

Original Research Article

**AWARENESS, BELIEFS ON RISK FACTORS/AETIOLOGIES, AND ATTITUDES OF
STUDENTS OF PRIMARY HEALTH CARE-RELATED DIPLOMA PROGRAMMES IN
IBADAN, NIGERIA, TOWARDS BABIES WITH CLEFT LIP**

ABSTRACT

The birth of a baby with cleft lip is regarded as evil in many Nigerian communities. These babies tend to suffer from social neglect or infanticide due to superstitious beliefs associated with their births. This study aimed to explore the level of awareness, the beliefs of risk factors, and attitudes of students in primary health care-related diploma programmes in Ibadan, Nigeria, towards babies born with cleft lip. This study was a descriptive cross-sectional study conducted among students studying primary health care-related diploma programmes in three conveniently selected schools in Ibadan, Nigeria. Information on the bio-data, awareness of cleft lip, knowledge of the risk factors/aetiologies of cleft lip, and attitudes toward delivering health care services to cleft lip babies were obtained from 88 participants using a self-administered anonymous questionnaire. All questionnaires were returned filled, 5 were discarded because they were not properly filled. Only the data of 83 respondents were used in this study. Data were coded and entered into the SPSS version 16 Software for descriptive statistical analyses. The mean age ($\pm$ SD) of the 83 respondents was 35.32 ($\pm$ 10.22) years, 72.3% were females, 69.9% were Yorubas, and 60.2% were married. Forty-six respondents (55.4%) had not seen a baby with cleft lip before, while the rest had seen at least one baby with such. The majority ($\geq$ 61.5%) of them did not believe that cleft lip could be caused by witchcraft, curses, will of God, evil spirits, and bad luck. Less than 60% of them believed that excessive alcohol consumption, viral

infection, genetic factors, cigarette smoking, irradiation, and drugs are potential risk factors for cleft lip formation. The majority ($\geq 78.3\%$) showed a positive attitude towards delivering health care to cleft lip babies without fear. We also observed that most of our married respondents, compared to the singles, believed strongly that cleft lip has no supernatural cause ($p\text{-value} < 0.05$). Also, those that had seen cleft lip babies, compared to those that have not, were more willing to deliver health care services to babies with cleft lip ($p\text{-value} < 0.05$). In conclusion, the majority of the students of primary health care-related programmes in Ibadan, Nigeria, do not have superstitious beliefs on the causes of cleft lip, however, their knowledge on its medical risk factors is inadequate. There is a need to educate them on the risk factors/aetiologies of cleft lip.

KEYWORDS: Beliefs, attitude, primary health care, student, cleft lip, Ibadan

TEXT

1. Introduction

Cleft lip is a congenital orofacial deformity caused by the failure of complete union of the two medial nasal prominences during intra-uterine life and it is characterized by discontinuity of the upper lip at birth [1]. Cleft lip can be either unilateral or bilateral in its anatomic description. Also, it can either occur in isolation or co-exist with cleft of the palate [1,2].

Cleft lip is one of the most common congenital orofacial deformities, and its global incidence varies from about 1:500 to 1:1000 live births [3]. However, the national incidence rate of cleft lip in Nigeria is yet to be ascertained [4], but different studies had reported several hospital cases of cleft lip patients [4-6].

It has been documented in literatures that exposure of pregnant women, during the first trimester, to teratogenic drugs (e.g. anticonvulsants, retinoic acid), excessive alcohol, tobacco, viral infection, and irradiation can induce cleft lip formation in their baby in utero [1,2]. However, superstitious beliefs about the aetiology of cleft lip have been found to be highly prevalent in the Nigerian society, particularly among those living in the rural communities [7-10]. Many of them are of the beliefs that cleft lip is caused by spiritual forces, and some of these babies with cleft lip had been reported to have suffered from neglect, and even infanticides, due to associated societal stigma [8-10].

This study was conducted among the students of primary health care-related diploma programmes in Ibadan, Nigeria, with the aims of exploring their level of awareness, beliefs on the risk factors/aetiologies of cleft lip and also determining their attitudes toward babies with cleft lip.

Methodology

1.1 Study Design

This study was a descriptive cross-sectional study.

1.2 Study Setting

This study was conducted among students running primary health care-related diploma programmes in three conveniently selected schools in the metropolitan city of Ibadan. Ibadan is the largest city in Nigeria, and she is located in the south-western geopolitical zone of Nigeria. The three institutions that were selected for this survey were the School of Health Information Management (SHIM), the School of Community Health Training Programme (SCHTP), and the

Federal Training Centre for Teachers of Health Sciences (FTCTHS). The FTCTHS is the only school of its kind in the entire south-western geopolitical zone of Nigeria, and the diploma programmes offered by this school include the Primary Health Care Tutors' programme, and the Nursing/Midwifery/Public Health Nursing Tutors' programme. Only three schools are running the Health Information Management, and the Community Health Training diploma programmes in Ibadan, of which the SHIM and the SCHTP were the two out of the three participating schools that were selected for this study.

1.3 Sample Size Determination

The population of students eligible to participate were obtained, and their sample size (n) calculated using the Yamane formula at a precision level of 0.05 [11]:

$$n = \frac{N}{1 + N(e)^2}$$

where:

N is the population size; and e is the precision level (=0.05) at 95% confidence level.

The calculated sample size (n) equals 117.

1.4 Ethical Considerations

Approval to conduct this study was obtained from the Ministry of Education, Ibadan, Nigeria. Only those that were willing to participate were recruited for this study, and the identity of participants were kept strictly confidential.

1.5 Study Tool

The tool used for the data collection in this study was a well-structured anonymous questionnaire. The questionnaire had three sections: sections A; B; and C. Section A obtained information about the socio-demographic characteristics of each participant. Section B described cleft lip to the participants using an illustration of a baby with cleft lip, and also obtained information about the total number of cleft lip babies seen by each participant, together with their beliefs on the aetiologies/risk factors for cleft lip. Section C obtained information about the attitude of each participant towards delivering health care services to babies with cleft lip. The questionnaire quantitatively explored the beliefs and attitudes of the respondents using a four-point Likert scale: point 1=strongly believe/agree; 2=belief/agree; 3=disbelieve/disagree; and 4=strongly disbelieve/disagree.

1.6 Participant Selection

Only the students that have had completed more than half of the duration of their training programme were purposively selected to participate in this study because they have had at least an average level of exposure to curricular contents of their diploma programmes.

1.7 Data Collection and Analysis

The eligible participants were approached in their various classrooms. The aims and objectives of this research were explained to them, and they were assured of the confidentiality of their participation. Only eighty eight students volunteered to participate, and verbal informed consent was obtained from each participant before administering the questionnaire. All questionnaires were returned filled. Five out of all the questionnaires returned were discarded because they were not properly filled, so we finally used 83 respondents in this study, hence our response rate was 70.9% (83/117). Data obtained was cleaned and analysed using the SPSS version 16 software.

Frequency distributions for all variables were determined and illustrated using frequency tables, and charts. Tests of association between the variables were done using the Chi-square test and a p-value of <0.05 was considered to be statistically significant.

2. Results

The mean age ($\pm$ SD) of the 83 respondents was 35.32 ($\pm$ 10.22) years. Sixty (72.3%) were females, 58 (69.9%) were from the Yoruba tribe, 3 (3.6%) were from the Hausa tribe, 5 (6.0%) were from the Igbo tribe, while the remaining 17 (20.5%) were from other minor Nigerian tribes. Fifty (60.2%) respondents were married, 31 (37.3%) were single, while only 2 (2.4%) respondents did not specify their marital status. Thirty one respondents (37.3%) were students of the SHIM, 21 (25.3%) were students of the SCHTP, while the remaining 31 (37.3%) were students of the FTCTHS.

Forty-six respondents (55.4%) had not seen any baby with cleft lip before, 12 (14.5%) had seen just one baby with cleft lip, 11(13.3%) had seen two, 2 (2.4%) had seen three, 6 (7.2%) had seen four, 4 (4.8%) had seen five, while the remaining 2 (2.4%) respondents had seen more than five babies with cleft lip.

Table 1 illustrates the frequency distribution of the responses of our respondents on their beliefs on the risk factors/aetiologies of cleft lip. The majority ($\geq 61.5\%$) of them did not ascribe cleft lip to bad luck, evil spirit, curses, God, and witchcraft. However, only 71.1%, 43.3%, 47%, 55.4%, 38.6%, and 65.1% of them were of the belief that drugs (e.g. retinoic acid), excessive alcohol, excessive smoking, viral infection, and parents' gene respectively are risk factors for cleft lip.

Table 2 compares the relationship between our respondents' beliefs on the risk factors/aetiologies of cleft lip and their marital status, gender, and exposure to cleft lip babies

respectively. There exists no statistically significant relationship between our respondents' beliefs on the risk factors/aetiologies of cleft lip and their gender or prior exposure to such babies (p-value >0.05). However, there exist statistically significant relationships between marital status and their beliefs on some cleft lip risk factors/aetiologies (p-value <0.05) as superstitious disbeliefs on cleft lip risk factors/aetiologies is more deeply rooted (SD=strongly disbelieve) in the minds of the married respondents, compared to those that were singles.

Table 3 shows the frequency distribution of the attitudes of our respondents toward babies with cleft lip. The majority of them ($\geq 78.3\%$) indicated that they could play with babies with cleft, visit the family of a cleft lip baby without any fear, or conveniently attend to the parents of a cleft lip baby without any fear.

Table 4 compares our respondents' attitudes toward cleft lip babies with their marital status, gender, and exposure to cleft lip babies respectively. All the mean and modal Likert scores of their responses are ≥ 3 and 3 respectively. In addition, the mean and modal Likert scores of the respondents that have had seen cleft lip babies were equal to, or higher than, those that have not seen such babies, and these comparisons were statistically significant as p-value >0.05.

3. Discussion

The primary health care workers play important roles in disease prevention through their various participatory roles in community health promotion and education programmes [12]. Their beliefs on disease risk factors/aetiologies as well as their attitudes toward disease prevention are strong determinants of their effectiveness in health promotion and education programmes [13]. Although all our study participants were students, nevertheless, a lot of them will eventually be in a primary health setting in future. Cleft lip is one of the most prevalent orofacial deformities,

and it is of public health importance [3]. Cleft lip babies are victims of social stigmatization, and some of them had suffered denial of medical care [7].

Many (44.6%) of our respondents reported to have seen at least one baby with cleft lip; this indicates that the births of babies with cleft lip are in no way a rare occurrence in our society. This finding is similar to that reported by Owotade et al [14], where they reported that 50.5% of antenatal clinical attendees of Nigerian tertiary hospitals have either heard or seen babies with cleft lip.

In actual fact, superstitious beliefs on cleft lip is prevalent in Africa [7], particularly among the Nigerian population [8,9], and such beliefs were found to be predominant among those in the low socioeconomic class [7,15]. In fact, Antwi-Kusi et al, in 2015, reported such beliefs even among mothers of babies with cleft lip [15]. Fortunately, the majority (>60%) of our respondents were not superstitious about what could cause cleft lip (Table 1).

Our findings also showed that <60% of our respondents associated cleft lip with medical risk factors such as alcohol, tobacco, irradiation, drugs, and hereditary factors. This indicates that the knowledge of many of them on the risk factors/aetiology of cleft lip is inadequate.

We also observed that a significant relationship exists between marital status and beliefs on the risk factors/aetiologies of cleft lip. The singles were found to be relatively more superstitious than those that were married, and this may be explained by childbirth experience that would be commoner among the married respondents. It is also noteworthy that those that have seen babies with cleft lip have higher tendencies to show good attitudes toward these babies. This may be associated with the fear of the unknown, as many unanswered questions on cleft lip might have arisen in their minds.

173 Fortunately, the majority of our respondents exhibited a positive attitude towards delivering
174 health care services to cleft lip babies. They showed positive disposition towards visiting, being
175 friendly with the families of these babies, as well as paying attention to the healthcare needs of
176 these babies (Table 2). However, the positive attitudes exhibited by the majority of our
177 respondents are not in concordance with what obtains in the poor communities [7].

178 **5 Limitations of the Study**

179 This study has some limitations. This study only assessed the attitudes and beliefs of the study
180 participants using quantitative methods, it did not deeply explore their beliefs and attitudes,
181 unlike for a qualitative method. Also, we were not able to meet our targeted sample size. This
182 was because the students were preparing for examinations during the period of data collection, so
183 not all were available or willing to participate.

184 **6 Recommendations**

185 The authors recommend that students of primary health-care related diploma programmes in
186 Ibadan should be educated on the risk factors of cleft lip. This will be helpful in disabusing the
187 mind of some of them about superstitions on cleft lip, as well as enlighten them on the risk
188 factors/aetiologies of cleft lip.

189 **7 Conclusions**

190 The majority of the students of primary health-related diploma programmes in Ibadan, Nigeria,
191 showed positive attitudes toward babies with cleft lip. Although the knowledge of the majority of
192 them on the risk factors of cleft lip is inadequate, many of them did not believe that it is
193 associated with any supernatural cause. Educating them on the risk factors/aetiologies of cleft

194 lip will empower them in educating the general population on how to prevent it from occurring
195 during pregnancy, thereby reducing its incidence in our society.

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Table 1: Frequency distribution of the responses of our respondents concerning their beliefs on the risk factors/aetiologies of cleft lip

Risk factors	SD (%)	D (%)	B (%)	SB (%)	NR (%)	Total (%)
Drugs (e.g. retinoic acid)	10 (12.0)	7 (8.4)	40 (48.2)**	19 (22.9)	7 (8.4)	83 (100.0)
Excessive alcohol	9 (10.8)	31 (37.3)**	25 (30.1)	11 (13.3)	7 (8.4)	83 (100.0)
Excessive smoking	8 (9.6)	28 (33.7)	29 (34.9)**	10 (12.0)	8 (9.6)	83 (100.0)
Viral infection	9 (10.8)	20 (24.1)	36 (43.4)**	10 (12.0)	8 (9.6)	83 (100.0)
Parent's gene	13 (15.7)	28 (33.7)**	24 (28.9)	8 (9.6)	10 (12.0)	83 (100.0)
Irradiation	7 (8.4)	13 (15.7)	42 (50.6)**	12 (14.5)	9 (10.8)	83 (100.0)
Curses	36 (43.4)**	30 (36.1)	7 (8.4)	2 (2.4)	8 (9.6)	83 (100.0)
Will of God	35 (42.2)**	16 (19.3)	22 (26.5)	7 (8.4)	3 (3.6)	83 (100.0)
Evil spirits	44 (53.0)**	26 (31.3)	8 (9.6)	1 (1.2)	4 (4.8)	83 (100.0)
Bad luck	44 (53.0)**	22 (26.5)	11 (13.3)	4 (4.8)	2 (2.4)	83 (100.0)

**response with the highest frequency in each row SD=strongly disbelieve; D=disbelieve;

B=believe; SB=strongly believe; NR=no response

Table 2: Comparisons between respondents' beliefs on the risk factors/aetiologies of cleft lip and marital status, gender, and exposure to cleft lip babies

Risk factor**	Had seen cleft lip before? ^{1,2}			Marital status ^{1,2}			Gender ^{1,2}		
	Yes	No	p-value	Single	Married	p-value	Male	Female	p-value
Drugs (e.g. retinoic acid)	2.9 (3)	2.8 (3)	1.46	2.9 (3)	2.8 (3)	0.711	2.9 (3)	2.7 (3)	0.600
Excessive alcohol	2.5 (2)	2.6 (2)	0.612	2.4 (2)	2.6 (2)	0.557	2.8 (3)	2.4 (2)	0.133
Excessive smoking	2.5 (3)	2.4 (2)	0.687	2.5 (2)	2.7 (3)	0.460	2.8 (3)	2.5 (2)	0.225
Viral infection	2.7 (3)	2.6 (3)	0.440	2.9 (3)	2.0 (3)	0.073	2.7 (3)	2.6 (3)	0.619
Parent's gene	2.5 (3)	2.3 (2)	0.684	2.6 (2)	2.2 (2)	0.047	2.6 (3)	2.3 (2)	0.203
Irradiation	2.8 (3)	2.9 (3)	0.807	2.8 (3)	2.8 (3)	0.819	2.9 (3)	2.8 (3)	0.281
Witchcraft	1.5 (1)	1.8 (2)	0.173	1.7 (2)	1.4 (1)	0.067	1.6 (1)	1.6 (1)	0.824
Curses	1.6 (1)	1.7 (1)	0.995	1.8 (2)	1.9 (1)	0.475	1.6 (1,2)	1.7 (1)	0.776
Will of God	1.9 (1)	1.8 (2)	0.327	2.0 (2)	1.5 (1)	0.030	1.9 (1)	1.9 (2)	0.211
Evil spirits	1.6 (1)	1.6 (1)	0.958	1.9 (2)	1.3 (1)	0.006	1.5 (1)	1.7 (1)	0.601
Bad luck	1.7 (1)	1.5 (1)	0.351	1.9 (1,2)	1.4 (1)	0.045	1.5 (1)	1.7 (1)	0.598

**df=3, X^2 test ¹missing values were not analysed ²values are presented as mean Likert scores, with the corresponding modal scores in parenthesis (a modal score of: 1 depicts “strongly disbelieve”; 2 depicts “disbelieve”; 3 depicts “believe”; while 4 depicts “strongly believe”)

Table 3: Frequency distribution of the responses of our respondents concerning their attitudes toward babies with cleft lip

Situations	SD (%)	D (%)	A (%)	SA (%)	NR (%)	Total (%)
S1	3 (3.6)	5 (6.0)	35 (42.2)**	30 (36.1)	10 (12.0)	83 (100.0)
S2	2 (2.4)	4 (4.8)	36 (43.4)**	32 (38.6)	9 (10.8)	83 (100.0)
S3	2 (2.4)	1 (1.2)	42 (50.6)**	29 (34.9)	9 (10.8)	83 (100.0)

**response with the highest frequency in each row, ^{S1}I can conveniently attend to the parent of a baby with cleft lip in the health care centre without any fear, ^{S2}I can play with a baby with cleft lip without any fear, ^{S3}I can visit the family of a baby with cleft lip if my duty calls for it as an health officer

SD=strongly disagree; D=disagree; A=agree; SA=strongly agree; NR=no response

Table 4: Comparisons between our respondents' attitude with their marital status, gender, and exposure to babies with cleft lip

Situations	<u>Had seen cleft lip before?</u>			<u>Marital status</u>			<u>Gender</u>		
	Yes	No	p-value	Single	Married	p-value	Male	Female	p-value
S1	3.5 (4)	2.9 (3)	0.008	3.2 (3)	3.3 (4)	0.759	3.3 (3)	3.2 (3)	0.576
S2	3.5 (3)	3.1 (3)	0.027	3.3 (3)	3.36 (4)	0.303	3.4 (3)	3.3 (3,4)	0.350
S3	3.6 (4)	3.0 (3)	0.030	3.2 (3)	3.3 (3)	0.808	3.4 (3)	3.3 (3)	0.661

$df=3$, X^2 test, ^{S1}I can conveniently attend to the parent of a baby with cleft lip in the health care centre without any fear, ^{S2}I can play with a baby with cleft lip without any fear, ^{S3}I can visit the family of a baby with cleft lip if my duty calls for it as an health officer,

266 (A modal score of: 1 depicts strong disagreement; 2 depicts disagreement; 3 depicts agreement;
267 while 4 depicts strong agreement)