Knowledge, attitudes and practices relating to epilepsy and associated factors in the student population of Brazzaville.
Connaissances, attitudes et pratiques relatives à l'épilepsie et aux facteurs associés dans la population estudiantine de Brazzaville.

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Abstract:

Introduction:
Epilepsy is, after headaches, the second most common chronic neurological pathology in the world. In sub-Saharan Africa, the socio-cultural representations attached to this pathology constitute a real obstacle to its effective care (PEC). In order to improve the management of EVPs, we have done this work with the general objective of describing the socio-cultural representations of epilepsy.

Population and methods:
We carried out a cross-sectional, descriptive and analytical study of CAP type in all UMNG institutions and in the two private Universities of the city of Brazzaville (ESGAE and EST) for a period of two months. In total, 264 students were included in our study. They were selected by simple random sampling. These students were subjected to a questionnaire inspired by the EMIC and allowing to describe the socio- demographic characteristics, to evaluate the level of knowledge, attitude and practice as well as the different therapeutic itineraries chosen for the care of EVPs.

Results:

The median age of the respondents was 24 years old. There was a clear male predominance (sex ratio = 1.7). The most represented ethnic groups were KONGO (61.7%), TEKE (20.1%) and BANGALA (17.1%). One hundred percent of the students knew the disease called "epilepsy", they knew its denomination in mother tongue: mpouka (KONGO), itsoua (TEKE), otsinga (BANGALA). In Lingala and Kituba, it was "malade ya ndeke". However, only 26.9% had a good level of knowledge about epilepsy according to our judgment criteria, the associated ones are the highest level of education (OR = 2.08, p = 0.010) and having already observed an epileptic seizure (OR = 5.04, p = 0.009). It was noted that 11.7% of students expressed stigmatizing attitudes toward the POIs and practical actions in the face of a seizure victim were inadequate. On the other hand 70.5% would choose the Hospital as first aid.

Conclusion:

Epilepsy remains poorly known and subject to stigmatization even in the most educated populations. Hence the need for awareness campaigns.

Keyswords: Attitude- Epilepsy – Brazzaville- Knowledge- Student

Résumé :

Introduction :
L'épilepsie est, après les céphalées, la deuxième pathologie neurologique chronique la plus fréquente au monde. En Afrique subsaharienne, les représentations socioculturelles attachées à cette pathologie constituent un véritable frein à sa prise en charge efficace (PEC). Afin d'améliorer la prise en charge des PEV, nous avons réalisé ce travail avec l'objectif général de décrire les représentations socioculturelles de l'épilepsie.

Patients et méthodes :
Nous avons réalisé une étude transversale, descriptive et analytique de type CAP dans tous les établissements de l'UMNG et dans les deux Universités privées de la ville de Brazzaville (ESGAE et EST) pour une durée de deux mois. Au total, 264 étudiants ont été inclus dans notre étude. Ils ont été sélectionnés par échantillonnage aléatoire simple. Ces étudiants ont été soumis à un questionnaire inspiré de l'EMIC et permettant de décrire les caractéristiques socio-démographiques, d'évaluer le niveau de connaissances, d'attitude et de pratique ainsi que les différents itinéraires thérapeutiques choisis pour la prise en charge des PEV.

Résultats :

L'âge médian des répondants était de 24 ans. Il y avait une nette prédominance masculine (sexe ratio = 1,7). Les ethnies les plus représentées étaient les KONGO (61,7 %), les TEKE (20,1 %) et les BANGALA (17,1 %). Cent pour cent des élèves connaissaient la maladie appelée « épilepsie », ils connaissaient sa dénomination en langue maternelle : mpouka (KONGO), itsoua (TEKE), otsinga (BANGALA). En lingala et en kituba, c'était « malade ya ndeke ». Cependant, seuls 26,9% avaient un bon niveau de connaissance sur l'épilepsie selon nos critères de jugement, les associés sont le plus haut niveau d'éducation (OR = 2,08, p = 0,010) et ayant déjà observé une crise d'épilepsie (OR = 5,04, p = 0,009). Il a été noté que 11,7% des étudiants ont exprimé des attitudes stigmatisantes envers les POI et que les actions pratiques face à une victime de crise étaient inadéquates. En revanche 70,5% choisiraient l'Hôpital comme premiers secours.

Conclusion :

L'épilepsie reste mal connue et sujet à stigmatisation même dans les populations les plus éduquées. D'où la nécessité de campagnes de sensibilisation.

Mots clés : Attitude- Brazzaville –Connaissances- Epilepsie- Etudiant

INTRODUCTION:

Epilepsy is a brain disorder defined by either the occurrence of at least two unprovoked epileptic seizures more than 24 hours apart; either by the occurrence of an unprovoked seizure and a probability of at least 60% of being the victim of new seizures during the following 10 years; or by the diagnosis of an epileptic syndrome [1]. After headaches, it is the most common chronic neurological condition in the world, with 50 million

people affected, 80% of them in developing countries [2]. In industrialized countries, the prevalence of epilepsy is 7.1 ‰ [3]. In sub-Saharan Africa, PVE mortality is twice that of the general population [4, 5].

Sociocultural representations (popular beliefs) of epilepsy in sub-Saharan Africa are associated with the stigmatization of PVEs until today, alongside the lack of qualified personnel and the inaccessibility to diagnostic means and antiepileptic drugs [6]. While in developed countries 70% of PVE can be cured, nearly three quarters of PVEs in low- and middle-income countries do not receive adequate care [2].

In Africa, the young population constitutes the largest proportion in the majority of countries. Students represent the most educated segment of this population. These are the future opinion leaders, decision-makers and heads of families, who may influence preconceived ideas about PVE in the future. In an initial publication, the socio-cultural representations of epilepsy in the student population were reported. In this second publication, the aim is to assess the level of knowledge, attitude and practice about epilepsy and the factors associated with it in this population, based on data relating to its socio-cultural representations.

METHODS:

This was a study of the knowledge, attitudes and practices type, carried out between May and July 2017, in the establishments of the University Marien Ngouabi (UMNG) of Brazzaville and the only two private higher education establishments of Brazzaville. approved. It included the students enrolled in the different establishments, who answered the questionnaire clearly and exhaustively.

Study subjects were selected by stratum sampling with two levels; the study option (science and technology, literature and sport) and the level of study (first cycle versus second and third cycle). The questioning of each subject was conducted in isolation. The minimum sample size was estimated at 233.6 subjects by Schwartz's formula, based on the prevalence of good knowledge of epilepsy (81.3%) [3].

The data were collected by a semi-structured interview, based on an interview guide inspired by the Explanatory Model Interview Catalog (EMIC), having cross-cultural validity and adaptable to the environment and to the disease studied [7-10]. Each subject was interviewed individually and in isolation during his break. A pre-test carried out one month before the survey, involving 15 students, established proper understanding of the questionnaire.

The level of knowledge was assessed on the basis of all the knowledge on epilepsy: perceived causes, evolutionary methods (curability, contagiousness, severity), the existence of a differential diagnosis, manifestations of the epileptic seizure and triggering factors. , other types of manifestations, means of treatment. A nine-item evaluation grid was designed for this purpose (Table I). Each item was assigned a rating of 1 to 3 points. The total score corresponded to the sum of the points obtained for each item. The level of knowledge was considered insufficient for a total score between 9-13, as average for a score between 14-18, and good for a score between 19-27. To determine the factors associated with the level of knowledge, subjects with a "good level" and those with a poor level were compared, including both subjects with an "insufficient" and "average" level of knowledge.

Table I : Knowledge level assessment grid

Items	Quotation		
	1 points	2 points	3 points
Perceived causes	No exact cause	1 to 2 exact causes	At least 3 exact causes
Contagiousness	Contagious	No response	Non catagious
Curability	No	No answer	Yes
Severity	Not serious	No response	Serious
Means of treatment	Prayer and/ or traditional medecine	Modern medecine and/ or traditional medecine and prayer	Modern medecine
Manifestations of the generalized tonicoclonic seizure	Less than 2 signs	2 to 3 signs	At least 4 signs
Factors triggering the crisis	None	At least 1	At least 2
Other types of events	None	At least 1	At least 2
Existence of a differential diagnosis	No	No answer	Yes

The level of attitude was assessed on the basis of the answer given to 16 questions relating to the rights to study, to exercise a profession, to marry and to the various prohibitions (Article 1). A stigmatizing attitude was adopted when the respondent gave more negative answers than positive, advocated setting aside the PVE, banning and minimizing certain activities that were not contraindicated or expressed a feeling of restriction. A good attitude was retained when the subject gave more positive answers than negative, recognizing the dangerous activities for a PVE and those which favor its development in the company.

The level of practice was assessed on the basis of the actions to be performed by the subject to rescue a victim of an epileptic seizure (Article 1), in particular in the face of a generalized tonicoclonic seizure. The practice was considered bad, when the subject described dangerous or unnecessary gestures; and good practice, when the rescue actions taken were appropriate and protective, such as placing in a lateral safety position or avoiding any surrounding danger.

Second, the factors associated with the level of knowledge and attitude were determined.

For the level of practice, the associated factors were not determined because the students were not considered to be health professionals.

The other variables studied were socio-demographic: age, age groups (18 to 30 years and 31 to 50 years), sex, nationality, ethnicity (the three major groups found in Congo: Kongo, Téké, and Ngala; and a group made up of foreign ethnic groups, religious group (Christians and non Christians), level of study (1st cycle versus 2nd and 3rd cycle), study option (science and technology, literature, sport).

Data were recorded and analyzed by SPSS 20.0 software. The comparison of the factors associated with the level of attitude was carried out by the Chi-square test or Fisher's exact test for small numbers. The comparison of the factors associated with the level of knowledge was carried out by a simple then mul-

tiple logistic regression, in which were also included the independent variables which presented a significance level <20% during the univariate analysis. The significance level chosen for all the statistical analyzes was 5%.
We do not declare any conflict of interest.

RESULTS:

1. Sociodemographic characteristics

Of the 280 subjects initially included, 16 were excluded for not having completed the interview. A total of 264 subjects were ultimately selected. The median age of the subjects was 24 years with an interquartile range between 22 and 28 years. Table II shows the distribution of students by age group. There were 167 (63.3%) males and 97 (36.7%) females, with a sex ratio of 1.7.

Table II: Distribution of students by age group

Age groups (years)	Effective (n)	Frequency (%)
[18-30]	216	81,8
[31-50]	48	12,8
Total	264	100

Congolese nationality concerned 259 (98.1%) subjects, 5 (1.9%) subjects had another nationality. The main ethnic groups of Congo found were, Kongo (n = 163; 61.7%), Téké (n = 53; 20.1%) and Ngala (n = 45; 17.1%). Four of the five subjects of nationality other than Congolese joined an ethnic group distinct from the three aforementioned. The Christian religion was practiced by 249 (94.3%) subjects, 15 (5.7%) practiced a different religion.

Table III shows the distribution of students according to level of study and university option.

Study options (n)	Study level (n)	
	1st cycle	2nd et 3rd cycle
Technical sciences	54 (20,5%)	34 (12,9%)
Literature	41 (15,5%)	47 (17,8%)
Sport	37 (14%)	51 (19,3%)

2. Level of knowledge

The assessment of the level of knowledge according to identified 10 (3.8%) subjects with an insufficient level of knowledge, 183 (69.3%) an average level and 71 (26.9%) a good level. Level
When determining the factors associated with the level of knowledge, the addition of subjects with an insufficient level and those with an average level, made it possible to identify 193 (73.1%) subjects with a poor level of knowledge. The results of the simple logistic regression relating to this criterion are presented in Table IV.

Tableau IV : Factors associated with the right level of knowledge

	Total effective (n = 264)	Level of knowledge		OR IC à) (95%	p
		Well (n=71)	Poor (n=193)		
Median age (years)	(22-28) 24	-	-	1,01-) 1,05 (1,09	0,016
Age groups (years)					
18-30	(81,8) 216	**53 (74,6)**	**163 (84,5)**	0,95-) 1,84 (3,57	0,069
31-50	(18,2) 48	**18 (25,4)**	**30 (15,5)**		
Sex					
Men	(63,3) 167	**(69) 49**	**118 (61,1)**	0,79-) 1,42 (2,53	0,240
Women	(36,7) 97	**(31) 22**	**75 (38,9)**		
Nationality					
Congolese	(98,1) 259	**70 (98,6)**	**189 (97,9)**	0,07-) 0,67 (6,14	0,727
Foreign	(1,9) 5	**(1,4) 1**	**(2,1) 4**		
Ethnic groups					
Kongo	(61,7) 163	**48 (67,6)**	**115 (59,6)**	Reference	0,768
Téké	(20,1) 53	**12 (16,9)**	**41 (21,2)**	0,34-) 0,70 (1,45	0,338
Ngala	(17) 45	**11 (15,5)**	**34 (17,6)**	0,36-) 0,77 (1,65	0,511
Others	(1,1) 3	**-**	**(1,6) 3**	-	0,999
Religious group					
Christians	(94,3) 249	**64 (90,1)**	**185 (95,9)**	0,88-) 2,53 (7,25	0,084
Others	(5,6) 15	**(9,9) 7**	**(4,1) 8**		
Level of study					
1st cycle	(50) 132	**26 (36,6)**	**106 (54,9)**	1,20-) 2,11 (3,69	0,009
2nd et 3rd cycle	(50) 132	**45 (63,4)**	**87 (45,1)**		
Study options					
Science et technique	(33,3) 88	**21 (29,6)**	**67 (34,7)**	Reference	0,020
		17 (23,9)		0,37-) 0,76 (1,57	0,464
Literature	(33,3) 88		**71 (36,8)**	0,99-) 1,91 (3,69	0,051
Sport	(33,3) 88	**33 (46,5)**	**55 (28,5)**		
Familiarity with the disease					
No	(8,3) 22	**(2,8) 2**	**20 (10,4)**	0,91-) 3,99 (17,52	0,067
Yes	(91,7) 242	**69 (97,2)**	**173 (89,6)**		
Observation of a crisis					
No	(10,2) 27	**(2,8) 2**	**(13) 25**	1,18-) 5,13 (22,27	0,029
Yes	(89,8) 237	**69 (97,2)**	**168 (87)**		

n, effective; OR, odds ratio; IC, confidence interval; p, probability with a significance level of 5%

The final model of the multivariate analysis made it possible to identify as factors associated with the knowledge good the highest level of study (OR = 2.09; CI: 1.19-3.69; p = 0.011) and previous observation of an epileptic seizure (OR = 5.05; CI: 1.16-22.06; p = 0.031).

3. Level of attitude and level of practice

The attitude level assessment determined 31 (11.7%) subjects expressing a stigmatizing attitude and 233 (88.3%) a good attitude. For the level of practice, 40 (24.7%) subjects had mentioned good practices in front of a person living with epilepsy in crisis and 153 (75.3%) bad practices. The factors associated with the level of attitude are presented in Table V

Table V: factors associated with the level of attitude

	Good attitude (n = 233)	Stigmatizing attitude (n = 31)	*p*
	(%) n	(%) n	
Level of knowledge			
Well	(28,8) 67	(12,9) 4	0,061
Bad	(71,2) 166	(87,1) 27	
Age groups			
à 30 ans 18	(80,7) 188	(90,3) 28	0,191
à 50 ans 31	(19,3) 45	(9,7) 3	
Sex			
Men	(63,1) 147	(64,5) 20	0,877
Women	(36,9) 86	(35,5) 11	
Chronicity			
No	(30) 70	(9,7) 3	
Yes	(58,8) 137	(61,3) 19	0,005
Don't know	(11,2) 26	(29) 9	
Level of study			
1st cycle	(49,4) 115	(54,8) 17	0,566
2nd and 3rd cycle	(50,6) 118	(45,2) 14	
Familiarity with the disease			
Yes	(91,8) 214	(90,3) 28	0,492
No	(8,2) 19	(9,7) 3	
Contagiousness			
Yes	(10,3) 24	(41,9) 13	
No	(83,3) 194	(54,8) 17	0,001 >
Don't know	(6,4) 15	(3,2) 1	

DISCUSSION:

1. Level of knowledge

Epilepsy remains a poorly understood condition [11]. Knowledge of the word «epilepsy» does not always imply the integration of its characteristics, which are strongly influenced by social considerations. Likewise, this fact goes against the observation that, in the student community, there is a good level of knowledge about diseases, especially those sexually transmitted and their means of transmission [12, 13]. Young people are more exposed to and more concerned with sexually transmitted diseases and these diseases benefit from several awareness campaigns and are integrated into secondary school education programs.

Previous observation of a seizure and higher level of study were associated with increased knowledge of epilepsy. Assi B. et al. [14] reported 85.7% of students having witnessed an epileptic seizure. This finding calls out to the need to support epilepsy awareness campaigns with audiovisual channels and media in order to ensure better understanding, and also to carry them out as early as possible, even from school level. Indeed, the main source of information on epilepsy reported by the subjects were the entourage, audiovisual sources and school represented only a very small proportion. Also this high percentage of subjects having witnessed an epileptic seizure could augur a high prevalence of epilepsy, suggesting a study in the general population.

2. Attitude level

The high proportion of positive attitudes (88.8%) described by our subjects is similar to the results of Kabir et al. [15] in Nigeria, where attitudes of tolerance, sympathy and kindness were expressed by the majority of subjects. These positive attitudes, which are certainly very encouraging, should be taken with reserve, because this implicit attitude of the subjects quickly turns towards stigmatization when the problems are directly posed to them.

3. Level of practice

Harmful practices were recorded in 75.3% of our subjects. They could be explained by the spectacular nature of the generalized tonicoclonic crisis, the low level of knowledge, but also the supposed contagiousness and chronicity of epilepsy associated with bad stigmatizers. Apetse et al., In Togo, reported 95.2% of subjects of Tamberma ethnicity with a secondary level of education or more, favorable to the fact that one should not touch an EVP in crisis, even if it is in danger of death [6]. However, Boa et al. [16] reported a different finding, with 86% of subjects reporting being able to approach and even touch an EVP in crisis to rescue it. In this study, they were subjects immediately belonging to the patient's entourage, suggesting a strong emotional bond and possible prior awareness on the issue.

CONCLUSION:

Little is known about epilepsy even in the most educated layers and its prevalence appears to be underestimated. Attitudes relating to it, although good, do not always augur well for good practice in the face of an epileptic seizure, especially when the subjects are directly involved in the problem. Raising awareness through the usual channels by integrating all levels of education is essential.

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