structure the practice and define the conditions of use. It is recommended that self-medication is limited to "benign situations", that the remains of previous prescriptions should not to be used and that the advice of a pharmacist should to be sought. (It should be noted that medicines are only dispensed in France through pharmacists, who hold a monopoly on their distribution.) Such practices can be summarised as "responsible self-medication" [27, 28]. The recommendations are notably disseminated through the "ten commandments for self-medication" that are circulated on several sites destined for the general public. These ten commandments—the contents of which differ depending on the website [29–32]—recommend, on Vidal's Eureka health website, for example, not to practice "shameful self-medication", which implies hiding an "ineffective attempt at self-medication" and to reveal any treatments undergone as "one's own boss" to relieve "minor ailments" [30].

Notable among these recommendations are the assertions that one must read the patient information leaflets for information on potential adverse side effects ("Read the accompanying leaflet of a medicine carefully. It will tell you its indications, recommended dosages according to age, weight and potential adverse side-effects…" [30]), that one should not take medicines prescribed for somebody else ("A treatment that suits you may not suit someone else", "A medicine that worked very well for a member of your family could have no effect, or even be dangerous, for you") [29], and that one should seek advice from a pharmacist ("To provide the best advice, the pharmacist must know who the medicine is for") [30]. So how do users respond to these recommendations?

5 Seeking Advice

In order to make decisions, users refer simultaneously to various sources of information—previous prescriptions, advice from friends and family, advertisements, Internet searches—and to their own experience. In this regard,

[3] This previous research on the social uses of medicines led to the discovery that the image of self-medication differs according the individual's cultural and religious origins. On this point, a stronger tendency among certain groups to practice, and above all capitalise on, self-medication, and inversely for other groups to forbid and condemn it, showed that refusing or choosing to practice it is a socially and culturally conditioned attitude. Thus we noticed that, in accordance with the values diffused within their familial setting, and in response to medical discourse that tends to consider self-medication as a deviant practice, many patients take recourse to it only with the feeling they are acting in transgression to medical power, and try to hide this practice from their doctor, attempting to appear to behave in conformity with the idea of a "good patient".

although self-medication implies personal choice, individuals are never totally independent—they are subject to a thousand influences [33], from those around them as well as the whole society. Subjects are therefore never alone in dealing with their symptom and their medicinal options. They are surrounded by information coming to them from sources as varied as health campaigns, previous medical consultations, pharmacists, friends and family, pharmaceutical leaflets and the media—notably the press, television and the Internet.

Clearly, the information found on the Internet does not come exclusively from professional sites. Information distributed by specialists on sites for the general public, whether approved by health institutions or not, is collected together with information based on the experience of other web users, as recounted on discussion forums [34, 35]. The two are sometimes mixed in accounts given by patients. They search the Internet with several different objectives. While the aim may be to obtain information about an affliction, its causes and possible progression, it is also done in order to inquire about existing medicinal choices, the precautions to be taken and conditions to be respected in order to assure the safety of the medicine, and to discover if there are any risks associated with its use. One user thus explained her problem on a forum and asked, "Is it possible to take Doliprane at the same time as Zelitrex? I have herpes on my lip which is very painful and a splitting migraine. I am desperate, please reply." Information gathered from the experience of other Internet users is thus added to advice from people close to the user (family, friends and colleagues). The aim is to benefit from the experience of others, despite their anonymity, concerning the effects of a medicine, the level of satisfaction or, inversely, potential side effects. Searching for opinions on forums can sometimes replace asking a pharmacist, either because face-to-face contact is embarrassing (a pharmacy does not lend itself to intimate talk about the body) or because the Internet is more convenient (the advice arrives quicker), or simply to gain several points of view.

6 Quantitative Logics/Qualitative Logics

Individuals' choices concerning medicines are constructed through various logics, some quantitative, others qualitative.

For example, concern over the consumption of too many pharmaceuticals leads some people, using quantitative reasoning, to decide to reduce the number of days they take a medicine for. However, these strategies can, in turn, generate risk, just as strategies that involve modifying the instructions (indications, dosages, precautions of use) that accompany medicinal prescriptions can. This is the case for antibiotics, for which the high consumption levels in France, generally attributed to patient appetite for this type of medicine [36], present serious public health concerns regarding the drug resistance caused by this overconsumption, and the poor prospects of being able to find molecules that could replace today's antibiotics in the near future. This problem led the *Caisse nationale d'assurance maladie* (The National Health Insurance Fund) to launch a campaign in 2002, destined for the general public, entitled "Antibiotics are not Automatic", in which the implicit message was that one should not consume too many antibiotics and should not seek to obtain them at any price from the doctor, particularly when the affliction is viral. (Note that what some health professionals would consider to be "overconsumption", others would consider to be "overprescription" [37], and that most antibiotic treatments—medicines that require a prescription—result from medical consultations.) In response to this message, some patients, strongly convinced that excessive consumption of antibiotics carries risks, profess to be perfectly aware of this risk and ensure, when they do consume them, that they stop the treatment as soon as the symptoms disappear, which often means after 2 days, as I was able to observe on the ground. It is precisely in accordance with the concern to not consume too many antibiotics that some users think it reasonable to reduce the time they take these drugs for, a strategy that responds to the advice diffused by the health authorities to not abuse this type of medicine. And so this practice has led to an increase in drug-resistant germs, even when the intention of the users is to lessen the phenomenon. This phenomenon can be observed both for prescribed treatments and in self-medication. In this regard, although antibiotics are prescription medicines, and pharmacists are the only ones authorised to distribute them, their use in the absence of medical advice—which involves using the remains of treatments kept in household medicine cabinets, or obtaining the medicine from a close friend or relative—should be considered as self-medication.

Likewise, subjects perceive their management of the quantity of pharmaceutical products they take as a means of reducing the iatrogenic effects of medicines. Thus, fear of medicinal interactions sometimes leads subjects to choose to limit the number of medicines they consume. Mrs. N fears that accumulating and mixing several chemical products could induce harmful effects so she limits her medicinal consumption to three classes of drug in order to reduce this risk, choosing those she thinks are the most necessary to combat her ailment. She believes that the iatrogenic risks are associated with the quantity rather than the quality of different pharmaceutical products.

Decisions concerning the type or quality of medicines to consume are governed by other mechanisms. For instance, subjects may refuse to consume certain pharmaceuticals when they perceive the risk to reside in the nature of the

medicine, in the molecule it is composed of, and in the danger inherent in its uncontrolled ingestion—that is to say, in the qualitative aspect of the medicine. This is what leads subjects to avoid, sometimes definitively, a certain class of products (such as anti-inflammatories, for example). Other users systematically avoid taking two medicines at the same time when one is of a determined pharmaceutical class (anti-inflammatories, antibiotics). The perception of risk does not only depend on the perception a subject has of a medicine but also on *what* a medicine *is*. For example, some subjects claim to be against the consumption of psychotropic drugs but nevertheless choose to take a tranquiliser to treat sleeping problems (either difficulties in getting to sleep or waking during the night). This is partly explained by the status given to products such as hypnotic drugs, which are often simply considered to be "calming" and not to have a chemical action on the psyche.[4] Moreover, some users do not consider a medicine to be risky if it is not a synthetic product. This applies to herbal medicines with which subjects freely practice self-medication without caution despite the potentially noxious effects of their use—just like other medicines—little aware of the fact that a medicine carries risk as soon as it has an action.[5] Or indeed, some medicines are not considered risky if their consumption is not intended to solve a health problem. This is the case for medicines taken "to lose weight", which several patients take for aesthetic and non-medical reasons. Thus Mrs. M does not distinguish between nutritional supplements based on green tea and weight-loss drugs which she considers to be cosmetic rather than therapeutic. The definition of a medicine here depends on the purpose for which it is consumed.

7 Cumulation Logic and Identity Logic

In parallel to risk management strategies, users develop ways of maximising the efficacy of medicines. Thus, in the same way that the doses prescribed by a doctor may be increased in order to heighten the effects [40, 41], certain medicines chosen for self-medication may also be taken at a higher dose than recommended in the leaflet or in a previous prescription, a practice resulting from quantitative logic. In some regards, the management of medicines consumed in the context of self-medication follows logics comparable to those that organise behaviour regarding prescribed medicines. As regards the way patients comply with their prescriptions, I have highlighted the various logics that underpin the modification of prescriptions. I have identified a "cumulation logic", consisting of increasing dosages or even accumulating several medicines in order to increase the chances of recovery; and an "identity logic", consisting of modifying a treatment on the basis of identifying a link between oneself and the product, whether one is (or considers oneself to be) fat or thin, strong or weak, adult or child, man or woman, resistant or frail, etc. [19]. I have shown that such reasoning partly informs the choice as to whether to adhere to or modify the doses prescribed. These various logics also bear on how the medicines consumed within the framework of self-medication are managed. For instance, one patient said, "I always increase the dosages, because I'm a tough nut; I always need more than they say in the leaflet to feel the effect", while another explained that he systematically reduces the recommended dose because he thinks he is "very sensitive to medicines" and "always reacts strongly". Thus we find both cumulative logic and identity logic within the practice of self-medication, both in the search for better efficacy and in order to reduce the negative effects of medicines. Recommended doses, either from a previous consultation resulting in a prescription, in the patient information leaflet of a medicine or given by a pharmacist, can thus sometimes be increased in order to boost efficacy or, in contrast, be reduced to avoid inducing iatrogenic effects.

8 Risk in Itself/Risk for Oneself

Exclusive or combined recourse to quantitative or qualitative logics may be done in order to manage the risk associated with medicines. The strategies adopted by subjects differ depending on whether they consider the risk to be inherent in the substance or linked to its modes of use. In the first case, subjects tend to eliminate the product in question from the arsenal of drugs they could potentially consume; in the second case, they try to neutralise the risks by modifying recommended doses or modes of consumption, whether the dosage is indicated in the patient information leaflet or figures in a previous prescription for the same medicine. The strategies thus follow mechanisms which differ both according to the individuals and to the medicines—they depend on whether the risk is perceived to be linked to the nature of the medicine in itself (the type of pharmaceutical product, the adverse side effects on certain functions or certain organs) or to its incompatibility with the subject (in relation to their personal characteristics, or their ability to absorb the medicine, their sensitivity, susceptibility or responsiveness, etc.). A desire to limit medicinal risks then leads subjects to closely observe a medicine's effects in order to attempt to adapt the doses to

[4] On the perception of "calming" medicine, see Haxaire [39].

[5] The opposition between the notions of "natural" and "unnatural" medicines has been studied by many anthropologists in the domain of complementary and alternative medicines [38].

their bodies, in connection with the recognition of a relationship between the medicine and the individual, in its singularity: "I will need more than that! I am pretty tough." or "I will only take a tiny bit, less than they say in the leaflet, because I am very responsive to medicines." The importance placed on this relationship leads individuals to choose to modify how the medicine is taken or the dosage when they deem the recommendations to be incompatible with their specific case.

Risk management associated with the practice of self-medication thus follows various logics organised around the duality between the risk of the medicine *in itself* and the risk of the medicine *for oneself*. This point is illustrated with two examples: Mr. P, a 42-year-old industrial designer, not eager to practice self-medication, nevertheless decides to take an antiemetic with confidence because he has once given it to his dog. His dog had vomited, and so he gave it an antiemetic syrup; following this, the dog did not vomit. This experience, to which he now assigns the value of a test, led him to be sure of the efficacy and of the absence of harmful effects.[6] Mrs. J, a speech therapist, on the other hand, gets her medicines "tested" by a radiesthesist (a person who uses pendulums or divining rods) to verify their safety and efficacy. She is driven by a suspicion of the medicine and a fear that taking it would be wrong (whether the product was recommended by a pharmacist or chosen by herself) to resort to divination in order to verify the suitability of the treatment in her case. "He moves his antenna over the medicines to see if they react in order to test which ones respond, to check if they are safe and if they will work for me," she explained, her objective being to ensure that the medicine was well adapted to her particular case. It is in connection with the risk *in itself* that Mr. P made sure his dog responded well to the antiemetic (that is to say, the dog got better and suffered no adverse effects) before he decided to take it. On the other hand, it is in connection with the risk of the medicine *for oneself* that Mrs. J relies on a radiesthesist to make sure a medicine suits her and is appropriate to herself and her body.

9 Undesirable Effects and Desired Effects

The existence of adverse side effects is not necessarily an obstacle to self-medication in itself (neither is it necessarily an obstacle to compliance). While it is true that reading about the side effects in pharmaceutical leaflets sometimes dissuades patients from taking the medicines prescribed, the opposite can also apply where the subject interprets their presence as a sign of genuine efficacy to the point that however "adverse" this effect can be, the subject still does not envisage ending the treatment; the effects, good or bad, are a sign of the efficacy of the medicine and prove that one should keep taking it, without the subject considering the possibility of unfortunate consequences. For Mr. B, "a good medicine is one that does something".

The significance here is in the type of effect more than its "adverse" or "secondary" character—of which the distinction is far from clear for the users, considering the ambiguity of these notions in the pharmaceutical leaflets. While, strictly speaking, a "secondary side effect" is a non-desired consequence, induced by the administration of a drug, and which is additional to the primary desired effect during the application of a treatment for a given indication, an "adverse side effect" is "a response to a drug that is noxious and unintended and occurs at doses normally used in man for the prophylaxis, diagnosis or therapy of disease, or for the recovery, correction or modification of physiological function".[7] In this regard, in France, mentioning "side effects" on a pharmaceutical leaflet carries less negative connotations than writing "adverse side effects". It is in fact in this sense that the WHO intends these two notions to be used.

Yet it is noticeable that some medicines are chosen precisely for their side effects, and not for the intended indication of the medicine, transforming the side effect into the desired, and so primary, effect. In this case, the side effect is no longer simply a sign of efficacy, but the vector of a new efficacy, that leads to a drug use that is not in accordance with the indications but with the side effects or, we could say, because of the side effects. The side effect can thus be identified as a "side benefit". Indeed, some medicines are chosen precisely for their adverse side effects. For example, certain antihistamines, such as Polaramine® (dexchlorpheniramine maleate), or cough medicines, such as Toplexil® (oxomemazine), are sometimes taken as hypnotics because of the drowsiness they induce. In this way, Mrs. L uses Neo-Codion® (codeine camsilate) to curb the difficulties her child experiences in getting to sleep—she thinks he is too excited in the evening. Even though drowsiness is a "possible adverse side effect" of the medicine, induced by the presence of codeine, it is used precisely for this effect, and not for its indication as a cough mixture. Here the subjects choose the medicine because of its sedative qualities, their decision supported by the recommendation in the patient information leaflet to take the substance in the evening. This is the case for Lexomil® (bromazepam), which users often take not for the indicated use (which is a symptomatic treatment of

[6] Using the experiences of animals to judge the efficacy and absence of risk in a medicine is also what Mr. D, a computing consultant, does. He treats his own ailments with homeopathy because he says he always saw his parents, former farmers, successfully treating their dogs and chickens with homeopathy.

[7] According to the WHO and EU official definition [42, 43].

manifestations of severe and/or incapacitating anxiety), but in order to induce drowsiness, considered to be one of the adverse side effects of this medicine.[8] Such forms of use show that a side effect normally deemed *undesirable* can in fact become a *desired* effect.

10 Users and Biomedical Logics

Just as users adjust the posology indicated in the leaflet partly in response to the concern to not over-consume medicines that could potentially harm their health, they also resort to such practices with the intention of arriving at an optimal use of the medicines, based on a realignment between "cumulative logic" and "identity logic", and between efficacy and safety. The definitions or redefinitions of treatments in self-medication are based on a logic the subjects perceive to be medical, to the extent that they are convinced that in this way they are conforming to the safety precautions, and are adapting their self-prescription to their bodies and their unique characteristics (their age, sex, weight, etc.).

Certainly, some of the strategies devised by subjects to reduce the risk or maximise the efficacy of a treatment sometimes totally escape scientific logic. For example, using one's dog's experience or a radiesthesist's pendulum are techniques of validation which do not pertain to the biomedical field. However, my intention here is not to discriminate between "good" and "bad" practices when managing risks, but to understand the social and symbolic logics to which this risk management relates and the mechanisms according to which it is elaborated. Yet, when Mr. P decides to take an antiemetic drug only after he has made sure that his dog has tolerated it well, the aim is to be sure of the harmlessness and effectiveness of a drug from the experience of someone of his close circle (to which the dog belongs). His decision results from an approach which, in his eyes, makes his practice a validated, proven technique, opposing experience-based medicine with evidence-based medicine.

Likewise, when Mrs. J has her medicines "tested" by a radiesthesist to verify their safety and efficacy, she does this believing she is complying with medical recommendations and ensuring the medicine is suitable for her; she is perfectly aware of the need for a treatment to be adapted to each individual, and resorts to dowsing to test the drugs that are recommended to her, in order to make sure that they are appropriate to her case. Thus, her strategy borrows from a medical discourse stressing that treatments must be adapted to individual organisms and characteristics. This is an example of a strategy which is not only anchored in syncretic cultural logic but borrows from, while radically distorting, medical logic. The need for a treatment to be adapted to a person is in fact what the majority of health professionals underline, explaining (among the reasons justifying the need to ask for advice from a pharmacist) that each person reacts differently to drugs. By her behaviour, this lady seeks to conform to instructions diffused by the medical discourse, namely that the treatment should be personalised.

Therefore, although subjects may behave contrary to the recommendations of health professionals, they borrow their logics from medical discourse. After a lecture in which he explained the Filipino concept of *hiang* (which refers to the belief that a medicine should fit the person that takes it), Van der Geest [44] wrote that a pharmacologist perceptively remarked that this "personal fitting/not fitting was what clinical pharmacologists were struggling with and trying to apply in new ways of testing". However, as we have seen here, the principle of personalising treatment exists well beyond such tests since it structures the medicinal practices of Western patients with strategies that can prove to have little to do with medical recommendations.

11 Conclusion

The strategies employed within the practice of self-medication aim to both minimise the risks associated with medicines and to maximise their effect. There is thus a tension between two objectives: the search for efficacy and the prevention or management of risk. Safety and efficacy are considered simultaneously. Subjects seek to achieve a balance between the two, meaning they search for efficacy with minimal risk by applying a balancing principle. This balancing between a given substance and one's body, which is considered according to an individual's personal rationality, is underpinned by symbolic, cultural or idiosyncratic logic.

The logics underpinning self-medication (to manage risk and obtain efficacy) are partly comparable to those underpinning prescription compliance (or non-compliance). However, the balance here leans towards a different recombination, in that these logics integrate more decisively the need for the subjects to establish an appropriate relationship, in accordance with personal rationalities, between a given substance and their bodies. The decision to modify the posology of a treatment or to verify the suitability of a medicine to one's personal bodily characteristics, by using what I have called "cumulative logic"

[8] We should note that the confusion between side effects and adverse side effects is maintained in the way the pharmaceutical information leaflets are written, where neuro-vegetative effects such as drowsiness, induced by certain molecules, are sometimes mentioned in the side effects and sometimes in the adverse side effects.

and "identity logic", or by means of the validation techniques mentioned above, is founded on the internalisation of learned behavioural norms, transmitted during the whole process of patient socialisation by health professionals.

However, these practices are not perceived to conflict with medical recommendations and although they are not in accordance with them, they borrow from biomedical logics. Subjects perceive their decisions to be wholly in keeping with advice to be prudent, to be aware of the risks associated with medicines and to choose personalised treatments. Indeed, it is in order to reduce the risks of medicines that subjects adapt and personalise their treatments. As we have seen, the majority of health professionals themselves emphasise the necessity for treatments to be adapted to an individual; they point out in their recommendations to users that each person reacts differently to medicines. The methods of validation used by some subjects thus aim to respond to the instructions diffused by medical thinking, namely that treatments should be personalised. While their choices may be structured according to symbolic and cultural logics, subjects feed off medical notions to formulate their practices, taking recourse to strategies of validation, verification, experimentation or personalisation.

While the practices observed may be idiosyncratic, that is to say specific to one person, the meaning they assume and the analysis they invite can be applied generally. Anthropology is based on this extrapolation from a particular case to obtain general meaning, when an identical meaning can be attributed to different practices. Thus, treatment personalisation is a concern common to many people who will then give a specific shape to the strategies they devise with this aim. Authority is thus not provided by the data in itself, but by the meaning it contains.

The examples of Mr. P and Mrs. J might appear extreme. In fact, they have been voluntarily chosen in order to show that even behaviour which appears irrational or quite different from what doctors expect borrows from medical logics. But there are many other examples, such as individuals' decisions to increase or decrease their consumption according to how they perceive their bodies, their own receptivity and sensibility—as we have seen. They, too, are concerned with personalisation of treatment.

This research and the findings it has provided demonstrated the merits of showing that part of the reflection on medicinal safety should involve an acknowledgement of the discrepancy between what people do and the reasons for which they do it. Similarly to the patients who misuse their antibiotics thinking that in doing so they are following public health campaign recommendations, individuals sometimes expose themselves to risk when their aim is precisely to reduce medicinal risks. While it is obviously not the role of anthropology to define good practices (whether clinical or public health related), it is, however, pertinent, as this article strives to do, to decrypt the deeper meaning of these social practices.

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