Health Sciences & Disease
The Journal of Medicine and Biomedical Sciences

Original Article

Knowledge, Attitudes and Practices of Peripheral Hospital Health Care Staff in Relation to Haemophilia in Cameroon

Connaissances, Attitudes et Pratiques du Personnel Soignant des Hôpitaux Périphériques en Matière d'Hémophile au Cameroun

Ndoumba Mintya Annick[1,2], Itok Yves[3], Chendjou Kamela Aurélien[2], Essi Marie Josée[2], Tayou Claude[1,2], Mbanya Dora[1,2].

1 Yaoundé University Teaching Hospital, Yaoundé, Cameroon
2 Faculty of Medicine and Biomedical Sciences of the University of Yaoundé I, Yaoundé, Cameroon
3 Higher Institute for Medical Technology, Yaoundé, Cameroon

Auteur correspondant :
Ndoumba Mintya Annick
Yaoundé University Teaching Hospital, Yaoundé, Cameroon
Tel : 00237 699 85 23 45
Email : ndoumbaannick@yahoo.fr

Mots-clés : Connaissances, attitudes et pratiques, Personnel de santé, Hôpitaux périphériques, Hémophilie.

Keywords : Knowledge, Attitudes and practices, Healthcare staff, Peripheral hospitals, Haemophilia.

Article history
Received: 28 Feb 2024
Revision requested: 28 April 2024
Accepted: 3 May 2024
Published: 15 May 2024

ABSTRACT

Background. Health care personnel play a key role in the management of haemophilia. We assessed the level of knowledge, attitudes and practice of health care personnel in peripheral hospitals in the city of Yaoundé regarding haemophilia. **Methodology**. We conducted a five-month' cross-sectional study among the staff of district hospitals in Yaoundé. We used a pretested questionnaire, whose datas were stored in CSPro version 7.0 software and analysed using SPSS version 20.0 software. The results were interpreted using the scoring grid developed by ESSI and al in 2013. **Results**. Of the 237 healthcare workers included, 180 were women (75.9%) and the mean age was 36.03±7.92 years. The existence of haemophilia was known by 84.4% (200/237), but only 0.4% (1/237) of the study population had a good level of knowledge. The quality of attitudes was approximate in 7.2% (17/237) and fair in only 1.3% (3/237) of all respondents. The practices were harmful in 77.6% (184/237) of the participants. **Conclusion**. There is an inadequate level of knowledge and harmful attitudes and practices among healthcare staff in Yaoundé district hospitals with regard to haemophilia. That results highlight the need for ongoing training and capacity building in low-income countries to improve the detection and management of haemophilia

RÉSUMÉ

Introduction. Le personnel de santé joue un rôle clé dans la gestion de l'hémophilie. Nous avons évalué le niveau de connaissances, les attitudes et les pratiques du personnel de santé dans les hôpitaux périphériques de la ville de Yaoundé en ce qui concerne l'hémophilie. **Méthodes**. Nous avons mené une étude transversale de cinq mois auprès du personnel des hôpitaux de district de Yaoundé. Nous avons utilisé un questionnaire pré-testé, dont les données ont été stockées dans le logiciel CSPro version 7.0 et analysées à l'aide du logiciel SPSS version 20.0. Les résultats ont été interprétés à l'aide de la grille de notation développée par ESSI et al en 2013. **Résultats.** Sur les 237 personnels de santé inclus, 180 étaient des femmes (75,9%) et l'âge moyen était de 36,03±7,92 ans. L'existence de l'hémophilie était connue par 84,4% (200/237), mais seulement 0,4% (1/237) de la population étudiée avait un bon niveau de connaissance. La qualité des attitudes était approximative chez 7,2% (17/237) et moyenne chez seulement 1,3% (3/237) de l'ensemble des répondants. Les pratiques étaient néfastes pour 77,6% (184/237) des participants. **Conclusion.** Il existe un niveau de connaissance insuffisant et des attitudes et pratiques néfastes chez le personnel soignant des hôpitaux de district de Yaoundé en ce qui concerne l'hémophilie. Ces résultats soulignent la nécessité d'une formation continue et d'un renforcement des capacités dans les pays à faible revenu pour améliorer le dépistage et la prise en charge de l'hémophilie.

INTRODUCTION

Haemophilia is a congenital haemostatic disease caused by a deficiency in coagulation factor VIII (haemophilia A) or IX (haemophilia B), and mainly affects men [1]. Around 70-80% of haemorrhagic episodes involve the joints, leading to haemarthrosis and haemophilic arthropathy [2], which are responsible for increased morbidity, mainly due to bleeding in the musculoskeletal system [3]. Treatment is expensive, particularly in Low and middle income countries (LMICs), where people with haemophilia have few financial resources. In most LMICs, the introduction of a single HTC is already a major success, improving patients' quality of life, as shown by a study conducted in Cameroon in 2017 [4].

Copyright © 2024. The Authors. This is an open access article published by HSD under the CC BY NC ND 4.0 license

HIGHLIGHTS OF THE STUDY

What is known on this topic

Recognition and diagnosis of many underdiagnosed cases has been identified as the biggest challenge in Africa. The health care personnel plays an important role in the management of haemophilia, and even the education of patients already diagnosed.

What question this study addresses

Level of knowledge, attitudes and practices of healthcare staff in district hospitals in the city of Yaoundé in relation to haemophilia

What this study adds to our knowledge

1. The existence of haemophilia was known by 84.4% of respondents, but only 0.4% had a good level of knowledge.
2. The quality of attitudes was approximate in 7.2% and fair in only 1.3% of all respondents.
3. The practices were harmful in 77.6% of the participants

So, there is an inadequate level of knowledge and harmful attitudes and practices among healthcare staff in Yaoundé district hospitals with regard to haemophilia.

How this is relevant to practice, policy or further research.

That results highlight the need for ongoing training and capacity building in low-income countries to improve the detection and management of haemophilia.

The World Federation of Hemophilia estimates that there are 815,100 cases of hemophilia worldwide [5]. In developed countries, 90% of haemophilia cases are diagnosed compared to only 5% in LMICs [6]. In LMICs, particularly in Africa, little is known about haemophilia [7]. Recognition and diagnosis of many underdiagnosed cases has been identified as the biggest challenge [8,9]. In Cameroon, the haemophilia population was estimated in 2014 to be 1,800-2,000 cases with a median age of diagnosis between 14.0 and 16.2 years and about 100 were registered in the country [10]. Nowadays, 180 cases are followed up at the Haemophilia Treatment Centre (HTC) located within the Yaoundé University Teaching Hospital (YUTH) [11].

It is important to note the key role of health care personnel in guiding the diagnosis of haemophilia patients, the management of haemophilia, and even the education of patients already diagnosed. Studies have been conducted around the world on this subject. In Iraq, a study assessing nurses' knowledge of haemophilia in children found that there was a lack of knowledge about haemophilia in the medical environment [12]. Another study conducted in Nigeria [13] shows that knowledge of the clinical features and management of haemophilia needs to be improved among the health care providers surveyed. Currently, no study has been conducted in Cameroon on the understanding of health care personnel regarding haemophilia.

The aim of this study is to assess the level of knowledge, identify the attitudes and determine the practices of healthcare staff in district hospitals in the city of Yaoundé in relation to haemophilia. In addition, the study seeks to identify the factors that influence this knowledge, attitude and practice.

MATERIALS AND METHODS

This was a cross-sectional KAP (Knowledge, Attitude, Practice) study from February to June 2020 in 6 District Hospitals (DH) of the city of Yaoundé in Cameroon. These included the DH of Efoulan, DH of Cite Verte, DH of Biyem Assi, DH of Messassi, DH of Nkolndongo, and the DH of Nkolbisson.

Our study population consisted of all healthcare staff in the above-mentioned district hospitals. Doctors, dentists, nurses, midwives and auxiliary nurses who were present at the time of the study, regardless of the department in which they worked, and who had given their written informed consent after reading the information notice, were included. Excluded were non-healthcare staff and health-care staff who had returned an unusable questionnaire.

The data was collected from the participants using a pre-established questionnaire, the clarity of which had been tested previously on ten people taken randomly. The questionnaire consisted of 4 sections. The first section concerned socio-professional data such as age, sex, profession, work experience, religion, region of origin and the department in which the respondents worked. The second part of the questionnaire concerned respondents' knowledge regarding haemophilia: definition, aetiology, mode of transmission, supernatural or non-supernatural origin, type of person affected, most common signs and symptoms, parts of the body most often affected, clinical and paraclinical diagnosis, complications and treatment. The third part of the questionnaire dealt with the attitudes of healthcare staff towards haemophilia. The questions concerned the respondents' ability to recognise a case of haemophilia, to make a diagnosis of haemophilia and to manage a patient with haemophilia effectively. Finally, the fourth part of the questionnaire assessed practices. It asked whether the respondent remembered to look for a haematological history during consultations, whether he/she thought of haemophilia when a patient had bleeding problems, whether he/she knew the dosage of coagulation factors, whether he/she gave tranexamic acid when a patient with haemophilia was bleeding, whether he/she recommended anti-inflammatory drugs in the event of pain in a patient with haemophilia.

The following variables were recorded: socio-demographic characteristics (age, gender, occupation, professional experience), knowledge (general, clinical and paraclinical signs, management), attitudes (medical considerations and apprehensions) and practices (effective gestures and medication) of the health care personnel towards haemophilia.

Data management was done using Census and survey processing (CSPro) 7.0 software and statistical analysis was done using SPSS (statistical Package for the Social sciences) version 20.0 software.

The scoring grids developed by ESSI et al. were used to interpret the analyses obtained [14]. We counted the number of correct answers regarding knowledge, attitudes, and practices. Knowledge was considered low for less than 25% correct answers, insufficient for a correct answer rate of [25%-50%[, medium for a correct answer rate of [50%-70%[and good when the participant

Copyright © 2024. The Authors. This is an open access article published by HSD under the CC BY NC ND 4.0 license

had more than 70% correct answers. For attitude, there were also four groups. Attitudes were considered wrong when the respondent had less than 25% correct answers, erroneous when the correct answer rate was [25%-50%[approximate when the correct answer rate was [50%-70%[and correct when the correct answer rate was above 70%. Practices were considered bad for a correct response rate of less than 25%, inadequate for a correct response rate of [25%-50%[, and adequate when the respondent had more than 50% correct responses.

For the search for associated factors, we used the Chi² and Fisher tests; a p-value of less than 0.05 was statistically significant at the 95% confidence interval.

Informed consent was obtained from all individual participants included in the study. Ethical clearance has been obtained from the Centre Regional Ethics Committee for Human Health Research. (Authorisation N° 2115/CRERSHC/2020).

RÉSULTS

Socio-demographic characteristics of the study population

Of the 237 healthcare workers, the majority (180) were women (75.9%). Nurses were the most represented profession (145; 61.2%). The average age of our study population was 36.03±7.92 years, range 23 - 59 years. The most represented age group was 30-40 years. The average work experience was 8.65±6.40 years, range 1- 33 years. Table 1 summarises the socio-demographic characteristics of our study population.

Knowledge of health care personnel regarding haemophilia

The majority of caregivers (145/237; 61.2%) had an insufficient level of knowledge about haemophilia (Table 2). Of the 237 caregivers recruited, 200 (84.4%) had heard of haemophilia, and 165 (69.6%) of them had heard that haemophilia is an inherited bleeding disorder. For 14/237 (5.9%) respondents, haemophilia was contagious and 33/237 (13.9%) considered that it may have a supernatural origin. The most common clinical manifestation cited by caregivers was prolonged bleeding after circumcision (154; 65%). In contrast, only 27 (11.4%) respondents cited joint pain, 35 (14.8%) respondents cited joint bleeding as a symptom of haemophilia, and 11 (4.6%) cited the knee as the most affected joint. Only 47 respondents (19.8%) stated that the plasma clotting factor level is sufficient to confirm the diagnosis of haemophilia.

Attitudes of health care personnel towards haemophilia

We found that 48.9% (116) of the health care personnel had wrong attitudes, and 42.6% (101) had erroneous attitudes, which were approximate in 7.2% (17/237) of the respondents and correct in only 1.3% (3/237) of the respondents (Table 2). Only 18.6% (44) thought they would be able to recognise a suspected haemophilia case and 72.2% (171) said they would feel helpless in a haemophilia emergency. Almost all respondents (97.5%, 231/237) felt the need for recycling in management of a patient with haemophilia.

Health care personnel practices regarding haemophilia

More than three-quarters of the respondents (184; 77.6%) had wrong practices (Table 2). Health care personnel (230; 97%) had no knowledge of the dosage of anti-haemophilic factors and only 20.7% (49) said they would give tranexamic acid in the event of bleeding in a patient with haemophilia, a drug recommended in the management of haemophilia.

Factors influencing the knowledge, attitudes, and practices of health care personnel

Some professions (doctors or nurses) were significantly associated with poor knowledge ($p<0.05$). Indeed, those who were not doctors were 13 times higher and nurses 8 times more likely to have poor knowledge about haemophilia (Table 3). Type of profession was associated with poor attitude ($p<0.05$). Indeed, those who were not doctors were 3 times higher and nurses 5 times more likely to have bad attitudes towards haemophilia. The level of knowledge also influenced the level of attitudes. All those with a low level of knowledge had poor attitudes towards haemophilia ($p=0.04$). We also found that 83% of participants with a medium level of knowledge had good attitudes towards haemophilia (OR=0.17[0.06-0.5]; $p=0.002$) (Table 4). No significant association was found between quality of practice regarding haemophilia and the other variables studied (work experience, profession, age, knowledge, attitude) ($p\geq0.05$).

After logistic regression, no correlation existed between occupation, the medium level of knowledge, and the quality of attitudes (adjusted $p>0.05$).

DISCUSSION

This study is the first of its kind in Cameroon, which assesses the KAP of health care personnel in district hospitals (DHs) regarding haemophilia. It clearly shows that in these hospitals, the level of knowledge is insufficient, attitudes and practices are not good. This can be a limitation to the care of patients with haemophilia. Indeed, DHs are peripheral hospitals in the Cameroonian health pyramid. There are 189 of them in the country and we randomly selected 6 of the 8 in the city of Yaoundé, the capital of Cameroon [15]. These hospitals receive all types of patients for primary health care and are therefore likely to receive patients with haemophilia who are not yet diagnosed. In addition, apart from basic staff training, there has never been any ongoing training on haemophilia in these district hospitals. It therefore seems appropriate to evaluate the knowledge, attitudes, and practices of health personnel working in these facilities regarding this condition.

Copyright © 2024. The Authors. This is an open access article published by HSD under the CC BY NC ND 4.0 license

The level of knowledge of the 237 health personnel in our study was insufficient in 61.2% of cases and low in 27.85% of cases. This bad level of knowledge could be explained by the fact that our study population consisted mainly of nurses (61.2%) with only 23.2% of doctors. In Nigeria in 2020, the level of knowledge of the personnel interviewed was mostly good [16], although the quotation scores used were not the same in the two studies. Moreover, in the Nigerian study, there were more doctors, and 40.7% of respondents had already had to see a haemophiliac patient [16]. Despite this low level of knowledge, the definition of pathology was known by 69.6% of our study population as pathology is still taught in our various medical training schools. In Nigeria in 2018, 96.8% of the staff surveyed knew the definition [13] which is not surprising as in this study, half of the respondents had already encountered haemophilia cases (50.6%) and almost a third of them had already had to manage them (30.4%). Moreover, in this study in Nigeria in 2018, it was not a peripheral hospital but rather a hospital that could offer quality care to patients in general and haemophiliacs in particular.

Prolonged bleeding after circumcision is known to be the most frequent diagnostic circumstance in the literature [17]. Our study occurs in district hospitals and 65% of the study population still cited this as a clinical sign. The poor knowledge of the major signs and the main locations shows the need for staff training. The same is true for the paraclinical diagnosis, as only 19.8% (47/237) of the respondents knew that the factor VIII or IX dosage was sufficient to confirm the diagnosis. The mention of a possible supernatural origin by 13.9% of the population is very worrying, given that we are in a medical environment, even if it is not specialised in the management of haemophilia. This shows the great need for continuous training of health care personnel. It has been shown that by implementing a capacity building programme, it is possible to improve the skills of health care personnel, increase the identification of people living with haemophilia, and, above all, improve the care of haemophilia patients in sub-Saharan Africa in a very short time [18].

Almost all health care workers had erroneous or wrong attitudes. These results can be explained by the low level of knowledge of our study population but also by the presence of socio-cultural and professional realities specific to our country. Attitudes according to Essi et al. represent the gap between knowledge and practice. They result from the various constraints weighing on the person [14]. By asking about the different attitudes of healthcare workers, we wanted to know their perceptions, beliefs, and feelings about haemophilia. The questions focused on diagnostic, psychosocial and therapeutic attitudes in order to identify the specificities that would influence the adoption of good practices. In 2014 in the United States, in a study on the knowledge and attitudes of healthcare providers about pain related to bleeding disorders, the respondents scored well on attitudes [19]. The assessment scales were not the same, but the highly developed country context allows for better results.

The majority of participants in our study admitted that they did not feel able to recognise or manage a case of haemophilia, but in the vast majority of cases would like to be accompanied and trained about haemophilia. This shows that health care workers are aware of their shortcomings and are ready for a learning process that will prove beneficial in the long term for the identification and detection of the disease.

As might be expected given the low level of knowledge of the respondents in this study, practices, which are the main indicator of health promotion, were predominantly harmful in our study (77.6%;184). In Iraq in 2017, 71.6% of respondents had similar results [12]. The fact that health care staff have no notion of the dosage of anti-haemophilic factors is not surprising given the scarcity of these products, which are generally only available in the Haemophilia Treatment Centre (HTC) and its annexes in Douala in the littoral and Tibati in the north of the country. The products are received in the form of donations from the World Federation of Hemophilia and served only in the HTCs. This ensures rational use and traceability.

In our study, not being a doctor and being a nurse significantly increased the risk of having poor knowledge and poor attitudes. Moreover, all those with a low level of knowledge had bad attitudes towards haemophilia (p=0.04). And 83% of the participants with a medium level of knowledge had good attitudes towards haemophilia (OR=0.17[0.06-0.5]; p=0.002). These results sufficiently demonstrate the need for continuing education in our district hospitals, although after logistic regression, no correlation was found between occupation, average level of knowledge and quality of attitudes, and no significant association was found between quality of practice, socio-demographic variables, medium level of knowledge and quality of attitude of health care personnel.

LIMITATIONS

Our study occurred only in the city of Yaoundé, which is the capital of Cameroon. It therefore did not take into account the realities of peripheral hospitals in rural areas. It would have been interesting to make a comparison between hospitals in rural areas and those in urban areas.

CONCLUSION

We report an inadequate level of knowledge and harmful attitudes and practices among healthcare staff in Yaoundé district hospitals in Cameroon with regard to haemophilia. The results of this survey will be useful for future studies, as they will provide researchers with information on the customs and practices of healthcare staff in relation to haemophilia. These results underline the need for ongoing training and capacity-building of healthcare personnel in

Copyright © 2024. The Authors. This is an open access article published by HSD under the CC BY NC ND 4.0 license

low-income countries to improve the detection and management of haemophilia.

CONFLICTS OF INTEREST:

No conflicts of interest to declare

DATA AVAILABILITY:

The datasets used and/or analysed in this study are available from the corresponding author upon reasonable request.

AUTHOR CONTRIBUTIONS

Ndoumba Mintya Annick and Itok Yves designed the study. Material preparation was performed by Ndoumba Mintya Annick and Itok Yves. Data collection and analysis were performed by Itok Yves. Mintya Ndoumba Annick, Chendjou Kamela Aurélien and Itok Yves wrote the manuscript. Tayou Tagny Claude, Essi Marie Josée and Mbanya Dora critically read the manuscript. All authors read and approved the final manuscript. All authors have given their approval for publication.

REFERENCES

1- Cockenpot E, Boutry N, Cotten A. Chapitre 8 - Hémophilie. In: Cotten A, éditeur. Imagerie Musculosquelettique : Pathologies Générales (2ème Édition). Paris: Elsevier Masson 2013; 259-68.
2- Castro HE, Briceno MF, Casas CP, Rueda JD. The history and evolution of the clinical effectiveness of haemophilia type A treatment: A systematic review. *Indian J. Hematol. Blood Transfus.* 2014; 30 (1): 1–11.
3- Mazepa MA, Monahan PE, Baker JR, Riske BK, Soucie JM. Men with severe hemophilia in the United States: birth cohort analysis of a large national database. Blood. 2016;127(24):3073-81.
4- Nzometia CY, Tagny CT, Ndoumba AN, Ngo Balogog PM, Mbanya DN. Assessing the quality of care for haemophilia at the Yaoundé reference treatment Centre of Cameroon. Blood Coagul Fibrinolysis. 2017;28(2):176-180.
5- World Federation of Hemophilia. Report on the Annual Global survey 2020. Montréal 2021.
6- Ayob Y. Management of hemophilia in resource-limited countries. Transfusion Alternatives in transfusion medicine. 2008 ;10 (2) : 70-4. DOI :10.1111/j.1778-428X.2008.00108.x.
7- Diop S, Thiam D, Toure AO, Diakhate L. Aspects épidémiologiques et impact médico-social de l'hémophilie au CHU de Dakar. Med trop. 2003 63 (2) : 139- 42. [PMID: 14957371].
8- Saxena K. Barriers and perceived limitations to early treatment of hemophilia. J Blood Med. 2013 4 : 49-56. doi: 10.2147/JBM.S43734.
9- O'Mahony B, Black C. Expanding hemophilia care in developing countries. Semin Thromb Hemost. 2005 ; 31 (5) : 561-8. doi: 10.1055/s-2005-922228.
10- Tagny CT, Moudourou S, Ndoumba A, Mbanya D. Hemophilia in Developing Countries: An Analysis of the first Data in Cameroon, Africa. J Blood Lymph. 2014 ; 4(2) : 1-4. doi:10.4172/2165-7831.1000119.
11- Mbanya DN, Diop S, Ndoumba Mintya AN, El Kiaby M. Hemophilia care in Africa: Status and challenges. Transfus Clin Biol. 2021 ; 28 (2) : 158–62.
12- Washeel OF, Ma'ala GE. Assessement Nurses' Knowledge about Hemophilia for Children attending Heredity Blood Disease center in Al-Nasiriya City. IOSR Journal of Nursing and Health Science. 2017 ; 6 (3) : 99-105. [DOI :10.9790/1959-06030299105].
13- Balogun TM, Agboola MB, Onigbinde OO, Ajayi A, Iredi I. Haemophilia knowledge among Health Care Providers in a Tertiary Hospital Lagos, Nigeria. Journal of Blood Disorders, Symptoms & Treatments. 2018 ; 2 (2) :1-6.
14- Essi MJ, Njoya O. L'enquête CAP (Connaissances, Attitudes, Pratiques) en Recherche Médicale. Health Sci. Dis. 2013; 14 (2) : 1-3.
15- Ministère de la sante publique. Plan National de développement sanitaire PNDS 2016-2020. Cameroun.
16- Osho P, Ojo M, Odunlade O, Ndidi O, Gbenga-Fabusiwa FJ, Oluwatosin IO, Oluwole M. Assessment of knowledge of health workers on haemophilia at the university of medical sciences teaching hospital, Ondo state, Nigeria. American Journal of Laboratory Med. 2020 ; 5 (4) : 88-94.
17- Seck M, Sagna A, Guéye MS, Faye BF, Sy D, Toure SA et al. Circumcision in hemophilia using low quantity of factor concentrates: experience from Dakar, Senegal. BMC Hematology. 2017 ; 17 : 8 DOI 10.1186/s12878-017-0080-1.
18- Diop S, Haffar A, Mahlangu J, Chami I, Kitchen S, Pierce G. Improving access to hemophilia care in sub-Saharan Africa by capacity building. Blood Adv 2019 ; 3 : 1–4.
19- Witkop M, Lambing A. Knowledge and attitudes surveys in bleeding disorders providers regarding pains. Haemophilia 2015,21(6) :465-71. doi:10.1111/hae.12749. Epub 2015 Jul 17.

Copyright © 2024. The Authors. This is an open access article published by HSD under the CC BY NC ND 4.0 license

Table 1: socio-demographic characteristics of 237 health personnel in 6 district hospitals in the city of Yaoundé, Cameroon, in 2020.

Variable	Number(N=237)	Percentage (%)
Gender		
Male	57	24.1
Female	180	75.9
Profession		
Doctor	55	23.2
Dentist	7	3
Nurse	145	61.2
Midwife	20	8.4
Orderly	10	4.2
Religion		
Christian	217	91.6
Muslim	14	5.9
Other	6	2.5
Region of origin		
North	5	2.1
South	19	8
East	7	3
West	75	31.6
Littoral	11	4.6
Centre	99	41.8
Far North	7	3
South West	2	0.8
North West	8	3.4
Adamaoua	4	1.7
Professional department		
Pediatrics	29	12.2
Surgery	43	18.1
Gynaecology	60	25.3
InternalMedicine	57	24.1
Emergency	48	20.3
Age (in years)		
[20-30[	66	27.85
[30-40[	88	37.1
[40-50[	66	27.85
≥ 50	17	7.2
Work experience (in years)		
[0-5[	79	33.4
[5-10[	49	20.7
[10-20[	92	38.8
[20-30[	15	6.3
≥ 30	2	0.8

Table II: **global evaluation of the level of knowledge, attitudes, and practices regarding haemophilia of 237 health personnel fr 6 district hospitals in the city of Yaoundé in 2020.**

Global evaluation	Number (N=237)	Percentage (%)
Level of knowledge		
Low < 25% of correct answers	66	27.85
Insufficient [25% ;50% [of correct answers	145	61.2
Medium [50% ;70% [of correct answers	25	10.55
Good >70% of correct answers	1	0.4
Attitudes		
Wrong < 25% of correct answers	116	48.9
Erroneous [25%;50%[of correct answers	101	42.6
Approximate [50%;70%[of correct answers	17	7.2
Correct >70% of correct answers	3	1.3
Practices		
Adequate >50% of correct answers	3	1.3
Inadequate [25%;50%[of correct answers	50	21.1
Bad< 25% of correct answers	184	77.6

Copyright © 2024. The Authors. This is an open access article published by HSD under the CC BY NC ND 4.0 license

Table III: association between knowledge and socio-demographic characteristics of 237 health personnel in 6 district hospitals in the city of Yaoundé concerning hemophilia in 2020

Variables	Knowledges		OR (IC à 95%)	p value
	Bad (low+insufficient) N=211	Good (medium+good) N=26		
Work experience				
[0-5[	70 (33.17)	9 (34.62)	0.94 [0.4-2.21]	0.883
[5-10[	41 (19.43)	8 (30.77)	0.54 [0.22-1.34]	0.178
[10-20[	83 (39.34)	9 (34.61)	1.23 [0.52-2.88]	0.641
[20-30[	15 (7.11)	0	//	0.384
≥ 30	2 (0.95)	0	//	1.000
Profession				
Doctor	36 (17.06)	19 (73.08)	0.076 [0.03-0.194]	0.001
Dentist	6 (2.84)	1 (3.85)	0.73 [0.08-6.32]	0.562
Nurse	140 (66.35)	5 (19.23)	8.3 [3-23]	0.001
Midwife	20 (9.48)	0	//	0.140
Orderly	9 (4.27)	1 (3.84)	1.11 [0.14-9,2]	1.000
Age				
[20-30[	58 (27.49)	8 (30.77)	0.85 [0.35-2.1]	0.725
[30-40[	77 (36.49)	11 (42.31)	0.78 [0.34-1.8]	0.563
[40-50[	60 (28.44)	6 (23.08)	1.32 [0.51-3.4]	0.565
≥ 50	16 (7.58)	1 (3.84)	2.05 [0.26-16.14]	0.702
Department				
Pediatric	24 (11.38)	5 (19.23)	0.54 [0.2-1.6]	0.335
Surgery	38 (18.01)	5 (19.23)	0.92 [0.33-2.6]	0.792
Gynaecology	52 (24.64)	8 (30.77)	0.74 [0.30-1.8]	0.498
Internal Medicine	52 (24.64)	5 (19.23)	1.4 [0.5-3.83]	0.542
Emergency	45 (21.33)	3 (11.54)	2.1 [0.6-7.2]	0.241

Table IV: factors influencing the attitudes of 237 health care workers in 6 district hospitals in the city of Yaoundé regarding hemophilia in 2020.

Variables	Attitudes		OR (IC à 95%)	P value
	Bad (erroneous + wrong) N=217	Good (correct+approximate) N=20		
Work experience				
[0-5[	71 (32.72)	8 (40)	0.73 [0.3-1.87]	0.509
[5-10[	45 (20.74)	4 (20)	1.05 [0.33-3.2]	1.000
[10-20[	84 (38.71)	8 (40)	0.94 [0.4-2.41]	0.910
[20-30[	15 (6.91)	0	//	0.623
≥ 30	2 (0.92)	0	//	1.000
Profession				
Doctor	46 (21.20)	9 (45)	0.33 [0.13-0.84]	0.025
Dentist	7 (3.23)	0	//	1.000
Nurse	140 (64.52)	5 (25)	5.5 [2-15.6]	0.001
Midwife	17 (7.83)	3 (15)	0.5 [0.13-1.8]	0.231
Orderly	7 (3.22)	3 (15)	0.2 [0.05-0.8]	0.056
Age				
[20-30[	59 (27.19)	7 (35)	0.7 [0.3-1.82]	0.456
[30-40[	81 (37.33)	7 (35)	1.12 [0.42-3]	0.837
[40-50[	61 (28.11)	5 (25)	1.17 [0.41-3.4]	0.766
≥ 50	16 (7.37)	1 (5)	1.51 [0.2-12.03]	1.000
Knowledge				
Low	66 (30.41)	0	//	0.004
Insufficient	132 (60.83)	13 (65)	0.84 [0.32-2.2]	0.714
Medium	18 (8.30)	7 (35)	0.17 [0.06-0.5]	0.002
Good	1 (0.46)	0 (00)	//	1.000

Copyright © 2024. The Authors. This is an open access article published by HSD under the CC BY NC ND 4.0 license