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The Problem of Free Donations in Pharmaceutical Promotion: A Cross-Sectional Study Focused on Medical Samples and Various Gifts in Yaoundé.

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ABSTRACT

Levers used for pharmaceutical promotion, medical samples, and various gifts play a key role in the strategy. The aim of this study is to evaluate the impact these different free gifts can have on the activity of doctors and pharmacists in Yaoundé. This was a mixed-methods descriptive and analytical study conducted from August 2023 to January 2024 in the city of Yaoundé. A questionnaire was used to collect data from 464 physicians, and an interview guide was administered to 11 pharmacists. The data were analyzed using SPSS 21, Excel, Epi Info version 7.0, and Word software.

71.5% of respondents acknowledged receiving a medical sample, 45.6% changed their prescribing habits after receiving one, and 55.6% of their colleagues saw their prescribing habits change after receiving a medical sample. 77.6% of respondents had received a meal offered by pharmaceutical representatives, but only 28% changed their prescribing habits after receiving it; 19.6% of respondents acknowledged receiving a valuable gift, and 53.8% of these changed their prescribing habits after receiving it. Those who receive medical samples are 3.5 times more likely to change their prescribing habits than those who do not (p-value = 0.002). The risk is lower with receiving a gift, as well as with receiving a meal.

This study reveals that free gifts offered to healthcare professionals influence their prescribing habits. Free medical samples have a greater impact than meals and valuable gifts. However, in some cases, these gifts trigger a psychological reactance in these prospective patients, leading to effects contrary to those intended.

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INTRODUCTION

Context

Pharmaceutical companies represent a crucial link in the healthcare system. Ranked among the most profitable industries, they invest primarily in two strategic sectors: research and development, and the promotion of products and specialties [1]. These companies' promotional activities aim to generate significant interest in their products among healthcare professionals, hence the substantial investments allocated to them today [2]. Free medical samples (FMS) and various gifts, designed to be distributed free of charge to healthcare professionals (HCP), represent a significant portion of this investment [3]. In 2015, 89% of companies worldwide funded marketing rather than research and development [4]. In France, between 2013 and 2015, over €245 million was

invested in allocating FMS and gifts to HCPs [4]. These gifts take many forms, ranging from pens, coffee mugs, free meals, lab coats, optical pens, backpacks, and stethoscopes, offered during friendly or professional gatherings, to cash donations and leisure trips. This generosity from the pharmaceutical industry often begins in training schools and medical or pharmacy schools and continues into the professional lives of healthcare professionals [5]. A veritable "gift culture" develops, which these professionals nurture and maintain daily, to the point of making it a legitimate practice [6]. This inevitably leads to a "gift distribution culture" among pharmaceutical company representatives, who use it to strengthen their presence among healthcare professionals and forge stronger relationships [6]. Faced with the decline in receptiveness of healthcare professionals observed in recent years regarding visits from medical representatives, gifts and personal gifts are cited as the main reasons why healthcare professionals grant them access [7]. Other functions are also assigned to the distribution of these free gifts, including negotiating a larger audience at so-called training or educational events, but also creating a warm and friendly atmosphere which will unconsciously build a real partnership between the firm and the PDS [8].

Numerous cases of healthcare professionals being exposed to promotional strategies are documented in the literature, along with the consequences for the quality of care provided in both hospitals and pharmacies [9; 10]. The VIOXX® (rofecoxib) case in the United States illustrates part of this [11;12]. In addition, the scandal linked to MEDIATOR® (Benfluorex), a cholesterol-lowering drug whose contraindicated use has led to serious side effects of pulmonary arterial hypertension learns more about that [13]. Consequently, several laws have been enacted to regulate relationship between pharmaceutical compagnies and healthcare professionals, namely Physician Payments Sunshine Act in US [14], Transparency in Healthcare and “anti-gift” law in France [13]. In Lebanon and several Middle Eastern countries, regulations on relations between healthcare professionals and the pharmaceutical industry have evolved considerably, and several texts specify the type, nature and value of gifts to be given to healthcare professionals, which should not exceed US$50 [15].

In Cameroon, no legislation currently addresses the issue of gifts. On the ground, each pharmaceutical company applies a gift management policy based on the requirements and conventions specific to its operations. Thus, it is more common for an American or British company operating in Cameroon to be subject to the Foreign Corrupt Practices Act (FCPA) or the Bribery Act, respectively. Conversely, a French company will require its employees in Cameroon to comply with the anti-gift law. Unfortunately, the implementation of these laws remains contextually questionable because the competitive environment imposed nowadays by Asian companies favors an approach that differ significantly from the Western one- an approach that, to some extent, appears to suit the context. [16]. Secondary data indicate some research on the issue of medical samples and gifts. Some studies address the influence of these on prescribing habits [17; 18; 19].; others emphasize potential conflicts of interest [20; 21; 22], as well as studies that determine the negative reaction of PDS to gifts [23; [24; 25]. Most of this research has been conducted in America and Europe. In Africa in general, and in Cameroon in particular, studies focusing on the specific effect of gifts and medical samples on the practices of healthcare professionals are almost nonexistent. Our objective in this research is therefore to evaluate the effect of medical samples and gifts on the activity of physicians and pharmacists in Yaoundé. More specifically, we will determine the proportion of healthcare professionals who receive FMS and gifts, assess their effect on their practice, and analyze the healthcare professionals' reactions to these gifts.

Conceptual model of the study

Based on a review of the literature addressing our research question, we developed a theoretical research model. The various dependent variables representing different types of donations, such as medical samples, free meals, and valuable gifts, were evaluated to determine their effect on physicians' prescribing habits (Figure 1). Physicians play a crucial role because they are the primary target of pharmaceutical companies due to the dual nature of their activity: medical diagnosis and therapeutic decision-making. The companies' objective is therefore to use these various free donations to incentivize physicians to prescribe medications with specific brand names.

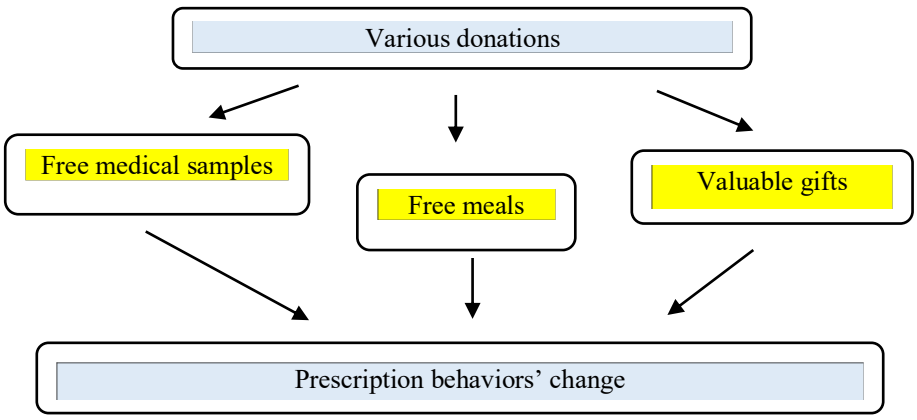

Figure 1: conceptual framework diagram

When a gift is received, even if it's free, we unconsciously feel indebted to the giver. This feeling, to some extent, determines the recipient's reaction, creating a platform for influence, negotiation, or partnership. Unfortunately, depending on the nature and value of the gift, we can sometimes face the opposite of the intended effect, manifesting as psychological reactance.

Psychological reactance as a response to the pressure of gifts and various donations

Psychological reactance, a theory developed by Brehm in 1966 [26], explains that individuals generally adopt a withdrawal or rejection attitude when they suspect an attempt to control their behavior or freedom. It therefore assesses the effects of the loss of freedom on individuals' decisions. This theory notes that when an individual is no longer free to choose between two options, they feel more drawn to the one that is difficult and complex to access. Thus, if their freedom of choice is reduced, a sensory mechanism develops, allowing the mobilization of psychological resources to restore their diminished freedom [27]. Some authors have proven that the intensity of reactance is a function of the nature of the gift offered [28]. When the gift offered is relevant to the activity performed by the healthcare professional, the professional develops intrinsic motivation, and the gift is not questioned but rather considered "free," thus reducing reactance. Conversely, when the gift is incongruent, it is perceived as aiming for extrinsic motivation, and the practitioner's freedom feels threatened, leading to stronger reactance. Other authors have established that the value of the gift influences the intensity of reactance. Although, in general, a gift of high value prevails more than a gift of lower value [29], a gift of excessive value can produce an effect contrary to that intended in the medical field [30]. Gifts, samples, and lavish meals offered regularly lose their desired effect. Thus, the recipient feels less motivated to reciprocate [31]. This, within the framework of our research, justifies the fact that despite receiving gifts and meals offered, many prospects do not perceive the influence on their prescribing habits.

MATERIALS AND METHODS

Period and location of the study

The study took place from August 1, 2023 to January 31, 2024 in Yaoundé. This city, the political capital of Cameroon, is made up of seven districts with an estimated population of 4.1 million inhabitants in 2020 and a growth rate of 3.45%, Yaoundé, the political capital of Cameroon, has an estimated population of 4,100,000 in 2020, representing an average density of 13,486 inhabitants per square kilometer [32]. Approximately thirty healthcare facilities in the various districts of Yaoundé were visited. Some granted us authorization to conduct the survey, including the Yaoundé General Hospital, the Yaoundé Central Hospital, the Chantal Biya Foundation, the Yaoundé University Hospital Center, the District Hospitals of Olembé, Cité Verte, Mvog Ada, and Efoulan, the Mendong District Medical Center, the Deo Gracias Mother and Child Hospital, and the Associations of Residents in Gynecology-Obstetrics and Internal Medicine. Several other clinics, medical centers, and dental practices were also visited simply upon presentation of ethics clearance.

Type of study

We opted for a cross-sectional study with a descriptive and analytical aim, employing a mixed (quantitative and qualitative) approach.

Target and study population

The target population for our quantitative research included physicians (general practitioners, specialists, dentists), 6th-year medical students, and medical residents working in the Mfoundi Division and for using a qualitative approach, several private pharmacy practitioners and hospitals in the city town of Yaoundé were visited. All those who consented to participate in this research constituted the study population.

Sampling method and sample

The Cameroon Medical Union estimates in its recent report that there are approximately 13,000 physicians and 550 dentists in Cameroon, with nearly 50% concentrated in the cities of Douala and Yaoundé [33]. This suggests that our target population in the city of Yaoundé comprises approximately 3,775 physicians.

The sampling method for the quantitative component was non-probability-based, and for calculating the sample size we used the following formula: $n = tp^2\ xp\ (1 – p)\ x\ N\ /\ tp^2\ xp(1-p) + (N-1)\ x\ y^2$. Where:

n: sample size, tp: 95% sampling confidence interval (1.96 from the table), p: expected proportion of a response from the population (p: 50% or 0.5), N: size of the target population, y: margin of sampling error (considered at 4.25% or 0.0425)

This formula determines the number of people n to be interviewed based on the margin of error y that can be tolerated on a proportion of responses p.

$n = (1.96)^2\ x\ (0.5)\ (1-0.5)\ x\ 3775\ /\ (1.96)^2\ x\ 0.5(1-0.5) + (3775-1)\ x\ (0.0425)^2 = 464$

In fine, the size of the sample of **464**

For the qualitative component, the sampling method was convenience sampling and the sample was reached from the saturation point.

Data collection

For the quantitative component, an electronic questionnaire was sent to physicians working in healthcare facilities within our study area. Comprising thirty-six mostly closed-ended questions, this questionnaire allowed us to identify the socio-professional characteristics of the respondents, determine the proportion of respondents who receive gifts and medical samples from pharmaceutical representatives, and assess and analyze these practitioners' attitudes toward these gifts. For those respondents who had difficulty accessing the online system, a physical questionnaire was delivered directly to their workplace for administration.

The interview guide used for the qualitative component consisted of seven questions which made it possible to identify pharmacists' perceptions of donations offered by the pharmaceutical industry and to assess the effect of these donations on their practice in the pharmacy.

Data analysis

Three software programs were used to compile and analyze the quantitative data: Excel, Epi Info version 7.0, and SPSS 21. SPSS was used for sorting, recoding, and univariate and bivariate analyses before the data was transferred to Epi Info, which in turn led to the development of the binomial logistic regression model. Excel was used to create tables and graphs. Due to the small sample size for the qualitative component, content analysis was performed using Word.

The tables were designed to highlight the similarities and differences in the verbatim transcripts of the various key informants based on the themes discussed.

Ethical considerations

All methods and techniques used complied with the ethical requirements of health science research. We received ethics clearance from the Regional Health Research Ethics Committee of the Ministry of Public Health **(CE N^0 00483/CRERSHC/2023 of June 30, 2023)**, and all respondents were previously reviewed with the information sheet for our research project and completed the informed consent form before administering the questionnaires. The concept of confidentiality was emphasized to ensure the protection of key information and thereby guarantee anonymity.

RESULTS

Quantitative results

Respondents' attitudes towards medical samples

Table 1: Distribution of respondents' attitudes towards the medical samples offered

	Number of employees (N=464)	Percentage (P=100%)
Have you ever received free medical samples?		
Yes	333	71.7
No	130	28.1
ND	1	0.2
If so, did receiving a sample influence your prescription?		
Yes	152	45.6
No	181	54.4
Do you think your colleagues' prescriptions are influenced by the samples they receive?		
Yes	258	55.6
No	205	44.2
ND	1	0.2

Most respondents acknowledged receiving a medical sample (71.7%), 45.6% changed their prescribing habits after receiving a sample, and 55.6% of their colleagues saw their prescribing habits change after receiving a medical sample (Table 1)

Respondents' attitudes towards free meals

Table 2: Distribution of respondents' attitudes towards the meal offered

	Number of employees (N=464)	Percentage (P=100%)
Have you ever received meals offered by medical representatives?		
Yes	360	77.6
No	103	22.2
ND	1	0.2
If so, did this influence your prescription?		
Yes	101	28.0
No	259	72.0
Do you think that the meals offered to your colleagues influence their prescriptions?		
Yes	150	32.3
No	313	675
ND	1	0.2

According to Table 2, 77.6% of respondents had received a meal offered by pharmaceutical representatives, only 28% changed their prescribing habits after receiving a meal and 32.3% of their colleagues saw their prescribing habits change after receiving a meal.

Respondents' attitudes towards valuable gifts

	Number of employees (N=464)	Percentage (P=100%)
Have you ever received valuable gifts from medical representatives?		
Yes	91	19.6
No	372	80.2
ND	1	0.2
If so, did this influence your prescription?		
Yes	49	53.8
No	42	46.2
Do you think that your colleagues' prescriptions are influenced by receiving valuable gifts?		
Yes	236	50.9
No	227	48.9
ND	1	0.2

Table 3 indicates that 19.6% of respondents acknowledged having received a valuable gift, 53.8% of these changed their prescribing habits after receiving a valuable gift, and 50.9% of their colleagues saw their prescribing habits change after receiving a valuable gift.

Multivariate analysis

Table 4: Logistic regression (From the full model to the reduced model)

		Complete model (raw gold)			Scale model (adjusted OR		
Variables	Terms and conditions	GOLD	95% IC	P-Value	GOLD	95% IC	P-value
Sex	M						
	F	2.10	0.97-4.58	0.06	2.04	0.96-4.41	0.065
Age	more than 40						
	less than 40	0.93	0.18-3.70	>0.90			
Marital status	Married	0.50	0.18-1.28	0.20	0.50	0.18-1.22	0.15
	Other (single, widowed)						
Profession	medical student						
	general practitioner	1.87	0.57-5.66	0.30	1.92	0.60-5.67	0.20
	specialist doctor	0.33	0.08-1.38	0.13	0.37	0.09-1.40	0.14
	Resident	0.36	0.10-1.20	0.11	0.39	0.11-1.25	0.12
FMS reception	Yes	3.51	1.57-8.06	0.002	3.55	1.60-8.10	0.002
	No						
Gift reception	Yes	1.50	0.48-5.71	0.50			
	No						
Meal reception	Yes	1.29	0.53-3.05	0.60			
	No						
Participation to Congress support	Yes	1.15	0.47-3.09	0.80			
	No						
Invitation PGT/GMI	Yes	2.56	1.10-6.06	0.03	2.86	1.30-6.37	0.009
	No						
Request for a valuable prescription gift	Yes	0.65	0.21-2.36	0.50			
	No						
Professional satisfaction	No	2.70	1.17-6.01	0.016	2.71	1.18-6.02	0.015
	Yes						

The final model highlights these significant associations and quantifies the strength of the relationship between the variables. Receiving FMS is significantly associated with a 3.5-fold increase in the odds of changing a prescription ($p = 0.002$). No statistically significant associations were observed for receiving gifts (OR: 1.5; 95% CI [0.48–5.71]) or meals (OR: 1.29; 95% CI [0.53–3.05]). Furthermore, the odds of changing a prescription were twice as high among women compared to men, though this upward trend did not reach statistical significance ($p = 0.065$; 95% CI includes 1) (Table 4).

Qualitative results

Introducing the informants

In total, 11 pharmacists agreed to participate in the interview. They were aged 29 to 56, with more men (eight) than women (three). Many respondents were single (six), had between 4 and 32 years of experience, and worked either in a hospital or in a community pharmacy (Table 5).

Table 5: Identification of the pharmacists surveyed

Features	Age	Sex	Marital status	Profession	Job grade	seniority	Place of practice
Ph1	35	M	Married	Pharm.	Chief	7 years	Hospital
Ph2	30	F	Bachelor	Pharm.	Assistant	4 years	Pharmacy
Ph3	29	M	Bachelor	Pharm.	Assistant	4 years	Pharmacy
Ph4	31	F	Married	Pharm.	Chief	6 years	Hospital
Ph5	35	M	Bachelor	Pharm.	Assistant	8 years	Pharmacy
Ph6	35	M	Married	Pharm.	Assistant	7 years	Pharmacy
Ph7	38	M	Bachelor	Pharm.	Chief	10 years	Hospital
Ph8	44	M	Married	Pharm.	Assistant	20 years	Pharmacy
Ph9	56	F	Married	Pharm.	Holder	32 years	Pharmacy
Ph10	36	M	Bachelor	Pharm.	Assistant	9 years	Pharmacy
Ph11	38	M	Bachelor	Pharm.	Assistant	13 years	Pharmacy

Pharmacists' perception of medical samples

Free medical samples have always been an important tool for the pharmaceutical industry to connect healthcare professionals with laboratory products. Unfortunately, the very mixed reports on the use of these tools in the field have led several companies to regulate or even restrict their availability. This constitutes a real handicap for healthcare professionals, as the following respondent points out:

"*Before, the main thing that characterized a visit from a sales representative to your pharmacy was that you would get samples; it was so automatic that our drawers were overflowing. And they distributed a huge number of them, each taking their turn. It helped us too, especially for impoverished patients who couldn't afford treatment. But today things have changed. There are only a few Indian laboratories that still produce them, but in very small quantities; a representative can barely give you a box. It's possible that the Europeans have signed agreements to stop using them, since, it's said, many potential customers were using them for other purposes.*" (Ph 3)

Most healthcare professionals present free medical samples as a form of support, a form of assistance that the practitioner can provide to a patient in need, or to manage an emergency while waiting for the patient to obtain them from a pharmacy. This always generates significant interest among healthcare professionals in these gifts, which they make a prerequisite not only for setting up procedures but also for providing advice. This is also what the following interviewee reports in these words:

"*But for me, it remains an important discount; those who give them to doctors or pharmacists feel the impact on their sales. If I don't receive samples of at least two boxes to test for certain products, not only will I not order, but it will be difficult for me to advise a patient, especially newly released products, even if they contain molecules already on the market. The sample is crucial for me in that case!"* (Ph 8)

Pharmacists' attitudes towards gifts and meals offered

Almost unanimously, the respondents' answers made it clear that the impact of gifts and meals on a pharmacy representative's ability to stock or advise on a medication is undeniable. The small gestures of kindness shown by the medical representative during these visits (gadgets, gifts, meals, etc.) significantly contribute to making a positive impression on the pharmacy team and creating a privileged relationship with the pharmacy. In the eyes of the pharmacy manager, this sends very positive signals for good collaboration and, consequently, improved business performance. One of the respondents confirmed this with the following verbatim comments:

*"Without meaning to, we find ourselves recommending a product simply because we think of a representative who impressed us with their presence, actions, and attention to detail at the pharmacy level. But ultimately, we measure the full extent of the awareness involved in the decisions to recommend this or that product or to order and stock this or that quantity; it would be unfair to say that these gifts do not influence these decisions" (Ph*2).

DISCUSSION

Respondents' attitudes towards medical samples

In our sample, 71.7% of respondents acknowledged receiving FMS, with 45.6% reporting altered prescribing habits in the context of sample reception, and 55.6% observing the same trend among colleagues (Table 1). These rates align with Morgan et al. [34],

who found that 92% of respondents approved of accepting samples and 33% linked their prescribing decisions to sample availability. This is slightly higher than the 59% reported by Mikhael et al. [35] regarding physicians utilizing received samples for treatment. Collectively, these data suggest that FMS remain closely linked to prescription dynamics globally. Qualitatively, several respondents stated that certain prescriptions depend entirely on sample availability. Interviews with prospective doctors further underscored this perceived interdependence, as they reported an unwillingness to prescribe or stock new products in the absence of initial sample provisions.

In general, the launch of a new product is associated with the production of samples to encourage potential customers to recommend or prescribe it in a highly competitive environment. This is even more crucial when the therapeutic area being addressed falls within internal medicine, such as cardiology, nephrology, rheumatology, or endocrinology, where conditions are generally chronic and treatments are lengthy. Therefore, changes in treatment options must be justified by the added value the new medication provides. This point was raised during our interviews, where pharmacists emphasized that prescription-only medications require careful handling, especially since they are only available with a prescription. This reflects the significant investment required from medical representatives to ensure their prescriptions are successful. The use of medical samples is thus critical for these newly launched medications.

Participants' attitudes towards the meals offered and the gifts

According to Table 2, 77.6% of respondents had received a meal provided by pharmaceutical representatives, and 28% reported a concomitant modification in their prescribing habits. Similarly, while 19.6% of respondents reported receiving a valuable gift, 53.8% of this subgroup reported an associated variation in their prescriptions. These data differ from those presented by Atia et al. [36], where the presence of a logo on a gift was associated with a higher perceived influence for 27.3% of respondents. They also diverge from the findings of Mikhael et al. [35], where 91% of physicians accepted low-cost gifts and 41% accepted valuable gifts. In the latter study, gift and meal acceptance co-occurred frequently with reported changes in prescription habits, indicating a strong statistical association between these factors. Concurrently, the acceptance of these incentives is often perceived as an unethical practice, a trend also highlighted by Khazzak [37] in a cross-sectional study among Lebanese physicians. Furthermore, the current socio-professional circumstances of healthcare professionals (HCPs) are linked to a higher frequency of gift and meal acceptance, despite the widespread recognition of this practice as unethical. Makowska et al. [38] also mention this in their research conducted in Poland with 375 physicians, whose objective was to assess medical students' perceptions of two laws proposing solutions to conflicts of interest between physicians and the pharmaceutical industry regarding gifts. They conclude that the poor living conditions of physicians and the unequal access to healthcare expose HCPs to gifts and meals, even though they are bound by a valuable "anti-gift" law [39]. Another interpretation is needed regarding the low proportion of HCPs who admit to having changed their prescribing habits despite accepting the gift. A possible negative reaction to these gifts could justify this attitude, as they perceive them as a threat to their freedom of choice and decision-making. The psychological reactance of HCP is this response to the feeling of threat or loss of their latitude to fulfill their task objectively and independently.

Multivariate analysis

According to multivariate analysis, our study reveals that participation in a PGT/GMI is associated with an approximately threefold increase in the odds of prescription change, a relationship that is highly significant (OR=2.86, 95% CI [1.30-6.37], p-value=0.009). These results align with those of Qayyum et al. [40], Marlow [41], and Steinbrook [42], who observed that continuing education is strongly linked to both enhanced performance among healthcare professionals and distinct patterns in their prescribing habits. Our specific odds ratio is lower than the findings of Etain et al. [43], whose work demonstrated a higher frequency of exposure to pharmaceutical representatives among residents. This exposure was strongly associated with receiving gifts (OR 14.51, 95% CI 11.67-18.05). Conversely, our results differ from those presented by Ghaith [44], which indicated that participation in scientific training or a laboratory-supported conference shares no statistically significant association with the prescribing habits of healthcare professionals (OR=0.007, 95% CI [not specified], p-value=0.89), thus failing to reject the null hypothesis**.** This variability in influence would demonstrate not only the existence and relative knowledge of healthcare professionals regarding the rules governing the relationship between these healthcare actors and the pharmaceutical industry [45] but also to the monitoring that the various administrations give to the respect and implementation of these provisions [46]. In France, for example, the "DMOS" law (Legifrance, [47] and Bonnard [48]) was created to regulate the relationship between healthcare professionals and pharmaceutical companies. It specifies that every physician has the freedom to choose any medication, prescription, or therapeutic procedure, and must base this choice solely on ethical medical considerations. No other criteria may prevail, particularly those related to the benefits offered by pharmaceutical companies, under penalty of sanctions provided for by the same law. This law thus reinforces the position of certain authors whose highly critical argument is that these scientific training sessions and conferences (with meals offered and many types of free gifts) should focus more on the laudable objective of continuing professional development (CPD) and not on food and cocktails [49].

CONCLUSION

This study indicates that medical samples, meals, and various gifts are major components of pharmaceutical promotion. Despite being free of charge, these incentives are strongly associated with variations in the prescribing habits of healthcare professionals. However, in certain contexts, these practices coincide with psychological reactance among prescribers, which is linked to outcomes opposite to those initially intended by the industry. Consequently, it appears relevant for the Cameroonian administration to regulate and standardize the distribution of medical samples and gifts. Properly framing these practices could support the optimization of professional medical exercise and, by extension, benefit public health.

Strengths and limitations of this study

This is a pilot study in Cameroon. To date, we have found no studies addressing the issue of donations to healthcare professionals and their impact on their practice. Furthermore, it will shed light on one of the sources of conflicts of interest that exist in medical practice in Cameroon. Data collection took place in an environment where all categories of healthcare facilities are represented, providing a comprehensive overview of the healthcare system across the entire spectrum.

A limitation of this study is that the sampling method was non-probability-based, as we were unable to obtain an up-to-date database of physicians in the Mfoundi Division. This could introduce bias and make it difficult to generalize the results. The study also evaluates some of the strategies used in pharmaceutical promotion, among many others. Numerous other avenues exist today, such as patronage, which supports associations and charities and is difficult to assess, and the influence of Key Opinion Leaders (KOLs), whose impact is significant. Cash payments are also a subject of debate in the relationships between physicians and the pharmaceutical industry. Future research could explore these other aspects and expand the study to the entire country.

Conflicts of interest

The authors declare that they have no affiliation or involvement with any organization or entity having a financial interest in the subject.

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