

Oral Hygiene of Children Talibes of the Prefecture of Banamba in Mali: 205 Observations

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Abstract: According to WHO, oral health is an essential and integral component of health in general. Alterations in oral health have important consequences: chewing, slurred speech, sleep and concentration, aesthetics and self-image. The objective of our study is to evaluate the oral hygiene of talibé children in the Banamba prefecture of MALI. It was a cross-sectional, descriptive study based on observation of oral hygiene of talibé children aged 3 to 18 living in Banamba Prefecture. The study included 205 talibé children between the ages of 3 and 18 enrolled in three traditional Koranic schools in Banamba villages. It was a non-exhaustive recruitment of talibés in the different Koranic institutions mentioned above in the study framework. Talibés were submitted to the questionnaire and examined on an oral and periodontal basis. Data entry was performed on the Word 2010 office software and data analysis from EPI-info-3.5.3.French version software. The male sex was the most represented with 95.60% of the cases; with a sex ratio of 21.78. The age group 8 to 12 years was the most represented with 49.27% of cases with an average age of 10.50 and extremes ranging from 3 to 18 years. The talibés who used the toothbrush stick were the most numerous with 64.90% of the cases. The talibés brushed from time to time in 52.70% of cases and with a bad brushing technique in 99.30% of cases. In our study 76.60% of talibés had poor oral hygiene. They did not brush their teeth in 82.90% of cases (81.30% for men). There is a significant statistical link between brushing and sex. There is a significant statistical link between oral hygiene and age. The use of the toothbrush was weak but a neglect of the use of the toothpick is emerging. It is important to educate talibé children about the benefits of brushing their teeth with a special focus on frequency and timing.

Keywords: oral hygiene, brushing, tooth, oral diseases.

INTRODUCTION

Oral health problems are public health problems that affect all segments of the population to varying degrees. According to WHO, oral health is an essential and integral component of health in general. Alterations in oral health have important consequences: chewing, slurred speech, sleep and concentration, aesthetics and self-image. Sometimes the consequences are insidious: children with polycaries have a deficit of 25% or more compared to the ideal weight of children of the same age [1]. This is all the more important when it comes to the oral health of the child, since it directly affects his or her good development and quality of life [2].

The most common pathologies are: dental caries and periodontal diseases, which are considered to be the two main diseases in the field of oral public health, given their frequency, which affects a large number of individuals. They currently remain a cause of morbidity very related to access to health care and socio-economic problems.

Many studies have been done in Mali in schools, but very few studies have been done on Koranic schools, let alone traditional Koranic schools. While thousands of children receive regular oral care, others have serious problems getting the care they need. These children most often come from disadvantaged social groups [3].

In our study we will focus on a specific community of our country, a community based on the Muslim religion: the Talibés; students from Koranic school or Medersa. Indeed, these talibé children attending traditional madrasas are considered as rejects of society. They live in precarious conditions, most often characterized by promiscuity and insecurity.

To this must be added deplorable sanitary conditions, without assistance, without help. They are abandoned to themselves. During the Koranic learning period, these talibé children do not benefit from any social and especially health care.

All these conditions have made us interested in the oral hygiene of these children talibés [4]. The objective is to evaluate the oral hygiene of talibé children in Banamba prefecture in Mali.

MATERIALS AND METHODS

It was a cross-sectional, descriptive study based on observation of oral hygiene of talibé children aged 3 to 18 living in Banamba Prefecture. The study included 205 talibé children between the ages of 3 and 18 enrolled in the traditional Koranic schools of the

following villages: Touba, Kiban, Banamba. During a period from 02 December 2015 to 15 January 2016. This was a non-exhaustive recruitment of talibés in the various Koranic institutions mentioned above in the study framework. Talibés were submitted to the questionnaire and examined on an oral and periodontal basis. All talibé pupils aged 3 to 18 enrolled in one of the selected Koranic schools were included in the study and agreed to answer the questionnaire and be examined. Not included in the study were any Koranic students enrolled in one of the selected Koranic schools who were not in the age group of 3 to 18 years and those who did not agree to answer the questionnaire and to be examined.

The information and clinical data were recorded on a survey form developed for the circumstance according to the objectives of the study; the talibés were invited to answer the questionnaires after obtaining their informed verbal consent and that of their master. Data entry was performed on the Word 2010 office software and data analysis from EPI-info-3.5.3.French version

RESULTS

Table-I: Distribution of the workforce by gender

Sex	Effective	Fréquency (%)
Male	196	95,60
Female	9	4,40
Total	205	100,00

The male sex was the most represented with 95.60% of the cases; with a sex ratio of 21.78 (Table-I).

The age group 8 to 12 years was the most represented with 49.27% of cases with an average age of 10.50 and extremes ranging from 3 to 18 years (Table-II).

Table-II: Distribution of the workforce by age group

Age range (in years)	Effective	Fréquency (%)
3 – 7	42	20,49
8 – 12	101	49,27
13 – 18	62	30,24
Total	205	100,00

Table-III: Distribution of the workforce according to the food way of life

Food mode	Effective	Frequency (%)
multiple intake of food	201	98,00
Sweet drink	191	93,20
No multiple food intake + no sweet drink	4+14	2,00 + 6,80

The talibés who were snacking and drinking sugar represented respectively 98.00% and 93.20% of the cases (Table-III).

The talibés who used the toothbrush stick were the most numerous with 64.90% of the cases (Table-VI).

Table-IV: Distribution of the workforce according to the use of the stick rubs teeth

Stick rubs teeth traditional	Effective	Frequency (%)
Yes	133	64,90
No	72	35,10
Total	205	100,00

Table-V: Distribution of the workforce according to the frequency of brushing

Number of daily brushing	Effective	Frequency (%)
Once a day	38	18,50
Twice / day	7	3,40
Three times a day	0	0,00
Never	52	25,40
Time in time	108	52,70
Total	205	100,00

The talibés who brushed from time to time were the most numerous with 52.70% of cases; followed by those who never brushed who accounted for 25.40% of cases (Table-V).

The special moment of brushing talibés was the morning before the meal with 31.55% of cases (Table-VI).

Table-VI: Distribution of brushing according to the brushing moment

Brushing moment	Effective	Frequency (%)
Morning before the meal	53	31,55
Morning after the meal	34	20,50
Noon before the meal	10	5,95
Noon after the meal	31	18,45
Evening before the meal	34	20,50
Evening after meal	6	3,05
Total	168	100,00

Table-VII: Distribution of the workforce according to the brushing technique

Brushing technique	Effective	Frequency (%)
Good	1	0,70
Bad	167	99,30
Total	168	100,00

The talibés had a bad brushing technique in 99.30% of the cases, and 0.70% had a good brushing technique (Table-VII).

In our study 76.60% of talibés had poor oral hygiene, but only 3.40% of talibés had good oral hygiene (Table-VIII).

Table-VIII: Distribution of talibés according to the quality of oral hygiene

Hygiene	Effective	Frequency (%)
good	7	3,40
Average	41	20,00
bad	157	76,60
Total	205	100,00

Table-IX: Distribution of the brushing workforce by sex

Brushing Sex	Yes		NO		TOTAL	
	n	%	n	%	n	%
M	28	14,30	168	81,30	196	95,60
F	7	2,80	2	0,97	9	4,40
Total	35	17,10	170	82,90	205	100

Point 95% Confidence Interval

Chi-quarré - non corrigé	24,5005	0,0000019121
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Table -X: Distribution of the oral hygiene workforce by age group

Hygiene Age	Good		Average		Bad		Total	
	n	%	n	%	n	%	n	%
3 – 7	0	0,00	8	3,90	34	16,58	42	20,48
8 – 12	1	0,48	20	9,75	80	41,00	101	49,28
13 – 18	6	2,92	13	6,34	43	20,97	62	30,24
Total	7	3,41	41	20,00	157	76,60	205	100,00

Chi-quarré	df	Probabilité
10,9632	4	0,0270

Talibés did not brush in 82.90% of cases (81.30% for males). There is a significant statistical link between brushing and sex (Table-XI).

Oral hygiene: In our study 76.60% of talibés had poor oral hygiene, of which 41.00% were in the age group of 8 - 12 years. There is a significant statistical link between oral hygiene and age (Table-X).

DISCUSSION

Our study is part of a cross-sectional analytical study based on observation of oral hygiene of talibés carried out in Banamba prefecture at the traditional Koranic schools of Banamba, Touba, Kiban on an absolute strength of 205 talibés aged 3-18 years during a period from 02 December 2015 to 15 January 2016. In our study, the talibés in our sample were between 3-18 years old.

The most represented age group was 8-12 years old with an average age of 10.50 years. The male sex was the most represented with 95.60% and a sex ratio of 21.78. This numerical predominance of boys over girls can be explained by the fact that traditional Koranic schools; since their establishment, have kept their traditional character that the boy alone is talibé. The girls found are usually the daughters of the Koranic masters.

In Mali, in the study done by Diawara O. in Koutiala, the male sex accounted for 57.7% of cases with a sex ratio of 0.73 [5] could be explained by the fact that parents who send it willingly their daughters sometimes have fears for Western-style education. Talibés did not brush in 82.90% of cases (81.30% for males). There is a significant statistical link between brushing and sex.

The talibés who were snacking and drinking sugar represented respectively 98.00% and 93.20% of the cases. On the other hand, children who consumed daily sugary drinks between meals were significantly more numerous according to Muller-Bolla M *et al.* [6].

Talibés had poor oral hygiene in 76.60% of cases, of which 41.00% were in the age group 8-12 years. The special moment of brushing our talibés was the morning before the meal with 31.55% of the cases.

Talibés had a bad brushing technique in 99.30% of cases. The talibés who brushed from time to time were the most numerous with 52.70% of cases; followed by those who never brushed who accounted for 25.40% of cases.

According to MULLER-BOLLA M *et al.* [6] in their study on (State of Oral Health and risk of individual caries in the school zone with educational priority or not.) Epidemiological survey 2004-2005 in Nice reports that, 97.6 % of children brushed their teeth daily, of whom 626 did so twice a day (p = 0.058), the manual toothbrush was proportionally more often used, the others chose an electric brush (p < 0.001) Finally, 37 children reported sharing their toothbrush with another family member (p <0.001), which could be explained not only by the location of the rural and urban study but also by the lack of information and education of talibé children on hygiene and plate control techniques.

In our sample, 142 talibés children had at least one decayed tooth (69.27% of cases) of which: 229 teeth were temporary teeth (41.71%) and 320 permanent teeth (58.29%). The study had no dental plugging (O), the number of decayed teeth (C) was 549, and the number of missing teeth (A) was 24. Children only consulted the dentist in 15 % of cases while in that of SY A. reported 66.48% of students did not consult the dentist (7).

The average CAD index is 2.79. This index does not comply with World Health Organization (WHO) standards which consider a low index between 1.2 and 2.6 [8]. In the definition of severity criteria based on the levels of caries achieved by WHO, the prevalence is moderate if it is in the range 2.7 < CAO <4.4. Our study reveals that the prevalence of caries among a population of 205 talibé children is 69.27%.

Our result is superior to SANOGO Y.T. in Sikasso, Mali, which found a CAD index of 1.65 and an overall incidence of tooth decay of 63.91% [4] and that of SYLLA M. in Senegal, which found a prevalence of 51.90% on a sample of 293 talibé children with a CAD index of 1.77 in 2007 [3]. This could be explained by the fact that our study focused only on traditional Koranic schools. Of the other

conditions, halitosis was the most common condition among talibés with 58.50% of cases; the frequency of malocclusions was 36.10%; tooth mobility of 4.90%; 0.50% fluorosis; non-carious cervical lesions 2.00%.

Halitosis was found in 203 students or 39% of cases, the male sex was the most represented with 119 students (48.80%), and the female sex was 84 students (30.30% of cases). The analytical result shows that there was no significant link between sex and halitosis.

CONCLUSION

Indeed, there is a significant statistical link between brushing and sex, between sex and halitosis, between oral hygiene and age in these talibé children. The use of the toothbrush was weak but a neglect of the use of the toothpick is emerging. It is important to educate talibé children about the benefits of brushing their teeth with a special focus on frequency and timing.

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