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RESEARCH ARTICLE

PHYSICIAN'S PERCEPTION, USE AND PRESCRIPTION OF GENERIC MEDICINES IN HEALTH
REGION OF ABIDJAN 2 (COTE D'IVOIRE)

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ABSTRACT

Introduction: In a context of constrained health-care resources, the use of generics medicines is an opportunity for savings. The study, with multifaceted purpose, aimed to investigate among generalist physician, the perception, use and prescription of generics and also identify the factors influencing their decision of prescribing generic medicines.

Materiel and Methods: This is a descriptive, cross-sectional study was conducted in the health region of Abidjan 2, with 170 generalist physician selected at random and working in private or public sector. A face to face questionnaire was drawn up with closed and opened questions. All the collected data were entered into EPI INFO 7.

Results: Two-thirds of the respondents expressed that they believed in generics medicines effectiveness, bioequivalence, quality and safety. The main information source about generic medicine was pharmaceutical sales representatives. In their practice, the generalist physician working in public sector prescribed more generic medicines ($p=0.041$). The cost of medicines was the most important factor taken into consideration about generic prescription.

Conclusion: Even if the study demonstrated good perceptions of generics medicines, health authorities should promote towards policies the rational use of generic medicine notably in the private sector.

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INTRODUCTION

Health care systems are facing the medico--economic pressure and governments are in the obligation to find systems of regulation of pharmaceutical costs. The regulation of generic medicines (GMs) is part of these policies notably in developing countries where access to medicines is one of the main obstacles in improving health (Kavanos, 1999; Karim *et al.*, 1996). According to World Health Organization, a generic drug is a pharmaceutical product, usually intended to be interchangeable with an innovator product that is manufactured without a license from the innovator company and marketed after the expiry date of the patent or other exclusive rights (World Health Organization, 2015). GMs are required to have the same active substance, strength, pharmaceutical form, and route of administration as their brand counterparts, but can be different in some aspects, such as inactive ingredients, color, and shape (Birkett, 2003).

GMs provide the opportunity for major savings in health care expenditure directly to the consumers as well as to the government, given that they are generally lower in price than their brand-name equivalents (King and Karvanos, 2002; Dylst *et al.*, 2013). Generally, GMs are 20-90% less expensive than the branded medicines. It has been estimated that €25 billion (more than \$30 billion) is the annual save made by European patients and health care systems for using generic medicines (King and Karvanos, 2002). In Cote d'Ivoire as in many countries, the practice of GMs prescribing and substitution is strongly supported by health authorities. Indeed, the articles 9 and 11 of the Law n°94-435 of August 16th 1994 modifying the Law n°62-249 of July 31st 1962 establishing the Code of Ethics for Pharmacists, concern respectively the substitution and the registration of GMs. However a study carried out among 320 patients in the Health District of Marcory Treichville showed poor knowledge, attitudes and use (Yayo *et al.*, 2015). Acceptance of generic medicines by patients is an important issue and an essential factor given the fact that patients are the end users of these pharmaceutical products (Wong and *al.*, 2014). Moreover, the opinions of physicians are key factors influencing the views that patients exhibit towards generic

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medicines (Di Blasi *et al.*, 2001). The perceptions of the physicians concerning GMs are therefore important for their consumption by the patients. Thus, this study was conducted with the specific objectives to assess physicians' perceptions and prescription regarding GMs and identify the factor influencing these prescriptions.

MATERIALS AND METHODS

This is a descriptive cross-sectional study performed in the Health Region of Abidjan 2. The sample was composed of 170 generalist physicians (GPs) from public and private sectors, chosen at random. The data were collected in October 2015 by the mean of a questionnaire with closed and opened questions was drawn and designed, based on a review of the literature. The questionnaire was pre-tested with 15 physicians and revised after pilot testing.

The first section of the questionnaire collected information on personal, background and demographic data of the sampled physicians including their affiliation, specialty, years of experience and age. The second section evaluated the perception of physicians of price differences between generics and brand names, their attitudes and beliefs regarding generic drug quality, therapeutic efficacy, and their perception that the use of drugs has potential cost savings. The third section evaluated their practice, their use and prescriptions of GMs and the factors influencing their decisions of prescribing GMs. All the collected data were entered into Epi Info for descriptive analysis using descriptive statistics techniques. A comparison was also done between private and public sector using Pearson's chi-square and $p < 0.05$ was considered as significant. The study was approved by the Research Ethics Committee of Abidjan Côte d'Ivoire. The respondents signed the Informed Consent Form and their anonymity was preserved in the study.

RESULTS

Characteristics of the respondents

A total of 170 GPs participated in this study; the basic demography of the responding patients is summarized in Table 1. The sample was in majority composed of females (51.8%). The participants had in average 41.86 ± 11.03 years old and 11.71 ± 6.70 years of experience. 58.8% of the respondents worked in public sector.

Table 1. Characteristic of the generalist physicians in the Health Region of Abidjan 2

Variables	Modalities	
Sex	Female	88 (51.8%)
	Male	82 (48.2%)
Affiliation	Public sector	100 (58.8%)
	Private sector	70 (41.2%)
Years of experience	mean	11.71 ± 6.70
	min	1
	max	33
Age	mean	41.86 ± 11.03
	min	27
	max	61

Information sources about generic medicines

Concerning the source of information about GMs, out of the responses collected, the most cited was pharmaceutical sales

representatives (45.5%) followed by pharmacists (31.8%), peers (20.5%), internet (2.2%). No significant difference was found between the private and public sector ($p=0,084$).

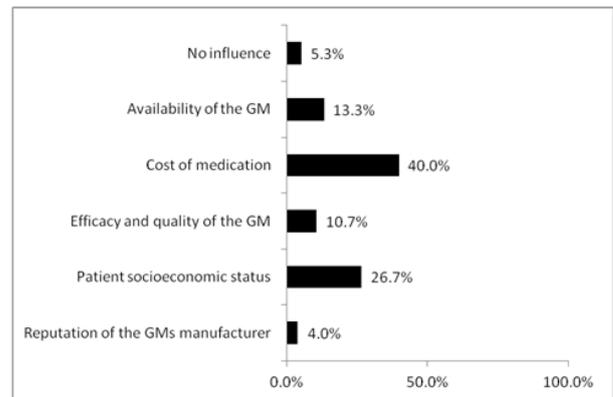


Figure 1. Factors influencing the decision of prescribing generic medicine

Perception of generic medicines

Regarding the characteristics of GMs, the majority of the physicians (70.6%) stated that they were confident about their effectiveness, 80% of them believed that they are bioequivalent and safe as the reference medicines. According to our findings, concerning the price of generic medicines compared to reference medicines, 94% of the physicians stated that they are cheaper. However, 2.4% of the GPs surveyed had no idea of the price, 2.4% declared that the generic medicines are more expensive and 1.2% that they got the same price. Concerning their perception that the use of drugs has potential cost savings, 75% of them thought it. As regards perceptions there was no significant difference in responses between public and private sector.

Consumption of generic medicines by generalist physicians

When asked if they used generic medicines themselves, 95% of the GPs stated that they do and 5% "never". Regarding the consumption of GMs, no significant difference was found between private and public sector.

Prescription of generic medicines by generalist physicians

When asked how often they prescribed generic medicines, the majority of the GPs (78.6%) stated "often"; when 20.2% responded "very often" and 1.2% "never". A chi-square statistic was calculated to examine if there is a relation between the employment sector of the GPs and whether or not they prescribe generic medicines in their current practice. The test was found to be statistically significant; with a P value (0.041) < 0.05 . Physicians working in public sector are more likely to prescribe generic medicines. However 63.3% of the respondents declared that they would prescribe the reference medicine instead of the generic medicine if they had the choice.

Factors influencing the decision of prescribing generic medicines

As regards the factors influencing the decision of prescribing GMs, our findings revealed that the cost of medicines was the

first factor, followed by the socioeconomic status of the patients, and the efficacy and quality of the generic (Figure 1). No significant difference was found between private and public sector.

DISCUSSION

In the last two decades, the use of generic medicines has increased significantly. Since generics are available at a lower cost, they provide an opportunity for savings in health care expenditure. Consequently, use of generic medicines is encouraged especially in developing countries (Toklu *et al.*, 2012). In a context of constrained health-care resources, there is a need to understand barriers to cost-effective medication use that's why this study aimed to assess generalist physician perceptions and prescriptions of GMs. The findings of the study revealed that more than two-thirds of the GPs had a good perception of GMs as regards their effectiveness, bioequivalence and safety. Our results are comparable to those obtained by Shrank *et al.*, where over 23% of physicians surveyed expressed negative perceptions about efficacy of generic drugs, almost 50% reported negative perceptions about quality of generic medications. Shrank *et al.* also reported a correlation between the physician age and their perception of GMs, which was not found in our study. Indeed physicians over the age of 55 years were 3.3 times more likely to report negative perceptions about generic quality. However, a study carried out in Morocco which showed in a sample of 100 physicians, that 68% of them believed that a generic is not always effective (Zaoui *et al.*, 2010). Our study also revealed that even if 94% of the surveyed GPs knew that GMs are cheaper than branded medicines only 75% considered that GMs have potential cost saving, with no difference between private and public sector. These results showed the importance to sensitize and create awareness among the general physician regarding its pivotal role in healthcare system and given that they are the first contact with patients.

As regards the information sources about GMs, our findings showed that pharmaceutical sales representatives are the first source cited by the majority of GPs with no significant difference between private and public sector. Similar findings were obtained in previous four previous (Arroll *et al.*, 2005; Buusman *et al.*, 2007; Alghasham, 2009; Kazeem Adeola, 2011). However in a study carried out in Greece Greek doctors claim to acquire more information from publications (journals, proceedings of conferences and textbooks) and less information from pharmaceutical sales representatives (Theodorou *et al.*, 2009). With regards to the use of generic medicines by the GPs themselves, our study showed that 95% of the surveyed GPs stated that they use generic. Shrank *et al.* in their study reported that more than one quarter of the physicians do not prefer to use generics as first-line medications for themselves, moreover those over age of 55 years were 5.8 times more likely to report that they would not use generics themselves, and 7.5 times more likely to state that they would not recommend generics for family members.

Our findings also revealed that the majority of the GPs prescribed generic medicines to their patient with a significant difference between GPs of private and public sector. Indeed, GPs working in public sector are more likely to prescribe

generic medicines. A study carried out in Jordan showed similar findings (El-Dahiyat *et al.*, 2014). Paradoxically, even if the majority of the GPs in our study stated that they use generics for themselves and prescribed them to patients, 63.3% of the GPs declared that they would prescribe the reference medicine instead of the generic medicine if they had the choice. Therefore their decision of GMs prescriptions is influenced by certain factors. In general, physicians were concerned about the efficacy of a drug rather than its price when making prescribing decisions (Law and Yu, 2003; Scherer, 1993). However our findings revealed that the cost of medicine is the first factor in the prescribing decision. This findings was similar to a previous study conducted in Jordan, where 69.1% of the physicians claimed that cost is an important factor in the prescribing decision (El-Dahiyat *et al.*, 2014). However a study performed in Malaysia showed that advertisements and product bonuses offered by pharmaceutical companies, patient's socio-economic factors as well as credibility of manufacturers were factors reported by physicians to influence their choice of medicine (Chua *et al.*, 2010).

Conclusion

Despite the fact that generalist physicians have largely accepted the use of generic medicines, they need to be educated and reassured about generic as regards effectiveness, bioequivalence, quality, and safety. These insights will help policy makers in Cote d'Ivoire to develop strong generic policy to promote and encourage generic prescribing instead of branded medicine when generic equivalent is available and suitable, notably in private sector.

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