Assessment of Benzodiazepines Dependence in Patients During Dispensing at Neighbourhood Pharmacies in Cote d'Ivoire

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Research Article

ABSTRACT

Objective: To identify the dispensing modes of benzodiazepines (BZD) and the level of dependence of patients to these drugs in the context of neighbourhood pharmacies.

Methods: We carried out an observational study from December 2014 to August 2015 on the dispensing of BZD in 10 neighbourhood pharmacies selected randomly on the basis of one pharmacy in each district of Abidjan (Cote d'Ivoire). The survey was conducted with consenting patients whatever the mode of dispensing: medical prescription (MP), spontaneous demand (SD) or pharmaceutical council (PC). The Cognitive scale for benzodiazepine attachment (ECAB scale) was used with patients. An ECAB score ≥ 6 helps identify dependent patients.

Results: A total of 298 patients were enrolled; dependence was assessed in 94.63% of them. The sex ratio was 1.5 males per female; the average age was 44.2 ± 14.2 years. Alcohol consumption was mentioned by 44.3% of patients. The dispensing of BZD was done by MP (61.4%), SD (34.9%) and PC (3.7%). The regulatory compliance of prescriptions was 54.6%. The most dispensed BZD were bromazepam (42.3%) and clonazepam (22.5%). A use of BZD ≥ 3 months concerned 40.6% of patients. An ECAB score ≥ 6 was found in 47.9% of patients. A duration of use of BZD>3 months was associated with a 25 times higher probability of being dependent (ECAB score ≥ 6).

Conclusion: Pharmaceutical interventions should allow prevention, screening or management of BZD dependence. An optimal pharmaceutical follow-up must be exercised in neighbourhood pharmacies: an interview with the patient, the taking into account of the regulatory compliance of prescriptions, compliance with the rules for BZD delivery, respect of the limits of pharmaceutical medication with BZD, advice of respect of adherence and management of dependent patients.

INTRODUCTION

The pharmacist represents a vital link in the therapeutic process of management of inpatients and outpatients. Specifically, the pharmacist remains a local health professional, ensuring a constant presence and whose access is unrestricted. He is therefore a privileged interlocutor of the health system and a gateway in the course of care [1]. He plays a fundamental role in this course, especially in prevention and plays a real role of sentinel in public health. He also allows for regular monitoring of patients that he often sees for the dispensing of medicines. He is then a privileged channel for reporting information on adverse effects of treatment, as well as questions that may arise during the management of patients [2].

Pharmaceutical interventions can enable the prevention or detection of drug dependence, including benzodiazepines (BZD).

BZD are ambivalent molecules; effective on the one hand with a psychotropic effect that acts in the first minutes following the taking, but whose use can become a source of significant side effects and dependence [3].

However, over consumption of BZD is a reality world-wide. Lagnaoui et al. reported that 7.5% of the study population was regular consumers of BZD and over three quarters of them were chronic users [4]. Bourin presented in his study a prevalence rate of 3% of continuous use of BZD in the general population between 18 and 80 years [5]. Other studies have estimated that BZD accounted for 38% of hypnotic prescriptions in the United States [6-8]. The study "Epidemiology of Vascular Aging" (EVA), on a sample of 1265 elderly subjects (60-70 years) reported that the use of BZD was found in 23% of participants [9]. In Switzerland, Petitjean et al. reported in the retrospective analysis of the database of the community pharmacy distribution that 45,309 patients (9.1%) received at least one prescription of BZD within 6 months.

These patients received a total of 128,725 prescriptions of BZD [10]. According to Pelissolo et al. 25% to 30% of adults have already consumed a psychotropic anxiolytic/hypnotic drug in the French general population [11]. In 2002/2003, a study named ESEMeD (European Study of the Epidemiology of Mental Disorders) was conducted in several European countries with more than 20,000 adults. This study showed that 12% of respondents had used at least one psychotropic drug during the previous year. Among these 12%, 9.8% were consumers of anxiolytics [12].

In many African countries, the non-therapeutic use of drugs subject to medical prescription, such as BZD, is still a source of considerable problems. The misuse of prescribed psychoactive substances is common [13]. Many BZD (zolpidem, bromazepam, alprazolam, clonazepam and zopiclone) are among the most found on suspect falsified medication orders presented to pharmacists (OSIAP investigation 2011) [14]. In Cote d'Ivoire, one study revealed the consumption of BZD in 34% of individuals with a urine test. The simultaneous detection of at least two drugs in the same urine sample involved 21 patients. The psychoactive substances most often found were cannabis and BZD; the most frequent associations involved the BZD [15].

The use of BZD causes problems of tolerance, dependence, effects on cognitive functions such as impairment of memory, concentration, without omitting to mention the abuse involving the taking of these molecules [16]. The prevalence of dependence in the general adult population is between 0.5 and 1% [17]. According to Cloos et al. 5% of the consumer population of BZD would be subject of high dose dependence, accounting for 1% of the general population [18]. The assessment of this dependence is difficult because if we refer to the definitions of the DSM-IV, we have dependence criteria for psychoactive substances in general and not specifically to the BZD. In addition, there are multiple addiction screening scales. These scales do not allow making a medical diagnosis but are useful for rapid screening. We can mention CAST score (Cannabis Abuse Screening Test), the ECAB scale (Cognitive Scale for Benzodiazepines Attachment), The DAST scale (Drug Abuse Screening Test), the ADOSPA questionnaire (Teens and psychoactive substances), etc.

All BZD had been monitored by pharmacovigilance and addictovigilance networks. In Cote d'Ivoire, data on the prevalence of BZD dependence are rare. In the absence of addictovigilance system in this country, the commitment of the pharmacist to take on towards his patient the responsibility for achieving the preventive or curative objectives of drug therapy must be real with BZD.

It is useful to carry out cross-sectional studies showing the main BZD used and the level of dependence of their users. The aim of our study was to determine in the context of neighbourhood pharmacies the modes of dispensing of BZD and the level of dependence of patients to these psychotropic drugs in Cote d'Ivoire.

MATERIALS AND METHODS

Study Type

We carried out an observational study on the dispensing of BZD. The survey was conducted from December 2014 to August 2015 with a minimum of two week-time in 10 neighbourhood pharmacies in Abidjan (Cote d'Ivoire) on the basis of one pharmacy selected randomly in each district. Each pharmacy chosen was drawn among all pharmacies of each district. The complete list of pharmacies in the city of Abidjan came from the National order of Pharmacists.

Method of Investigation

The interview of the patient has been performed with a standard questionnaire in a private area guaranteeing the confidentiality of the information provided by the patient.

Selection criteria of patients

Our study included major patients (age ≥ 18 years), with a medical prescription of BZD or requiring spontaneously the delivery of BZD or soliciting a pharmaceutical advice for the delivery of BZD. Patients selected were those to whom the BZD was intended. All subjects in our study gave their consent to participate in the study.

Assessment Scale of Benzodiazepine Dependence

The Cognitive Scale for Benzodiazepines Attachment (ECAB scale) was used to measure the level of dependence to these psychotropic drugs. The ECAB questionnaire consists of 10 items scored 1 or 0. The rating process consist in assigning 1 point in case of answer "true" except for question 10, where the point is obtained in case of answer "false" and 0 point in the contrary case. The total score for the questionnaire is obtained by adding up the points from each item. The use of ECAB scale allows to

assess quickly (about 3 min) thoughts (cognitions) of a patient receiving BZD for several months with a good correlation vis-a-vis a possible dependence [19]. This scale has been validated in a sample of 52 psychiatric patients, hospitalized or outpatients consuming BZD daily for at least 3 months [19]. A score ≥ 6 differentiates dependent patients from non-dependent patients with test sensitivity of 94% and specificity of 81%. The diagnostic properties of ECAB scale and the limited number of questions showed that it can be used to assess attachment of outpatients to BZD. The subjects of our study whose ECAB score was greater or equal to 6 were considered dependent and the others non-dependent.

Logistic Equation

We searched for the probability of having an ECAB score of ≥ 6 according to the influence of explanatory variables selected. It is then a matter of quantifying the impact (Odds Ratio) of explanatory variables on the variable to explain (ECAB score). The different variables are shown in **Table 1.**

Table 1. Codes, values and expression of modalities of variables for logistic equation.

Variables		Modalities	Score	Significance
Explanatory variables	Age	<50 years	1	Predictive
		≥ 50 years	0	Non predictive
	Gender	female	1	Predictive
		Male	0	Non predictive
	Duration of use	>3 months	1	Predictive
		≤ 3 months	0	Non predictive
	Alcohol consumption	yes	1	Predictive
		No	0	Non predictive
Variable to explain	ECAB score	ECAB score ≥ 6	1	BZD dependent
				patient
		ECAB score <6	0	BZD non-dependent
				patient

Note: ECAB: Cognitive Scale for Benzodiazepines Attachment

Data analysis

SPSS Version 20.0, EPI Info Version 6 and Xlstat 2015 were used for data analysis. Chi-square and Fisher exact tests have been used. The significance threshold of these tests was 5%.

RESULTS

General Characteristics of Patients

A total of 298 patients were recruited. The sex ratio was 1.50 males per female. The mean age was 44.2 ± 14.2 years. Alcohol consumption (regular or occasional) was mentioned by 44.3% of patients **(Table 2).**

Table 2. General characteristics of patients (N=298).

Age (years)	Mean ± SD	44.2 ± 14.2
Gender [N (%)]	Male	179 (60.1)
	Female	119 (39.9)
Marital status [N (%)]	Single	86 (28.9)
	Divorced	16 (5.4)
	Married	105 (35.2)
	cohabitation	59 (19.8)
	Widow/widower	29 (9.7)
	No information	3 (1)
Main situation	Job	102 (34.2)
	Study	16 (5.4)
	unemployment	59 (19.8)
	Retirement	31 (10.4)
	housewife	32 (10.7)
	Other situation	53 (17.8)
	No information	5 (1.7)
Alcohol consumption [N (%)	No	166 (55.7)
	Regular	43 (14.4)
	Occasional	89 (29.9)
Principal residence [N (%)]	Abidjan	286 (55.7)
	Out of Abidjan	3 (1)
	Out of Cote d'Ivoire	9 (3)

Dispensing Modes of Benzodiazepines

The dispensing of BZD was made essentially following a medical prescription (61.4%). Spontaneous demand of BZD concerned 34.9% of patients. The pharmaceutical council has less concerned this dispensing **(Figure 1).**
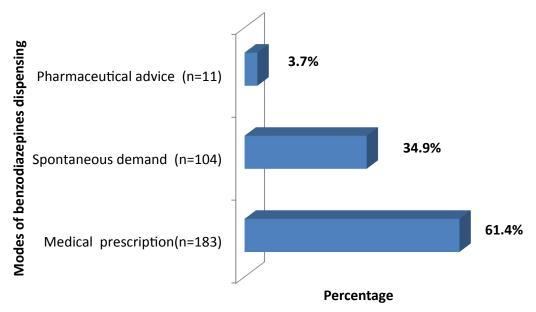

Figure 1. Dispensing modes of benzodiazepines.

Regulatory Compliance of Benzodiazepines Prescription and Duration of Use

The general regulatory non-compliance of prescriptions was 54.6%. Duration of treatment greater or equal to 12 weeks was observed in 25.6% of prescriptions. These prescriptions of BZD had no mention of duration of treatment in 57.4% of cases. A use of BZD greater or equal to 3 months concerned 40.6% of patients **(Table 3).**

Table 3. Regulatory compliance of the prescription of benzodiazepines and duration of use.

		N (%)
Regulatory compliance of the prescription	Yes	83 (45.4)
	No	100 (54.6)
	Total	183 (100)
Duration of treatment mentioned on the prescription (weeks)	<4	22 (12)
	[4-12]	9 (5) 78 (42.6)
	≥ 12	47 (25.6)
	Not mentioned	105 (57.4)
	Total	183 (100)
Duration of use by patients (months)	<3	177 (59.4)
	≥ 3	121 (40.6)
	Total	298 (100)

Profile of Dispensed Benzodiazepines

The dispensed BZD were essentially anxiolytics (97.7%). Bromazepam (42.33%), clonazepam (22.5%) and midazolam (7.7%) were the most dispensed BZD **(Figure 2).**

Level of Dependence to Benzodiazepines by Cognitive Scale for Benzodiazepines Attachment

The level of BZD dependence was assessed in 94.63% of patients (N=282) in our study. Dependence was found according to ECAB scale in 47.9% of patients **(Figure 3).**

Answers to Items of Cognitive Scale for Benzodiazepines Attachment

The item most expressive of a potential dependence "This medicine is like a drug for me" was confirmed in 62.4% of patients. Some items that could express psychological dependence namely "Wherever I go, I need to have this medicine with me" and "I often think I'll never be able to stop taking this medicine" concerned respectively 55.7% and 36.9% of patients. Other items in connection with a possible physical dependence namely "I take this medicine because I don't feel well when I stop it" and "When I stop taking this medicine, I feel very ill" were confirmed respectively by 55% and by 27.6% of patients **(Table 4).**
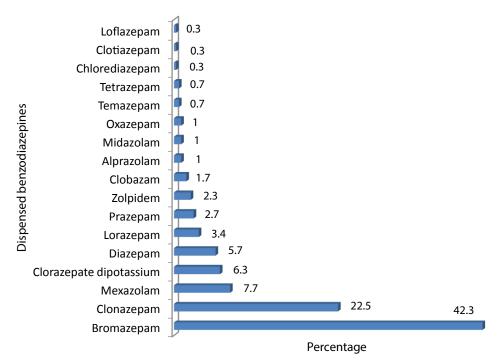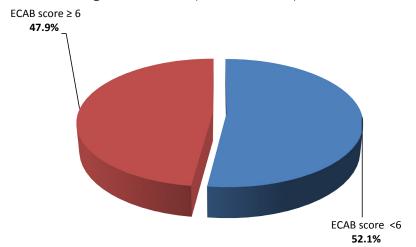
Figure 2. Profile of dispensed benzodiazepines.

Note: ECAB: cognitive scale for benzodiazepines attachment

Figure 3. Proportion of patients with dependence to benzodiazepines (ECAB score ≥ 6).

Table 4. Answers to items of cognitive scale for benzodiazepines attachment.

Items of ECAB questionnaire	Patients who gave an affirmative answer to the item [N (%)]
1-Wherever I go, I need to have this medicine with me	157 (55.7)
2-This medicine is like a drug for me	176 (62.4)
3- I often think I'll never be able to stop taking this medicine	104 (36.9)
4- I avoid telling my family and friends that I'm taking this medicine	106 (37.6)
5- I have the feeling that I'm taking far too much of this medicine	125 (44.3)
6- I'm sometimes afraid when I think about not having this medicine	111 (39.4)
7- When I stop taking this medicine, I feel very ill	78 (27.6)
8- I take this medicine because I cannot do without it any more	124 (44)
9- I take this medicine because I don't feel well when I stop it	155 (55)
10- I only take this medicine when I feel I need it	207 (73.4)

Note: ECAB: Cognitive scale for benzodiazepines attachment

Influence of Factors on Benzodiazepines Dependence

Factors such as age (p=0.008), gender (p=0.005), alcohol consumption (p=0.007) and the duration of use of BZD (p<0.01) were significantly associated with ECAB score **(Table 5).** Patients of our study that had a duration of use of BZD>3 months had a 25 times higher probability to be dependent to BZD (ECAB score ≥ 6) compared to other users **(Table 6).**

DISCUSSION

In our study, the sex ratio was 1.5 males per female. Dièye et al. reported in their study that BZD were mainly prescribed to women with a sex ratio of 2.1 females per male [20]. They explained this strong trend of prescription to females by poverty and household problems [20]. The female predominance was also found in other works on the prescription and use of BZD [10,21]. The average age of patients who came for dispensing of BZD was 44.2 ± 14.2 years. In the study of Jeantaud et al. All age groups of the population are consumers of BZD, from 20 years with a much greater use from 60 years [22].

Alcohol consumption was found in 44.3% of patients. This consumption of alcohol can seriously increase the frequency of occurrence of side effects associated with the taking of BZD. And so alcohol consumption in subjects on BZD long term treatment exacerbates depression and anxiety [23,24]. Studies carried out in Britain over ten years, have revealed that the use of BZD alone or in combination with alcohol led to more cases of suicides (1576 deaths) than other drugs such as amitriptyline (1083 deaths) and dothiepin (981 deaths) [25,26].

In our study, the medical prescription and spontaneous demand were the main modes of dispensing of BZD. The fact that BZD are dispensed following a spontaneous demand is quite alarming because of the potentially problematic nature of their use. These drugs are among medicines which are obtainable only on medical prescription. In some countries, BZD have moved from medicines of list 1 to narcotic drugs [27]. The regulation on the dispensing of BZD in Cote d'Ivoire must be followed by pharmacists. The delivery of BZD should be reserved only to patients medically followed and having been subject to a prescription limited in time. Apart from the therapeutic aspect, BZD can be misused for criminal purposes. Indeed, a particular forensic problem is raised by taking unwittingly BZD, and finding oneself in criminal acts, such as rape (date rape drug) [28] or in pathological states like Munchausen syndrome and Munchausen syndrome "by proxy", with auto or hetero BZD administration [29].

Table 5. Influence of factors on benzodiazepine dependence.

		ECAB score		p
		<6 [N (%)]	≥ 6 [N (%)]	
Alcohol	Yes	56 (38.10)	73 (54.1)	0.007[†]
	No	91 (61.90)	62 (45.9)	
Gender	Male (M)	75 (51.1)	91 (67.4)	0.005[†]
	Female (F)	72 (48.9)	44 (32.6)	
Age (years)	<50	105 (71.4)	76 (56.3)	0.008[†]
	≥ 50	42 (28.6)	59 (43.7)	
Duration of use (months)	<3	127 (86.4)	36 (26.7)	<0.01[†]
	≥ 3	20 (12.6)	99 (73.3)	
General regulatory compliance of the prescription	yes	43 (49.4)	32 (43.2)	0.42[†]
	No	46 (50.6)	42 56.8)	
Marital status	Single	45 (30.6)	34 (25.2)	0.167[†]
	Divorced	5 (3.4)	11 (8.1)	
	Married	54 (36.7)	48 (35.5)	
	Cohabitation	32 (21.8)	24 (17.8)	
	Widow/widower	11 (7.5)	18 (13.4)	
Principal situation	Job	58 (39.5)	38 (28.1)	0.010[†]
	Study (Pupils, students)	7 (4.8)	7 (5.2)	
	Unemployment	19 (12.9)	39 (28.9)	
	Retirement	13 (8.8)	17 (12.6)	
	housewife	17 (11.6)	15 (11.1)	
	Other situations	33 (22.4)	19 (14.1)	
Reasons for BDZ taking according to patients	Anxiety, stress	42 (28.6)	46 (34.1)	0.319[†]
	Depression	11 (7.5)	10 (7.5)	0.995[†]
	Sleeping disorder	103 (70.1)	85(62.9)	0.206[†]
	Epilepsy	11 (7.5)	27 (20)	0.002[†]
	Alcohol dependence (weaning assistance)	0 (0)	7 (5.2)	0.005[
	Pain	11 (8.1)	20 (14.9)	0.047[†]
	Other	135 (54)	115 (46)	0.359[†]
	No information	12 (8.2)	10 (7.4)	0.800
Duration of treatment mentioned on the prescription	Yes	37 (43)	26 (36.6)	0.41[†]
	No	49 (57)	45 (63.4)	
Dose	Correct	86 (96.6)	69 (90.8)	0.10[
	Incorrect	3 (3.4)	7 (9.2)	

Note: ECAB: Cognitive scale for benzodiazepine attachment; [†]Chi-square test; "Fisher Exact Test".

Table 6. Odds ratio representing relative risks to ECAB score ≥ 6 according to predictive variables.

Predictive variables	References	OR*	P[	CI 95%§
Age<50 years	Age ≥ 50 years	0.45	0.077	0.19-1.09
Female gender	Male gender	1.07	0.879	0.43-2.67
BZD use duration>3 months	BZD use duration ≤ 3 months	25.28	<0.01	9.83-65
Alcohol consumption	No alcohol consumption	2.27	0.072	0.93-5.55

Note: OR*: odds ratio; [P: level of significance; §CI: confidence interval

Alternatives to BZD must be proposed during a pharmaceutical advice with cases of occasional anxiety and insomnia. Phytotherapy may be indicated in mild forms of anxiety and sleep disorders (passionflower, hawthorn or valerian). Among the allopathic drug alternatives, hydroxyzine (H1-antihistamine with rapid anxiolytic effect) has effectiveness in the minor anxiety states. Among the phytotherapy alternatives to BZD in insomnia, the following plants, some of which are beyond pharmaceutical monopoly can be mentioned: lime tree, verbena, lemon balm, orange tree, hawthorn, passionflower, valerian, black horehound [30]. Sedating antihistamines may constitute allopathic alternatives to BZD: Alimemazine, promethazine, doxylamine, etc. [31].

Pharmaceutical advice related to hygiene and diet rules applicable in the case of isolated insomnia apart from a somatic or psychiatric pathology should also be considered: regular bedtimes and waking hours, avoid naps during the day, dark and quiet environment to sleep, no clock near the bed (too frequent checking of the time), no consumption of stimulants like caffeine before bedtime, or tobacco (stimulant effect of nicotine), no overeating in the evening (disturbs sleep), no alcohol consumption (facilitates sleep but causes nighttime awakenings), practice of relaxing activities (walking, music, etc.), sports practice in the late afternoon, etc. Other alternatives exist in case of anxiety and insomnia (bibliotherapy in anxiety, psychobehavioral techniques in insomnia...).

More than half of BZD prescriptions presented a general regulatory non-compliance in our study. This non-compliance could be more related to prescribing practices than to the nature of the product prescribed. Indeed, studies have generally reported the incomplete nature of prescriptions [32,33]. Bocquet et al. found in a French hospital that 64% of prescription lines had at least an oversight or error in relation to prescription standards [34]. According to the study of Paul et al. several irregularities were observed in drafting the medication orders at the end of hospitalization [35].

The dosage was specified only one time in two (1/2), the galenic form (1/3), modalities of use (1/3) and dose (1/5) [35]. Sondo et al. reported that errors or omissions were frequent on the duration of treatment, dosage, drug determination and dosage form on prescriptions in Ouagadougou (Burkina Faso) [36]. In general, regulatory non-compliance of medical prescriptions is a widespread problem. But specifically, this non-compliance can have serious consequences with BZD. In our study 57.4% of prescriptions had no indication of the duration of treatment. The absence on a BZD prescription of information such as the time of taking the drug or the duration of treatment can make their use problematic.

In our study a quarter of BZD prescriptions had a treatment duration mentioned on medication orders greater or equal to 12 weeks. These results are different from those of Petitjean et al. Who reported that the majority of patients (83.2%) had treatment duration of less than 90 days (12 weeks) [10]. Furthermore, studies have shown that the effectiveness of BZD compared with placebo has not been demonstrated beyond 30 days of use [37,38].

A use of BZD greater or equal to 3 months concerned 40.6% of our patients. Dièye et al. reported that the duration of the use of BZD was more than three months and less than one year for 18.67% of patients [20]. In addition, 23.33% of patients said they used BZD for a year or more [20]. The relatively long duration of BZD consumption observed in our study could be explained by the ease with which patients get them without prescription. This practice promotes a tacit renewal of BZD consumption and a period of use greater than the one prescribed or recommended. The use of BZD has long been seen as having little lethal effect in case of abuse [39]. However prolonged use of BZD should always be considered as at risk, because it exposes consumers to the risk of dependence and psychological and/or physical consequences [40].

BZD dispensed in our study were mostly anxiolytics (97.7%). Anxiety and insomnia are the main indications of BZD [41]. Bromazepam (42.33%), clonazepam (22.5%) and mexazolam (7.7%) were the most dispensed BZD. In the study of Pelissolo et al., the most used BZD was also bromazepam (44.4%) [42]. Petitjean et al. reported that lorazepam was the most prescribed BZD (28.3%), followed by zolpidem (18.1%), oxazepam (17.5%), bromazepam (16.7%) and alprazolam (9.1%) [10]. Dièye et al. reported the strong use of prazepam (36%), clorazepate dipotassium (20.16%), lorazepam (16%) and diazepam (8.67%) [20]. A study carried out with 4007 patients showed that the BZD most prescribed were bromazepam and lorazepam, which have half-lives of 15 to 20 h [4].

The BZD prescribing profiles differ from one study to another, certainly because of the profile of patients and physicians' prescribing habits. Generally, bromazepam is one of the most prescribed BZD. Bromazepam is more prescribed in pathological situations requiring rapid action. Indeed this BZD has a short onset of action (0.5 to 4 h) [43]. It is fundamental to control the pharmacokinetics of BZD because they often give active metabolites that prolong their period of action [43]. Clorazepate dipotassium (6.3%) and prazepam (2.7%) dispensed in our study would have half-lives of 70 h if we take into account the effects of their metabolites [43].

The BZD with short period of action are more prescribed in insomnia while those with long period of action are reserved for cases of anxiety. The BZD with long period of action are eliminated slowly enough and may experience a gradual weaning with few physical symptoms [43]. BZD with short duration of action such as triazolam (half-life=4 h) may result in a weaning syndrome even between their taking periods [44].

Dependence was found according ECAB scale in 47.9% of patients of our study. In a large epidemiological study, out of 4425 patients suffering from anxiety and/or depression, BZD consumers over a long period in general medicine, the authors found 55% of people considered dependent [42]. In another study, a dependence rate slightly lower (39.5%) was found among patients [45].

In our study, the most expressive item of potential dependence "This medicine is like a drug for me" has been confirmed by many patients (62.4%). In the study of Pelissolo et al., this item was confirmed by 50.1% of long period BZD consumers in general medicine [42]. Some items that could express psychological dependence namely "Wherever I go, I need to have this medicine with me" and "I often think I'll never be able to stop taking this medicine" concerned 55.7% and 36.9% of patients respectively. In the study of Pelissolo et al. These items related to psychological attachment were more important (71% and 63.7%) [42].

BZD dependence is similar to many products called explicitly narcotics. In Cote d'Ivoire, BZD are more and more found among drug products seized by police. Among these seizures, BZD appear increasingly with an increase of +116% from the period 1991-1999 (17.88 kg/year) to the period 1999-2007 (38.66 kg/year) [46]. However, patients of our study with a problematic use of BZD (ECAB score ≥ 6) cannot systematically be considered as drug addicts. Indeed in a review, Ashton has distinguished three types of BZD dependent people: dependent to therapeutic doses (by repeatedly taking BZD), dependent at very high doses (high doses of BZD by their own initiative), drug addicts with multiple drug consumption [38].

Our study has shown that factors such as age, gender, alcohol and duration of use are associated with BZD dependence. But it highlighted the important influence of the duration of use on the susceptibility to be dependent or not on the consumption of BZD. Indeed, patients of our study with duration of use longer than 3 months had a probability 25 times higher to be dependent.

It has been reported that the use of BZD for over a year leads to dependence in 50% or more of patients [47,48]. The average risk of developing dependence to BZD after several months of treatment is conventionally estimated at approximately 50% [48,49]. The dependence phenomenon plays an important role in the sustainability of the use of BZD. The induction of BZD dependence is related to the chronicity of their use [50].

In the study of Pelissolo et al, the main risk factors associated with the taking of anxiolytics were: female gender, young age and the importance of psychic and somatic disorders [11]. Our study showed that the socio-economic and marital status did not influence the BZD dependence. Nkogho et al. also reported that marital status and education level did not influence the degree of dependence on BZD [51].

CONCLUSION

The existence of many regulatory failures was notable in the dispensing of BZD in several neighbourhood pharmacies in Abidjan. BZD dependence of patients who came to the pharmacy for a dispensing is quite important. Pharmaceutical interventions should allow the prevention, screening and/or management of BZD dependence. Essential pharmaceutical acts should be implemented during the dispensation of BZD for an optimal pharmaceutical follow up: an interview with the patient, the taking into account of the regulatory compliance of prescriptions, compliance with the rules for BZD delivery, respect of the limits of pharmaceutical medication with BZD, advice of respect of adherence and management of dependent patients.

CONFLICT OF INTEREST

None.

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