



Knowledge and Attitudes of the Population in Parakou Regarding Endemic Limbo- Conjunctivitis of the Tropics in 2022

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Abstract

Introduction: Conjunctivitis is a worldwide public health problem and is particularly widespread in sub-Saharan Africa, especially the vernal kerato-conjunctivitis (VKC). Although it is not the main cause of functional visual impairment, especially in children. The aim of this study is to assess the knowledge and attitudes of the population of Parakou in Benin regarding VKC in 2022.

Method: This was a descriptive cross-sectional survey conducted over one month in the district of Parakou in August 2022. Three-level cluster sampling was done and included participants aged 18 and over. Data were collected via individual interviews using a smartphone-based electronic questionnaire. Statistical analysis used Stata 15, including bivariate analysis and logistic regression for associations.

Results: Of the 750 participants, 66% were female, with an average age of 29.5 years. Non-educated participants accounted for 54.93%, and 31.73% were craftsmen. Knowledge of the VKC was good in 16.80% of cases, while attitudes were favorable in 69.33%. Multivariate analysis showed that gender was associated with knowledge (higher risk for women). Attitudes were influenced by sex, marital status and level of education.

Conclusion: Awareness of the VKC is low at Parakou in Republic of Benin, despite favorable attitudes. Women are at greater risk of poor knowledge. The final model proved adequate, underlining the importance of raising awareness of the VKC to improve people's knowledge and attitudes.

Keywords: Conjunctivitis; Knowledge; Attitudes

Introduction

Conjunctivitis is the leading cause of eye disease consultations worldwide. It is a highly recurrent condition in high-income countries [1-4], as well as in developing

countries [5-9]. More specifically, Vernal Kerato-conjunctivitis (VKH) is widespread in sub-Saharan Africa. It occurs as acute or chronic inflammation of the limbus and conjunctiva at the period following exposure to an allergenic or irritating agent [10]. It generally begins before 10 years

Results

Socio-Demographic Characteristics

A total of 750 subjects were included in our field survey. The mean age was 29.50 ± 10.64 years old, with extremes of 18 and 71 years old. The 25 to 50 age group was the most represented, with a proportion of 52.00%. Women accounted for the majority of case (66.00%), with an M/F sex ratio of 0.51. The illiterate were more represented at 54.93% and 31.73% of patients were artisans. The mean age of the subjects was 29.50 ± 10.64 years old, with extremes of 18 and 71 years old. The 25 to 50 age group was the most represented with a proportion of 52.00%. Level of knowledge and attitudes of subjects in Parakou regarding the VKC was good in 16.80% of cases and poor in 83.20% of cases. Attitudes were favorable in 69.33% of cases and unfavorable in 30.67%.

Multivariate Analysis of Factors Associated with Knowledge of the VKC

Only gender was associated with knowledge of the VKC. Women were 2.80 times more likely to have poor knowledge than men. Table 1 presents the final model of factors associated with knowledge of the VKC among respondents in Parakou in 2022.

	N	RC	IC 95%	p
Sex				
Male	255	1,00	-	-
Female	495	2,08	[1,41-3,08]	<0,001

Table 1: Final model of factors associated with knowledge of the VKC among respondents in Parakou in 2022.

Multivariate Analysis of Factors Associated with Attitudes to the VKC

The following table shows the factors that are associated with poor attitudes to the VKC. Gender ($p=0.035$), marital status ($p<0.001$) and level of education ($p<0.001$) jointly influence attitudes towards the VKC. Thus, considering marital status and level of education, men were 1.43 times more likely than women to adopt poor attitudes to VKC. Subjects living with a partner or in a common-law relationship were 6 times more likely to adopt poor attitudes than single people of the same sex and with the same level of education. Taking gender and marital status into account, illiterate participants were almost 3 times more likely to have bad attitudes than subjects with a higher level of education. Table 2 shows the distribution of the final model according to the factors associated with attitudes towards the VKC among respondents in Parakou in 2022.

old [11] with symptoms such as itching, redness, tearing, photophobia and brownish discoloration of the conjunctiva in the area of the palpebral fissure. From childhood period to adolescence, vision provides easy access to educational materials and is a key factor in academic success [3,12]. Vernal Kerato-conjunctivitis (VKH) is not a major cause of blindness. However, it is nonetheless a major cause of functional visual impairment, especially in children, and cause parent discomfort. In a few rare cases, it can be involved in visual impairment, especially in severe forms. VKC is a highly topical condition in several African countries. Studies show that the prevalence of VKC varies from region to another, but remains significant. In Mali, in 2020, almost one third of the childhood population was affected by Vernal Kerato-conjunctivitis (VKH) [13]. Similarly, in 2017, a study of conjunctivitis in Congo estimated that 27.9% of children suffer from VKC [14]. Incidence is lower in Cameroon, according to a 2017 study by Noche, et al. which estimated that one in seven children generally aged 9 had Vernal Kerato-conjunctivitis [15]. In Benin, Assavedo, et al. in 2011 and Doutetien in 1993 reported frequencies of 32.8% and 18% respectively [10,16].

Method

This was a prospective cross-sectional study with descriptive and analytical purpose. The study was conducted over a one-month period from 1 August 2022 to 31 August 2022. It was a population based study conducted in the town of Parakou and target participants 18 years old and above. The study was a three stage cluster sampling technique. The anonymous interview included selected participants in the sample was done for data collection in this study. The data collection tool used was an electronic questionnaire set in an android smartphone using the Kobo Collect application for collecting essential information for the survey. Once the data had been entered into the Kobo Collect mobile application it is exported to Excel. Any data entry errors are checked for data quality outcome. The data was processed using Microsoft Excel 2019. Statistical analysis of the data was carried out using Stata 15 software. First, a bivariate analysis was performed using Pearson's Chi2 test or Fisher's exact test when one of the expected numbers was less than or equal to 5. Logistic regression was performed using the "stepwise descending" method for the multivariate analysis. Variables with a p-value of less than 20.00% in the bivariate analysis were included in a multivariate regression model. Variables with a p-value greater than or equal to 5% were progressively eliminated until the final model was obtained, which contained only variables with a p-value of less than 5%. Finally, the goodness of fit for the final model was tested using the Hosmer Lemeshow goodness of fit test. It was found to be significant for a p-value of the test greater than 5%.

	N	RC	IC 95% (RC)	p
Sex				
Male	255	1,43	[1,02-2,01]	0,035
Female	495	1,00		
Marital status				
Single	277	1,00	-	-
Divorced	10	2,30	[1,24-4,28]	0,001
Married	396	2,31	[1,59-3,37]	<0,001
Common-law / Cohabiting	63	6,46	[1,68-24,81]	0,007
Widowed	4	4,09	[0,53-31,44]	0,176
Level of education				
Illiterate	412	2,64	[1,66-4,20]	< 0,001
Primary	65	1,76	[0,88-3,50]	0,109
Secondary	103	1,42	[0,76-2,64]	0,270
Higher	170	1,00	-	-

Table 2: Final model of factors associated with attitudes towards the VKC among respondents in Parakou in 2022.

Discussion

There are few studies of the VKC done regarding knowledge and attitudes. However, studies have been carried out on knowledge of ocular allergies.

Socio-Demographic Characteristics

The average age of the subjects surveyed was 29.50 ± 10.64 years. This reflects the youth of the population of Parakou. In a study carried out by Kyei, et al. [17] in Ghana, the average age was 22 ±10 years. This difference could be explained by the fact that this study was carried out among undergraduate students at the public university in Ghana, whereas ours was population-based study and concerned conjunctival allergies in general. A predominance of women was observed in our study (66.00%). Similar work was done by Bazuhair, et al. who found that 71.00% of subjects were female [18]. As our data collection was carried out in households, men were less present because of their professional occupation. This could explain the majority of women in our study. On the other hand, in the study by Kyei, et al. [17] men were the most represented with 60.50%.

Knowledge of the Vernal Kerato-Conjunctivitis (VKC)

Only 16.80% of the subjects in our study had a good knowledge of VKC. Kyei, et al. [17] also found a low level of knowledge of ocular allergy among undergraduates at public

universities in Ghana. This suggests that ocular allergies, in this case VKC, are still little known in a population where they are nevertheless rife. Lack of awareness of ocular allergies in general and VKC in particular could be at the root of this low level of knowledge. Vernal Kerato-conjunctivitis is not considered to be a priority eye disease and has not received sufficient attention from public health programs, despite its symptoms and complications, which are sometimes uncomfortable.

Attitudes towards the (VKC)

The subjects' lack of knowledge about VKC did not result in poor attitudes, as nearly 7 out of 10 subjects in our study proposed a good attitude towards VKC, namely going to hospital. Murdoch, et al. [19] in Ghana in 2016 reported in their study that 90% mentioned going to hospital or seeing a doctor in the event of an eye problem. In a society generally based on the ability to see, vision plays an essential role in all aspects and stages of life [20]. The eye is considered to be an important and highly sensitive organ, and the slightest symptom is a reason to seek medical attention. Hence the participants' attitude of consulting a doctor in the event of an eye problem.

Factors Associated with Poor Knowledge of the VKC in the Town of Parakou in 2022

Age is statistically associated with the level of knowledge of the VKC with ($p = 0.038$) in bivariate analysis. The same observation was made in the study by Bazuhair, et al. [18] with ($p < 0.001$). However, multivariate analysis showed that only gender was associated with knowledge of the VKC, with women 2.80 times more likely to have poor knowledge than men. The same observation was made by Bazuhair, et al. [18] who found that men ($p = 0.003$) had significantly better knowledge of ocular allergy than women. According to a population survey carried out in Benin in 2017, 55% of women had no level of education. More specifically in Borgou, 65% of women had no level of education [21]. There is also very little awareness of ocular allergies in general and the VKC more specifically. These observations could justify the high risk of poor knowledge among women. Factors associated with poor attitudes towards the VKC in the town of Parakou in 2022 [22].

The Main Factors Associated with Poor Attitudes Towards the VKH in the City of Parakou in 2022

The main factors were gender ($p = 0.035$), marital status ($p < 0.001$), and level of education ($p < 0.001$). These factors jointly influence attitudes towards the VKC. Men are 1.43 times more likely than women to have poor attitudes to the VKC. However, when it comes to knowledge of the VKC,

women are more likely to have poor knowledge than men. This proves that there is no relationship between knowledge and attitudes towards the VKC. The poor practices observed among men could be due to their professional occupations, which leave them little time to accompany their children quickly to the consultation at the slightest symptom.

Single people have a better attitude to the VKC than divorced, married, cohabiting or widowed people. The lower the level of education, the worse the subject's attitude towards the VKC. Uneducated subjects are 2.64 times more likely to adopt bad attitudes than subjects with a higher level of education. In our society, the better educated people are, the more they understand the need to consult a health worker when faced with a health problem. Also, in Beninese culture, traditional health practices remain ingrained in people's habits. Uneducated people are more likely to resort to self-medication and traditional therapy.

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