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Millennium Medical College
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St. Paul Hospital Millennium medical College Graduate Study Program

Knowledge and Attitude towards Cleft Lip and Palate and associated factors among Patients visiting Dental and Maxillofacial Surgery Department, St. Paul's Hospital Millennium Medical College

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A Research Submitted in Partial Fulfillment of the Requirement for Speciality Certificate in Oral and Maxillofacial Surgery Program at St. Paul's Hospital Millennium Medical College, Department of Dental and Maxillofacial Surgery

June, 2024
Addis Ababa, Ethiopia

St. Paul's Hospital Millennium Medical College, Department of Dental And Maxillofacial Surgery

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Abstract

Background: Cleft lip and palate is one of the most heterogeneous orofacial malformations. It is a major public health burden worldwide causing difficulty of eating, speaking, abnormalities in teeth and mouth development, ear irritation, and social and mental developmental disorders. Therefore, the study aimed at determining level of knowledge, attitude towards cleft lip and palate disorder and its associated factors.

Methods: Hospital based cross-sectional study design was conducted from January 29, 2024 - February 29, 2024 on a total of 422 patients. The data were collected using an interviewer-administered questionnaire. The collected data were entered into Epidata version 4.4.6 and analyzed using SPSS version 24. Descriptive statistics were used to compute summary statistics and proportion. Variables at a cut-off value of 0.25 on bivariable analysis were candidates for multivariable analysis and in the multivariable binary logistic regression p-values of 0.05 or lower was considered significant..

Result: The overall levels of knowledge, and attitude related to CLP were 22.0%, 95% CI (18.2-26.3), and 79.4%, 95% CI (75.4-82.9) respectively. Being agree with the statement CLP occurred due to pregnant women going out during an eclipse [AOR=7.8, 95% CI (2.27-26.88)], primary level of education [AOR=4.7, 95%CI (1.28-17.34)], secondary level of education [AOR=6.9, 95%CI (1.95-25.09)], and higher education level [AOR=12.5, 95% CI (3.46-45.23)] were factors associated with increased knowledge of CLP. Factors such as secondary education [AOR: 4.06, 95%CI (1.85-8.92)], higher education [AOR: 2.78, 95%CI (1.17-6.59)], being government employee [AOR=3.176; 95% CI (1.314-7.676)], and being a merchant [AOR=2.802; 95% CI (1.282-6.122)] were associated with positive attitudes towards CLP.

Conclusion and recommendation: Majority of the patients had positive attitude and lacked sufficient knowledge regarding CLP anomalies. Education, occupation, and agreeing with statement CLP occurred if pregnant women going out during an eclipse were factors associated with knowledge and attitude. Therefore, strengthening health education to increase awareness can subsequently help to increase knowledge and develop more positive attitudes

Keywords: Attitude, Knowledge, cleft lip, cleft palate.

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List of Acronyms

AOR: Adjusted Odds ratios

COR: Crude Odds ratio

CL: Cleft lip

CP: Cleft Palate

CLP: Cleft lip and Palate

CF: Conceptual Framework

CI: Confidence Interval

FMH: Federal Ministry of Health

IRB: Institutional Review Board

OMFS: Oral and maxillofacial surgery

PI: Principal Investigator

SPHMMC: St Paul's Hospital Millennium Medical College

SPSS: Statistical Package for Social Studies

WHO: World Health Organization

1. Introduction

1.1. Background

A cleft is a defect or opening that can affect the lip, alveolus, hard palate and soft palate either in combination or in isolation(1). CLP is occurred if the fusion of the facial structures on the right and left sides to the midline does not occur properly due to genetic factors, Advanced maternal age, smoking, alcohol consumption, and deficiency in folic acid and B6 and B12 vitamins during the development of facial structures between the fourth and twelfth weeks of pregnancy(4,5)

Having knowledge about the causes, treatment, and prevention of CLP can help fight against negative beliefs and faulty attitudes towards CLP and even reduce its prevalence. People's knowledge about CLP might help develop better health-related behaviors in children. When knowledge of children's families and the methods of postoperative treatment for the child are still lacking, not only treatment outcome but also comprehensive psycho-physiological development of the children are affected (3). A study in Nepal showed that lack of knowledge about CLP treatment was the most common reason for the late presentation of the patients. Poor knowledge of CLP has also been reported in populations in many urban and rural areas of Africa and Asia (17).

Peoples attitude toward cleft lip and palate can be associated with their religion, cultural beliefs and demographic differences (13). In Chinese there is a general cultural bias and a less positive attitude towards individuals with physical disabilities. The actual cause of the CLP is often ignored or rejected. They may also have false expectations about the efficacy of therapy and believe that success is guaranteed as long as their CLP children tried hard (2).

In Africa there is a belief that CLP is caused by supernatural forces that have expressed their thirst for blood through the baby's "deformity. One school of thought has it that pregnant women give birth to children with CLP when they laugh at a patient with CLP. Also, pregnant women can give birth to children with CLP when they go out during an eclipse.(2).

A negative attitude has been linked with increased mental and social stress, leading to a lower quality of life. This can be overcome by the favorable attitude and support of family members, as well as adequate awareness and knowledge about the cause, time of treatment and management options (17).

There are different associated factors with knowledge [age and education in Pakistan and Nigeria, occupation (health workers), gender (male) and education in Sultanate of Oman] (1,12,13).

Therefore, the aim of this study was to evaluate the level of knowledge and attitude of Cleft lip and palate and associated factors among patients visiting the dental and maxillofacial surgery departments of St. Paul's Hospital Millennium Medical College (SPHMMC).

1.2. Statement of the problem

Globally, CLP occurs in approximately 1 in every 500–700 births per year. The incidence of CLP ranges from 1 to 2.2 per 1000 live births in European Caucasian population, 1.65/1000 births in Kenya, 0.9/1000 live births in Sudan, 0.3/1000 in the Eastern part of Nigeria and 1.49/1000 birth in Ethiopia (11). The study conducted across the different country conclusive the different magnitude of knowledge and attitude. For example, study conducted in Australia, Pakistan, Sultanate of Oman, Sudan, Ghana and Nigeria reported that the participants have 70.7%, 82%, 49.7%, 52.2%, 57.3% and 19.8% knowledge toward CLP respectively, and generally they have positive attitude (1,10,12,13,15).

The knowledge and attitudes of the community towards the nature, cause, effect and treatment of CLP have a strong impact on the child's self-concept. The lack of knowledge and a negative attitude about CLP was the most common reason for the late presentation of the patients at hospital and increase mental and social stress which causes a burden on the health system, medical economy, quality of life, and well-being of patients, their families and society (2,10,14,17).

People's level of knowledge and attitude towards cleft lip and palate either early or late going hospital can be associated with geographic regions, religion, cultural beliefs, educational background, availability of health facility and socioeconomic status differences (13,14).

Operation Smile has a program to conduct the International Family Study (IFS) to better understand why CLP happen and, hopefully in the future, find a way to ensure that no more children are born with cleft lip and cleft palate. To achieve this, knowing the knowledge and attitude level of the community is very crucial (22).

There was study done in Ethiopia on Descriptive Epidemiology of Orofacial Clefts but it was not address the level of knowledge and attitude with their associated factors (11). Therefore, this study helps to measure the level of knowledge and attitude towards CLP and associated factors among patients visiting the SPHMMC dental and maxillofacial surgery department.

1.3. Significance of the Study

In most developing countries giving a child birth with cleft lip and palate causes emotional and traumatic experiences for parents, especially because myths and beliefs play a huge role in health seeking behaviors. This emotional and psychological trauma can be eliminated if parents are well informed about the causes, signs, symptoms and treatment of cleft lip and palate. The study could provide valuable information about the knowledge and attitude of participants toward cleft lip and palate for charitable organizations like Operation Smile that have been operating CLP. The findings of this study was also serve as a base for formulating an effective awareness campaign tool relevant to educating the public on the etiology, predisposing factors, effects, and management options of cleft lip and palate.

2. Literature Review

2.1. Overview

Cleft lip and cleft palate is birth defects that occur when a baby's lips or mouth do not form properly before birth. Babies born with cleft lip and palate are associated with a constellation of problems that need to be solved for successful rehabilitation. Neonates with a cleft palate have difficulty eating, which may lead to their failure to thrive. Feeding time is significantly longer and fatigues both the baby and the mother(19).

2.2. Knowledge

2.2.1. Source of knowledge about CLP

A study conducted in Australia reported that, 70.7% of participants knew what a cleft was(15). According to a report in Turkey 47.7% of individuals did not have information about CLP; the remaining 52.3% said that there was information about CLP. Those who know about CLP reported that they learned this information from the Internet, social media, TV, or health care professionals (4). Healthcare professionals were being the most common source of information followed by friends, family and social media for knowing about CLP and a few participants had never heard about cleft lip and palate according to report in Pakistan(1).

A study done on awareness of orofacial clefts in the Sultanate of Oman reported that the majority of participants were aware cleft lip (86.7%) and palate (63.2%). Females had higher knowledge (54.4%) compared to males (32.9%). Online resources were the main source of information. 42.6% of participants indicated that CLP can be diagnosed before birth(12).A study conducted in Sudan reported that, 51% had heard about the special feeding bottle for CLP patients. The majority of the respondents (34.8%) mentioned the Internet as the source of knowledge (10)

According to a report from Nigeria (2012), 50.5% of respondents had heard about CLP. 19.8% correctly identified the cleft as a defect of the lip. The most common source of information was from family members (62.4%), followed by casual meetings (13.9%), media (8.9%), hospitals (6.9%), neighborhoods (3%), schools (3%) and the market (2%). Many respondents had neither

read nor article on CLP nor participated in any public enlightenment program, and 31.5% indicated that they would like to know more about the condition (13).

2.2.2. Risk factors of CLP

In Australian study done in 2018, reported that genetic was the most common risk factors followed by a nutritional issue, and drugs or toxins(15).In Fatima Memorial Hospital, Pakistan (2023), showed genetics (73.7%), medicine (29.7%), and alcohol (20.4%) were selected as the most common causes of cleft lip and palate. 51.9% believed maternal smoking, maternal diabetes and radiation were possible risk factors(1).

According to study done in Saudi Arabia, 14.9% of participants were identified family history as a major contributing factor in cleft lip and palate. 20.6% rejected family history (or did not identify it as a risk factor. Maternal smoking, diabetes, and consanguinity were identified as risk factors by 28.1 %, 28.7%, and 12.9% of participants, respectively. The effect of drug intake and folic acid deficiency as risk factors was agreed upon by 38.4% and 45.5% of participants, respectively. Supernatural (*witchcraft*) in CLP was (9%), “no” by (46.1%), and “I do not know” by (44.5%) respondents (10).

Among 739 participants of study done in the Sultanate of Oman, genetic factors were the most identified risk factor for CLP (72.8%), followed by medications and chemical exposure during pregnancy (50.2%). Only 27.2% identified maternal smoking and 31.8% identified alcohol intake during pregnancy(12).

2.2.3. Knowledge of difficulty with CLP

According to the report from Fatima Memorial Hospital, Pakistan 56.4% of respondents said a child born with a cleft lip and palate faces difficulties in speech, hearing, and feeding(1).A study conducted in Saudi Arabia showed the majority of the participants agreed with feeding difficulties (74.5%), speech difficulties (63.9%), facial deformity (76.1%), and psychological distress (66.5%) (10). A study done in the Sultanate of Oman showed a breastfeeding difficulty (88.6%), speech difficulties (82%), facial distortion or deformity (89.2%), abnormal tooth

growth (69.6%), and psychological issues (80%) Only 31.1% agreed that CLP can cause middle ear infections and/or hearing loss (12).

2.2.4. Knowledge towards treatment of CLP

In Australian study, 90% of participants who knew what a cleft was, knew that the cleft could be repaired, and all of those knew that surgery was involved(15).Study conducted in Fatima Memorial Hospital Pakistan, most of the participants agreed that surgery was the best and first treatment. About 49.3% believed cleft lip and palate to be diagnosed antenatal. Regarding the best time for treatment, 73.3% of participants believed infancy period were the best time to start the treatment. About 79.2% respondents agreed with treatment being performed on adult patients (1).

Study done in Saudi Arabia reported that, 86.1% of participants chose surgery, Prosthesis as a treatment modality was identified by only 11.3%. (10). According to a report from Sultanate of Oman, 98.2% of participants chose surgical intervention, 24.4% chose medication only, 1.5% chose a cleft palate obturator and 1.4% chose traditional medicine (12).

2.3. Attitude

Having a child born with cleft lip and palate (CLP) can be emotionally traumatic for parents, especially in developing countries where myths and beliefs play a major role in health-seeking behaviors. Religious and cultural beliefs and demographical differences can have a significant impact on shaping people's reactions and attitudes toward children with CLP. Many studies have identified cultural and social attitudes that deeply affect the way that communities treat children with cleft lips and palates. Adequate knowledge of cleft lip and palate (CLP) may help to counter the negative beliefs and attitudes toward the condition.(17).

According to different study conducted in Kencana hospital in Indonesia, Sultanate of Oman and Saudi Arabia showed the attitude of the population toward CLP is generally positive(9,10,12).Study done in Chinese on attitudes toward cleft lip and palate among Chinese parent, teacher, and employers with no previous contact with individuals with CLP, indicated that parents, teachers, and employers in Hong Kong show differences in their attitudes towards

persons with CLP. Employers showed a comparatively less favorable attitude to persons with CLP than the two other groups.(18).

Study conducted in Mamprobi Polyclinic reported that, 45.74% of participants believed that cleft lip and palate has no evil connotation. 51.89% believed CLP is not a condition contracted as a curse from gods; 54.72% believed the condition is not gotten from witchcraft (14).

2.4. Conceptual Framework

The socio demographic characteristics of participants which include income, work type, marital status, religion and educational back ground influence the level of knowledge and attitude. Health system factors such as availability of health services, proximity of health services to community and getting source of information have an influence on the knowledge and attitude of CLP. Cultural factors such as perception of community, belief systems and taboos on cleft lip and palate influences knowledge and attitude of CLP (14).

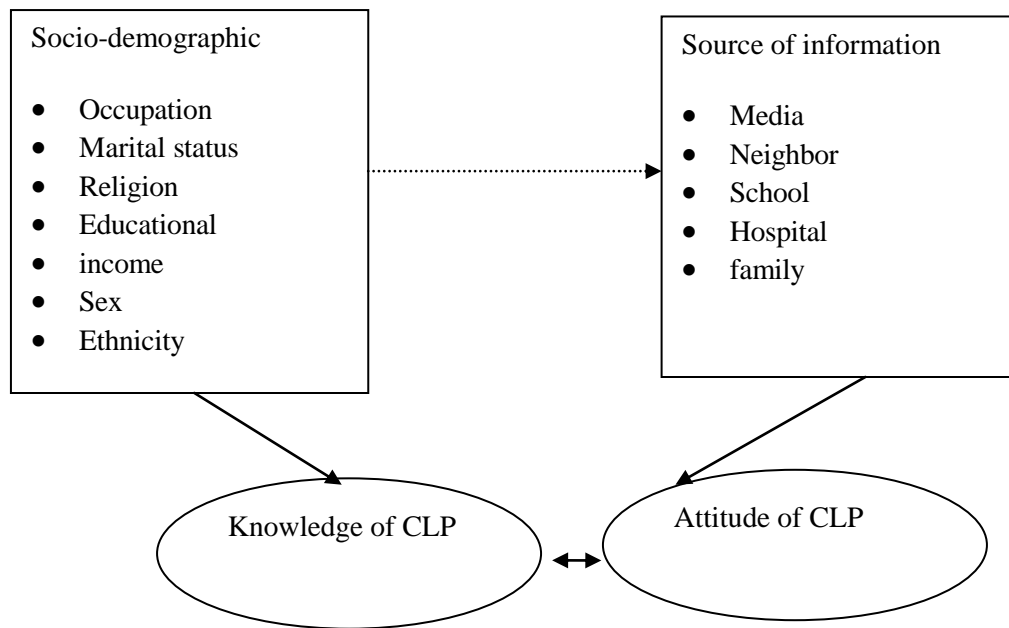


Figure 1: Conceptual frame work of the study developed after review of different literature

3. Objectives

3.1. General Objective

- ✓ To determine the level of knowledge and attitude towards CLP and associated factors among patients visiting dental and maxillofacial surgery department of SPHMMC

3.2. Specific Objective

- To identify the level of knowledge and attitude towards CLP among patients visiting dental and maxillofacial surgery department
- To identify associated risk factors of knowledge and attitude towards CLP in patients visiting dental and maxillofacial surgery department

4. Material and Method

4.1. Study area

The study was conducted in SPHMMC, Addis Ababa, Ethiopia. SPHMMC is a tertiary referral hospital under the Ethiopian Federal Ministry of Health (FMOH) which has been established by the Emperor Haile Selassie since 1968 with the help of the German Evangelical Church. It is the second largest public hospital in the nation, and provides healthcare and training to its students through its different biomedical and clinical departments. The College has more than 2,800 clinical, academic and administration staffs. While the inpatient capacity is more than 700 beds, about an average of 1200 outpatient and emergency clients are visiting the hospital daily (21).

Dental and Maxillofacial surgery is one of the departments in the hospital and it has been a pioneer for serving cases on its area and as referral center for most part of the country. It has two outpatient department (OPD), three minor operation rooms (OR) and one major operation rooms (OR) with currently six senior maxillofacial surgeons, sixteen oral and maxillofacial surgery residents and six dentist.

4.2. Study design

A hospital-based cross-sectional study was conducted.

4.3. Study period

This study was conducted from January 29, 2024 - February 29, 2024.

4.4. Population

4.4.1. Source population

All patients who were visiting the SPHMMC dental and maxillofacial surgery department

4.4.2. Study population

All patients who were 18 years of age and above and visiting the SPHMMC dental and maxillofacial surgery department

4.5. Eligibility criteria

4.5.1. Inclusion criteria

- All patients who were 18 years of age and above were included.

4.5.2. Exclusion criteria

- Patients who were not properly communicate

4.6. Study variables

4.6.1 Dependent variables

- Knowledge towards cleft lip and palate
- Attitude towards cleft lip and palate

4.6.2 Independent Variables

Age, Sex, educational level, marital status, occupation, religion, source of information regarding knowledge of CLP, culture, belief

4.7. Sample size

The sample size was determined by using a single population proportion formula for the first two specific objectives

$$\text{Sample size (n)} = \frac{Z^2(p)(1-p)}{d^2}$$

Where:

Where:-

- n = is calculated sample size

- Z (Confidence coefficient 95%)
- p{ proportion/ prevalence } = 0.497 [based on previous study(12)].

- d= marginal error (5%)=0.05

$$n = \frac{(1.96)^2(0.497)(1-0.497)}{(0.05)^2}$$

$$n = \frac{(3.8416)(0.497)(0.503)}{0.0025}$$

$$n = \frac{0.961}{0.0025} = 384.15 \approx 384$$

- Then sample size for the first specific objective was:384

The sample size for associated factors was determined by using a double population proportion formula.

$$n = \frac{(Z_{\alpha} + Z_{\beta})^2 [p_1(1-p_1) + p_2(1-p_2)]}{(p_1 - p_2)^2}$$

Where:

n=sample size

Z α =1.96 (95% confidence interval)

Z β =0.84 (statistical power of 80%)

P1= exposed group (parents of children with CLP) which was 96.2%=0.962 [Based on previous study (9)].

P2= unexposed group [49.7% =0.497 [based on previous study (12)].

$$n = \frac{(1.96+0.84)^2 [0.962(1-0.962)+0.497(1-0.497)]}{(0.962-0.497)^2}$$

$$n = \frac{7.84[0.037+0.25]}{(0.465)^2}$$

$$n = \frac{7.84[0.287]}{0.216}$$

$$n = \frac{2.251}{0.216}$$

$$n = 10.42 \approx 10$$

- Then sample size for the second specific objective was:10

Finally sample size are summarized as follows

Specific objective	Sample size	Larger sample size
level of knowledge and attitude towards CLP	384	384
associated risk factors of knowledge and attitude towards CLP	10	

The sample size 384 was selected as it was the larger number

Considering 10% for non-response rate i.e. 38.4 and the final sample size was 422

4.8. Sampling procedure

A systematic random sampling technique (probability sampling) was used based on the average monthly attendance of adult participants. On average about 550 aged patients 18 years or above attending dental and maxillofacial surgery department per month. Every patient 18 years of age or above who are attending dental and maxillofacial surgery department is taken as sample until we get 442 samples, using a systematic random sampling technique, since interval for selection is approximately one.

4.9. Data collection instrument and procedure

Data were collected by using validated and structured interviewer-administered questionnaire which developed from previous research (12,19).

Data were collected by two commonly spoken local languages (Afan Oromo and Amharic) by using an interviewer-administered questionnaire. Two medical interns who were trained by the principal investigator were collecting the data. The principal investigator was checked the completed questionnaire. Eighteen items of the questionnaire were used to assess the level of knowledge and 10 items of the questionnaire were used to assess the level of attitude. For each yes answer for knowledge and disagree answer for attitude, point 1 was given. For no, I don't know, agree and neutral answer point 0 was given. The result of maximum 18 and minimum 0 for knowledge and maximum 10 and minimum 0 for attitude was obtained. In research behavior a mean (50%) is a weak indicator. For this reason, based on above the mean score (80%) was taken to classify participants into adequate knowledge and favorable attitude for those who were score equal or above 80% and inadequate knowledge and unfavorable attitude for those who were score less than the 80%.

4.10. Operational definitions

Knowledge: a basic understanding of risk factors, related complication and a treatment of CLP. It was assessed by interviewer-administered questions that contains 18 items of the questionnaire

High level of knowledge: A knowledge score above or equal to the 80% (14 items) score was categorized as high level of knowledge.

Low level of knowledge: A knowledge score below the 80% (14 items) score was categorized as low level of knowledge.

Attitude: thinking or feeling of a risk factors and related complication of cleft lip and palate. It was assessed by interviewer-administered questions that contain 10 items of the questionnaire.

Positive Attitude: An attitude score above or equal to the 80% (8 items) score was categorized as positive attitude

Negative Attitude: The attitude score below the 80% (8 items) score was categorized as negative attitude.

4.11. Data Analysis

The collected data was cleaned and coded by converting answers to numerical data in the form of numbers before being entered into SPSS (IBM Statistical Package for Social Studies) version 64 software for analysis. Mean and media was used to express the distribution of quantitative data. The association between independent and dependent variable was carried out by bivariable and multivariable logistic regression. Variables in bivariable logistic regression analysis with a p-value of ≤ 0.25 were considered for the multivariable logistic regression analysis. The degree of association between independent and dependent variable was assessed by adjusted odds ratio using 95% confidence interval. A P-value ≤ 0.05 in multivariable logistic regression was considered statistically significant. Finally, the result was presented using, tables or graphs.

4.12. Data quality management

To ensure the quality of the data, prior to data collection, training was given for the data collectors by the investigator. The aim of the research was explained to the participants. The collected data was checked daily for completeness and accuracy by investigator. Errors were checked before analysis. Entire data control and management was executed by the principal investigator.

4.13. Ethical consideration

Ethical approval was obtained from the Institutional Review Board (IRB) of St. Paul's Hospital Millennium Medical College. The purpose of the study was explained to all the study participants, and verbal consent was obtained. Participants were informed that their responses were anonymous and treated confidentially by the collected data were loaded on password protected computer daily. No identifier information, including names and addresses, would include in the questionnaire.

4.14. Dissemination of results

The study findings will be presented at professional meeting and conferences, seminars, and workshops, and a manuscript will be submitted to a peer-reviewed journal for publication.

5. Results

5.1. Socio-demographic characteristic of the study participants

From a total of 422 adults participated in this study, slightly more than half (52.8%, n=223) were female. Nearly one third (34.4%, n=145) of the participants were in the age ranging of 18–30 years with a mean age of 36.04 and SD was 12 years. In terms of ethnicity and religion 51.4% (n= 217) were Oromo and 55.0% (n= 232) were Orthodox Christian followers (Table 1).

Table 1: Socio-demographic characteristic of participants

Age was classified based on study conducted in Pakistan and turkey on the same topic (1,4).

Variables	Categories	Frequency	Percentage
Sex	Female	223	52.8
	Male	199	47.2
Age	18-30	145	34.4
	30-39	132	31.3
	40-49	91	21.6
	≥50	54	12.8
Marital status	Married	271	64.2
	single	132	31.3
	Divorced	19	4.5
Residence	In Adis Ababa	343	81.3
	Not in Adis Ababa	79	18.7
Education	Uneducated	79	18.7
	Primary	98	23.2
	Secondary	137	32.5
	Tertiary and above	108	25.6
Religion	Orthodox	232	55.0
	Muslim	81	19.2
	Protestant	67	15.9
	catholic	23	8.1
	Other	8	1.9

Occupation	Housewife	116	27.5
	Daily laborer	106	25.1
	Merchant	105	25.4
	Government	61	14.5
	Farmer	32	7.6
Ethnicity	Oromo	217	51.4
	Amara	104	24.6
	Tigre	58	13.7
	Garage	40	9.5
	others	3	0.7

5.2. Knowledge towards CLP

More than half of the participants (57.3%, n=242) reported that they have heard about CLP. Of the participants who reported to have heard of CLP, about 29.3% (n= 71) mentioned that they got information from their neighbors, while 27.3% (n=66) from media. Among the participants about 64.2% (n=271) responded behavioral factors, like alcohol drinking can result CLP, while 19.7% (n=83) responded as they don't know whether behavioral factors are related with CLP or not (Table 2).

Table 2: Knowledge towards CLP among study participants

Variables	Categories	Frequency	Percentage
Ever heard of CLP	Yes	242	57.3
	No	180	42.7
If yes, source of information	Neighbor	71	29.3
	Media	66	27.3
	Hospital	62	25.6
	Family	26	10.7
	school	17	7.0
CLP can be diagnosed before birth	Yes	137	32.5
	No	87	20.6
	I don't know	198	46.9

CLP can occurs together	Yes	175	41.5
	No	91	21.6
	I don't know	156	37.0
Alcohol can cause CLP	Yes	271	64.2
	No	68	16.1
	I don't know	83	19.7
Teratogenic drug can cause CLP	Yes	294	69.7
	No	59	14.0
	I don't know	69	16.3
Genetic defect or family history can cause CLP	Yes	183	43.4
	No	138	32.7
	I don't know	101	23.9
Consanguinity can cause CLP	Yes	88	20.9
	No	191	45.3
	I don't know	143	33.9
Vitamin deficiencies can cause CLP	Yes	225	53.3
	No	49	11.6
	I don't know	148	35.1
CLP can cause breast/bottle feeding difficult	Yes	345	81.8
	No	25	5.9
	I don't know	52	12.3
CLP can result in speech difficulty	Yes	327	77.5
	No	53	12.6
	I don't know	42	10.0
CLP can cause middle ear infection and hearing loss	Yes	143	33.9
	No	90	21.3
	I don't know	189	44.8
CLP can cause facial deformity	Yes	338	80.0
	No	42	10.0

	I don't know	42	10.0
CLP can cause psychological distress	Yes	361	85.6
	No	41	9.7
	I don't know	20	4.7
CLP can cause abnormal dental development	Yes	307	72.7
	No	42	10.0
	I don't know	73	17.3
CLP can be treated	Yes	375	88.9
	No	12	2.8
	I don't know	35	8.3
CLP needs Multiple time surgery treatment	Yes	140	33.2
	No	145	34.4
	I don't know	137	32.5

5.2.1 Knowledge towards CLP treatment options

Available treatment option for cleft lip and palate was also assessed. Accordingly, 60.5% of the respondent reported as surgery preferable treatment modes, while a few (2.1%) participant reported a combination treatment like multidisciplinary, prosthesis, medication and surgery (Figure 2).

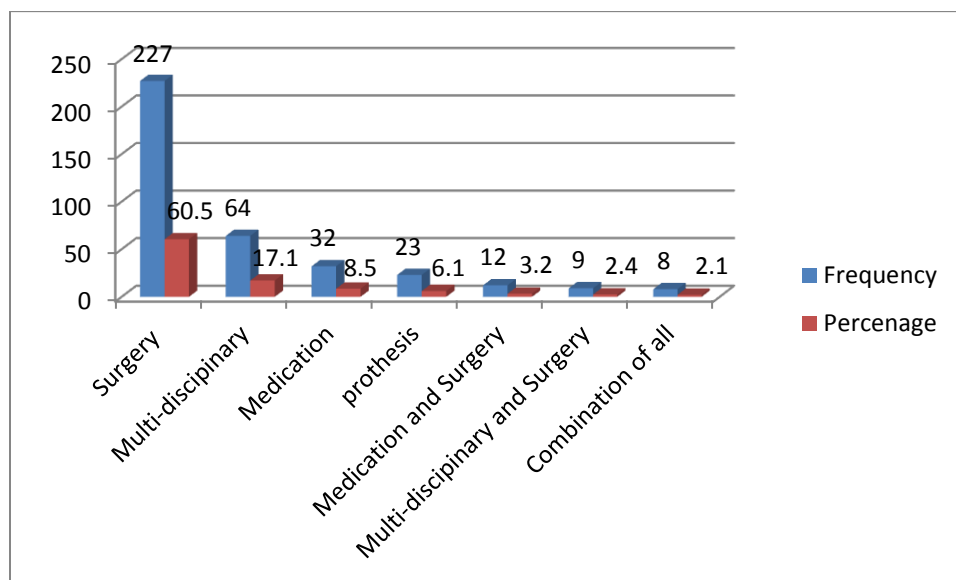


Figure 2: Treatment options of CLP listed by Participants

5.2. 2 Level of Knowledge towards CLP

From the total respondents enrolled into the study only 22.0%, CI: (18.2-26.3) of the respondent have adequate knowledge on cleft lip and palate (Figure 3).

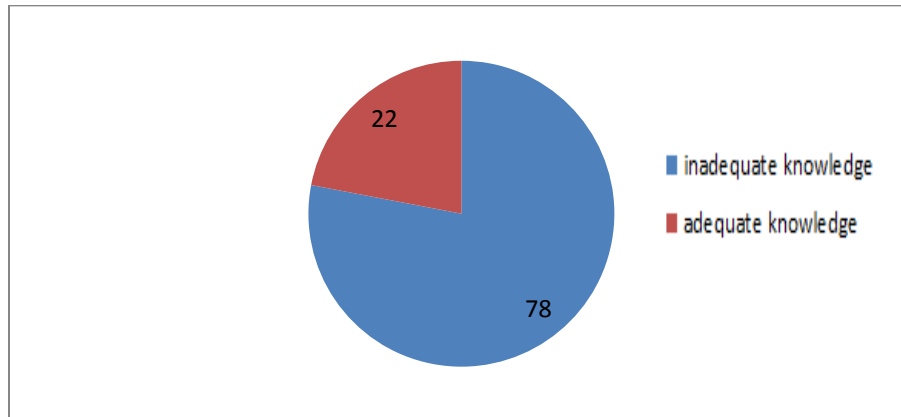


Figure 3: Level of Knowledge towards CLP

5.3. Attitude towards CLP

Majority of the participants 79.4% (n=335) disagree with the statement of ‘CLP can occurs due to evil spirit’ while 11.1% (n=47) agreed with the idea. Based on the findings 43.4% (n=83) of the participants agreed with the statement of act of the God can result CLP. Slightly more than half 52.4% (n= 221) reported that, they believe a child with CLP tends to hide at home from the community (Table 3).

Table 3: Attitude towards CLP among the study participants

Variables	Categories	Frequency	Percentage
CLP occurred due to evil spirits	disagree	335	79.4
	Neutral	40	9.5
	Agree	47	11.1
CLP occurred due to ancestors'' punishment related to wrongdoing by family?	disagree	329	78.0
	Neutral	23	5.5
	Agree	70	16.6

CLP occurred due to act of God/fate?	disagree	219	51.9
	Neutral	20	4.7
	Agree	183	43.4
CLP occurred due to pregnant women going out during an eclipse	disagree	350	82.9
	Neutral	51	12.1
	Agree	21	5.0
CLP occurred due to pregnant women going out on an auspicious day	disagree	354	83.9
	Neutral	50	11.8
	Agree	18	4.3
CLP occurred due to holding sharp objects such as knives, scissors, or needles during pregnancy	disagree	358	84.8
	Neutral	42	10.0
	Agree	22	5.2
CLP should seek medical care for their speech issues	disagree	29	6.9
	Neutral	24	5.7
	Agree	369	87.4
CLP find it hard to make friendships or start relationships	disagree	119	28.2
	Neutral	17	4.0
	Agree	286	67.8
General individuals with CLP have lower IQ	disagree	303	71.8
	Neutral	34	8.1
	Agree	85	20.1
CLP kids tend to hide at home their children from the community	disagree	187	44.3
	Neutral	14	3.3
	Agree	221	52.4

5.3.1 Level of attitude towards cleft lip and palate

From the total 422 participant only 79.4% CI: (75.4-82.9) of the respondents had shown positive attitude toward Cleft lip palate (Figure 4).

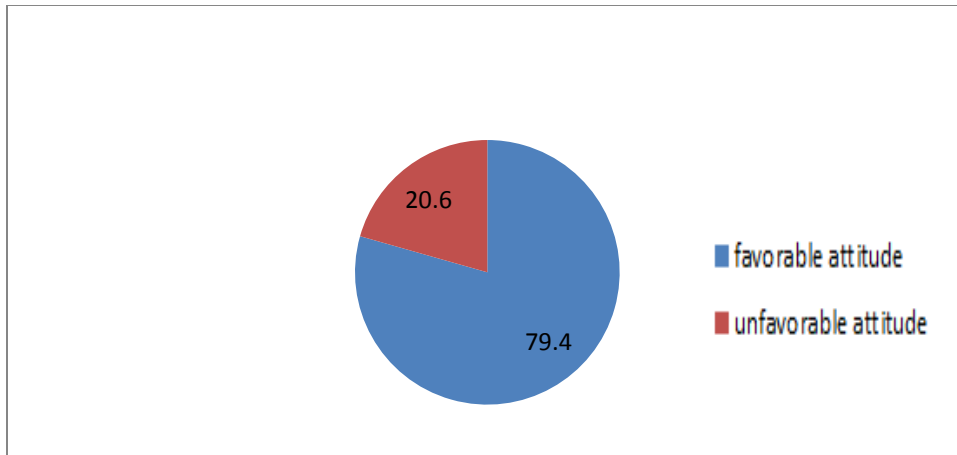


Figure 4: level of attitude towards CLP

5.4. Factors associated with knowledge towards Cleft Lip and Palate

On bivariable binary logistic regression analysis, six variables with a P value of ≤ 0.25 were selected as a candidate for multivariable logistic regression analysis (having neutral idea on CLP occurred due to pregnant women going out during an eclipse, being neutral on CLP occurred due to evil spirit, being male, residing in urban, and being educated). Multivariable logistic regression analyses revealed that being disagree with the statement CLP occurred due to pregnant women going out during an eclipse, [AOR; 7.8, 95% CI (2.27-26.88)], primary education [AOR=4.7, 95% CI (1.28-17.34)], secondary education [AOR=6.9, 95% CI (1.95-25.09)], and higher education [AOR=12.5, 95% CI (3.46-45.23)] were associated adequate knowledge of CLP. The wider interval might be due to a number of participants respond similar answer to a questionnaire and small sample size for associated factors. The chance of having good knowledge on CLP were about seven times higher among respondent who disagree with the statement that CLP occurs due to pregnant women going out during an eclipse as compared to their counterpart. The odds of good knowledge on CLP were about four times higher among individual with primary education compared to uneducated patient. The odds of good knowledge on CLP were about Seven times higher among individual with secondary education compared to uneducated patient. The odds of good knowledge on CLP were about twelve times higher among individual with tertiary and above education compared to uneducated patient

Table 4: Factors associated with knowledge toward CLP

Variables		knowledge		COR (95% CI)	P-value	AOR (95% CI)	P-value
		Good N (%)	Poor N (%)				
CLP occurred due to pregnant women going out during an eclipse							
	Disagree	6(33.3)	12(66.7)	1.94(0.78-4.86)	0.01	7.8(2.27-26.88)*	0.001
	Neutral	3(6.0)	47(94.0)	0.06(0.09-0.47)	0.15	0.13(0.02-1.99)	
	Agree	84(23.7)	270(76.3)	1		1	
CLP occurred due to act of God	Disagree	28(15.3)	155(84.7)	0.45(0.28-0.75)	0.21	0.63(0.35-1.10)	
	Neutral	3(15.0)	17(85.0)	0.44(0.13-1.58)	0.02	1.13(0.24-5.33)	
	Agree	62(28.3)	157(71.7)	1		1	
CLP occurred due to evil spirits	Disagree	10(21.3)	37(78.7)	0.86(0.41-1.81)	0.02	0.22(0.04-1.29)	
	Neutral	3(7.5)	37(92.5)	0.25(0.08-0.86)		0.48(0.14-1.66)	
	Agree	80(23.9)	225(76.1)	1		1	
Sex	Female	38(17.0)	185(83.0)	1		1	
	Male	55(27.6)	144(72.4)	0.53(0.34-0.86)	0.09	0.49(0.3-1.84)	
Residence	Urban	85(24.8)	258(75.2)	0.34(0.16-0.74)	0.06	0.56(0.23-1.45)	
	Rural	8(10.1)	71(89.9)	1		1	

Education	Uneducated	4(5.1)	75(94.9)	1		1	
	Primary	16(16.3)	82(83.7)	0.09(0.03-0.27)	0.01	4.7(1.28-17.34)*	0.019
	Secondary	33(24.1)	104(75.9)	0.33(0.17-0.64)	0.01	6.9(1.95-25.09)*	0.003
	Tertiary and above	40(37.0)	68(63.0)	0.53(0.31-0.94)	0.02	12.5(3.46-45.23)*	0.001

5.5. Factors Associated with attitude towards cleft lip and palate

On bivariable logistic regression analysis, eight variables with P value of ≤ 0.25 were selected as a candidate for multivariable logistic regression analysis (Residence, educational status, occupation, awareness of CLP, agree with statement of CLP diagnosed before birth, accepting vitamin deficiency can cause CLP, agreeing with CLP cause feeding difficult, and accepting CLP can cause speech difficulty). On multivariable logistic regression only education and occupation variables had shown association i.e. secondary education [AOR: 4.06, 95% CI (1.85-8.92)], higher education [AOR: 2.78, 95% CI (1.17-6.59)], being government employee [AOR=3.176; 95% CI (1.314-7.676)], and being a merchant [AOR=2.802; 95% CI (1.282-6.122)]. The odds of positive attitude toward CLP among client attending secondary education were about four times higher as compared to uneducated patients. The odds of favorable attitude toward CLP among client attending tertiary and above education were about three times higher as compared to uneducated patients. The odds of having positive attitude toward CLP among government employed patient were about three times higher compared to house wife patient. The odds of having positive attitude toward CLP among merchant patient were about two times higher compared to house wife patient.

Table 5: Factors associated with attitude towards CLP

Variables	Attitude		COR (95% CI)	P-value	AOR (95% CI)	P-value
	Positive N (%)	Negative N (%)				
Residence						
Urban	294(85.7)	49(14.3)	0.18(0.11-0.31)	0.01	0.17(0.09-1.35)	
Rural	41(51.9)	38(48.1)	1		1	
Education						
Uneducated	47(59.5)	32(40.5)	1		1	
Primary	72(73.5)	26(26.5)	0.53(0.28-1.01)	0.05	1.42(0.68-2.96)	
Secondary	121(88.3)	16(11.7)	0.19(0.09-0.39)	0.01	4.06(1.85-8.92)*	0.01
Tertiary and above	95(88.0)	13(12.0)	0.201(0.097-0.418)	0.01	2.78(1.17-6.59)*	0.02
Occupation						
Gov't employee	44(72.1)	17(27.9)	1.97(0.94-4.16)	0.07	3.18(1.31-7.68)*	0.01
Merchant	80(74.8)	27(25.2)	1.72(0.89-3.33)	0.01	2.80(1.28-6.12)*	0.01
Daily laborer	89(84.0)	17(16.0)	0.98(0.48-1.99)	0.94	1.05(0.46-2.43)	
Farmer	25(78.1)	7(21.9)	1.43(0.54-3.78)	0.47	1.31(0.42-4.09)	
Housewife	97(83.6)	19(16.4)	1		1	
Aware of CLP						
Yes	202(83.5)	40(16.5)	0.56(0.35-0.90)	0.01	0.86(0.47-1.55)	
No	133(73.9)	47(26.1)	1		1	
CLP diagnosed before birth						
Yes	155(83.9)	22(16.1)	0.63(0.36-1.11)	0.11	1.05(0.49-2.24)	
No	68(78.2)	19(21.8)	0.92(0.50-1.7)	0.79	1.51 (0.96-3.30)	
I don't know	152(76.8)	46(23.2)	1		1	
Vitamin deficiency is a risk factor for CLP						
Yes	186(82.7)	39(17.3)	0.55(0.33-0.90)	0.01	1.12(0.55-2.26)	
No	42(85.7)	7(14.3)	0.435(0.181-1.046)	0.06	0.36(0.12-1.12)	
I don't know	107(72.3)	41(27.7)	1		1	

CLP can cause a breast/bottle/feeding Difficulty						
Yes	275(79.7)	70(20.3)	0.28(0.69-0.36)	0.27	1.07(0.40-2.82)	
No	22(88.0)	3(12.0)	0.15(0.37-0.07)	0.15	0.77(0.16-3.78)	
I don't know	38(73.1)	14(26.9)	1		1	
Child with CLP has speech difficulty						
Yes	261(79.8)	66(20.6)	0.21(0.63-0.31)	0.21	1.17(0.43-3.16)	
No	44(83.0)	9(17.0)	0.18(0.51-0.19)	0.18	1.315(0.38-4.5)	
I don't know	30(71.4)	12(28.6)	1		1	

6. Discussion

In the current study, 22% of the individuals who participated in the interview had good knowledge regarding CL while 78% of them had poor knowledge. This result was comparable to the results of the study conducted in Nigeria indicating 19.8% of sampled population had shown adequate knowledge(13). The reason may be due to the fact of similarity in socio-economic status of the population as they are from fewer developing countries. This suggests health care worker needs to strengthen health education and awareness creation to the clients. However, the current study result was lower as compared to the study conducted in Sultanate of Oman (49.7%) and 70.7% in Australia(12,15). The variation may be due to the larger sample in later study than the sample of current study.

Even though the reported level of knowledge was low, more than half (57.3%) of the total respondent had heard about cleft lip and palate which was comparable to the results of the study conducted in Nigeria (50.5%) (13). Because, both study were carried out in locations with big university teaching hospitals treating CLP. However, the finding of the current study was lower than study conducted in Pakistan (81.8%) participants had heard previously about CLP, in Sultanate of Oman (86.7%) have heard about cleft lip and 63.2% of cleft palate (1,12). The difference was might be due to the participants were general population and larger sample size when compared to participants and sample size of the current study. Increasing information dissemination and education provided by health care provider by using newspaper, media (TV and Radio), by creating campaign awareness were crucial in increasing knowledge level of the participants.

In this study about 79.4% of the respondent was found to have positive attitude. This finding was roughly comparable with result reported from Sultanate of Oman (81%). However, the finding was higher than the result reported from Kencana Hospital (69.2%) of the respondent had good attitude (9,12) .The difference was may be due large sample size in current study and variation in the study participant as in the latter study participants were only parents of children with CLP.

The present study suggested that patient attitude i.e. believing in CLP can occurs when pregnant women going out during an eclipse were significantly associated with knowledge of CLP. Similarly, knowledge status of patient was significantly associated with the education

level of the patient with wide range of CI due to a number of participants respond similar answer to a questionnaire and small sample size for associated factors. The chance of having good knowledge on CLP was higher among patient attended higher education compared to uneducated individuals. This finding was similar to the study findings from Nigeria in which attending higher education increases the knowledge level of the respondent have on left lip and cleft palate (13). This clearly implies that respondents with higher levels of education are more aware of and knowledgeable about cleft lip and palate.

On the other hand, respondent occupation status was significantly associated with attitude level of the respondent. A respondent who is a government employee is more likely to have a positive attitude toward cleft lip and palate compared to a housewife respondent. This might be due to the differences in the level of education attained and level of access to information on cleft lip and cleft palate as most commonly, housewives attain lower education and low access rate of information related to cleft lip and cleft palate which could affect their attitude negatively.

7. Conclusion and Recommendation

7.1. Conclusion

Majority of the Participants had positive attitude and lacked sufficient knowledge regarding CLP. Education and agreeing with statement CLP occurred if pregnant women going out during an eclipse were factors associated with knowledge while education and occupation were factors associated with attitude. Therefore, strengthening health education to increase awareness can subsequently help to increase knowledge and develop more positive attitude.

7.2. Recommendation

Cleft lip and palate is the most common orofacial congenital anomaly. It has been shown that public's knowledge and attitude toward this anomaly is important for the management and outcome. So based on the finding of the study the following recommendations were forwarded to respective responsible body.

- **To Dental and Maxillofacial Surgery Department, St. Paul's Hospital Millennium Medical College**
 - Should design strategies used for increasing awareness and knowledge of the patients on cleft lip and palate
 - Increase information dissemination and education by using newspaper, media (TV and Radio), by creating campaign awareness to increasing knowledge level of the participants.
 - Should have to improve CLP knowledge and attitude through health campaigns by considering factors of affecting knowledge and attitude status of respondents.
- **To other researcher**
 - Should conduct qualitative study that involves individual with CLP to better explore factors associated with the problem.
 - Conduct other research to see health and economic impact of CLP problem on individuals and community

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10. Assurance of Principal Investigator

I, the undersigned agree to accept all responsibilities for the scientific and ethical conduct of the research project. I will provide a timely progress report to my advisor and seek the necessary advice and approval from my primary advisors in the course of the research. I will communicate timely with my advisors and all stakeholders involved in the study, including any source of funding for this research.

Name of the student: _____

Signature: _____

Date: _____

Approval of the Primary Advisor

Name of the primary advisor: _____

Signature: _____

Date: _____

Approval of the Co-Advisor


Name of the primary advisor: _____

Signature: _____

Date: _____

Approval of the Co-Advisor

Name of the primary advisor: Dr Birke Bogale

Signature: 

Date: 04 June 2024

Name of the primary advisor: _____

Signature: _____

Date: _____

Annex I: Questionnaires

St. Paul's Hospital Millennium Medical College, Department of dental and maxillofacial surgery, Addis Ababa, Ethiopia.

A questionnaire for a study on knowledge and attitude towards cleft lip and palate among patients who are visiting dental and maxillofacial surgery department January 2024

Part I: Demographic characteristics

1. Gender M F
2. Age in years
3. Residence Urban Rural
4. Marital status Single Married
 Divorced Widowed
5. Educational level Uneducated read and write
 Primary school Secondary school
 Collage and above
6. Ethnicity Oromo Amara Garage
 Tigre Others
7. Religion Orthodox Muslim Protestant
 Catholic Others
8. Occupation Merchant Gov't employee House
wife Farmer

Part II: Questions on knowledge of Cleft Lip and Palate

1. Do you know what a cleft lip and palate is before?

Yes No

2. If yes to 1, from where do you get the knowledge? More than one answer is possible.

A. Media B. Hospital C. neighbor D. Family E. school

3. Do you think that CLP can be diagnosed before birth?

Yes No I don't know

4. Do you think that cleft lip and palate occur together?

Yes No I don't know

5. Do you think that a maternal smoking and alcohol is a risk factor?

Yes No I don't know

6. Do you think that an intake of teratogenicity drugs is a risk factor?

Yes No I don't know

7. Do you think that a Genetic defect/family history is a risk factor?

Yes No I don't know

8. Do you think that consanguinity is a risk factor?

Yes No I don't know

9. Do you think that a vitamin deficiency is a risk factor?

Yes No I don't know

10. Do you think that a child with CLP has a breast /bottle/feeding difficulty?

Yes No I don't know

11. Do you think that a child with CLP has speech difficulty?

Yes No I don't know

12. Do you think that a child with CLP has recurrent middle ear infections and hearing loss?

Yes No I don't know

13. Do you think that a child with CLP has a facial deformity?

Yes No I don't know

14. Do you think that a child with CLP has psychological distress?

Yes No I don't know

15. Do you think that a child with CLP has abnormal dental development?

Yes No I don't know

16. Do you think that CLP can be treated?

Yes No I don't know

17. If yes to 16,by what method do you think? More than one answer is possible

Multidisciplinary team approach prosthesis medication

Surgery

18. Do you think that multiple time surgery treatment is needed?

Yes No I don't know

Part III: Question regarding attitude

1. Do you think that CLP occurred due to evil spirits?

Agree disagree neutral

2. Do you think that CLP occurred due to ancestors' punishment related to wrongdoing by family?

Agree disagree neutral

3. Do you think that CLP occurred due to act of God/fate?

Agree disagree neutral

4. Do you think that CLP occurred due to pregnant women going out during an eclipse?

Agree disagree neutral

5. Do you think that CLP occurred due to pregnant women going out on an auspicious day?

Agree disagree neutral

6. Do you think that CLP occurred due to holding sharp objects such as knives, scissors, or needles during pregnancy?

Agree disagree neutral

7. Do you think that individuals with CLP should seek medical care for their speech issues?

Agree disagree neutral

8. Do you think that individuals with CLP find it hard to make friendships or start relationships?

Agree disagree neutral

9. Do you think that in general individuals with CLP have lower IQ?

Agree disagree neutral

10. Do you think that parents with CLP kids tend to hide at home their children from the community?

Agree disagree neutral

አዎ አይ አላውቅም

6. አደገኛ መድሃኒቶችን መውሰድ መንስኤ ነው ብለው ያስባሉ?

አዎ አይ አላውቅም

7. የጄኔቲክ ጉድለት/የቤተሰብ ታሪክ መንስኤ ነው ብለው ያስባሉ?

አዎ አይ አላውቅም

8. የዘመድ ወዳጅ የጋብቻ ግንኙነት የመንስኤ ነው ብለው ያስባሉ?

አዎ አይ አላውቅም

9. የቫይታሚን እጥረት መንስኤ ነው ብለው ያስባሉ?

አዎ አይ አላውቅም

10. የከንፈር እና የላንቃ መሰንጠቅ ያለበት ልጅ የጡት ማጥባት ችግር አለበት ብለው ያስባሉ?

አዎ አይ አላውቅም

11. የከንፈር እና የላንቃ መሰንጠቅ ያለበት ልጅ የመናገር ችግር አለበት ብለው ያስባሉ?

አዎ አይ አላውቅም

12. የከንፈር እና የላንቃ መሰንጠቅ ያለበት ልጅ ተደጋጋሚ የጆሮ ኢንፎክሽን እና የመስማት ችግር አለበት ብለው ያስባሉ?

አዎ አይ አላውቅም

13. የከንፈር እና የላንቃ መሰንጠቅ ያለው ልጅ የፊት ቅርጽ መዛባት አለበት ብለው ያስባሉ?

አዎ አይ አላውቅም

14. የከንፈር እና የላንቃ መሰንጠቅ ያለው ልጅ የስነልቦና ችግር አለበት ብለው ያስባሉ?

አዎ አይ አላውቅም

15. የከንፈር እና የላንቃ መሰንጠቅ ያለው ልጅ ያልተለመደ የጥርስ እድገት አለው ብለው ያስባሉ?

አዎ አይ አላውቅም

16. የከንፈር እና የላንቃ መሰንጠቅ ሊታከም ይችላል ብለው ያስባሉ?

አዎ አይደለም

17. 16 አዎ ከሆነ፣ በምን ዘዴ ይመስላችኋል? ከአንድ በላይ መልስ ይቻላል

ሁለት በቦታ ድንቅ ራራ በመድሃኒት የሰው ሰራሽ ህክምና ቀደጥን

18. ተደጋጋሚ የቀደጥን ህክምና የሚያስፈልገው ይመስልዎታል?

አዎ አይደለም

ክፍል III: የከንፈር እና የላንቃ መሰንጠቅ አመለካከትን የሚመለከት ጥያቄ

1. የከንፈር እና የላንቃ መሰንጠቅ የተከሰተው በክፉ መናፍስት ምክንያት ነው ብለው ያስባሉ?

እስማማለሁ አልስማማም ገለልተኛ

2. የከንፈር እና የላንቃ መሰንጠቅ የተፈፀመው በቤተሰብ ከሚፈጸም ስህተት ጋር በተዛመደ ቅድመ አይቶች ጣት ምክንያት ይመስልዎታል

እስማማለሁ አልስማማም ገለልተኛ

3. በእግዚአብሔር/እጣፈን ታምክን ያት የከንፈር እና የላንቃ መሰንጠቅ የተከሰተ ይመስላችኋል?

እስማማለሁ አልስማማም ገለልተኛ

4. ነፍሱ ጠር እና ቶች በግርዶሽ ወቅት በመውጣታቸው ምክንያት የከንፈር እና የላንቃ መሰንጠቅ የተከሰተ ይመስላችኋል?

እስማማለሁ አልስማማም ገለልተኛ

3. ነፍሱ ጠር እና ቶች በጥሩ ቀን በመውጣታቸው የከንፈር እና የላንቃ መሰንጠቅ የተከሰተ ይመስላችኋል?

እስማማለሁ አልስማማም ገለልተኛ

6. በእርግዝና ወቅት የከንፈር እና የላንቃ መሰንጠቅ እንደ ቢላዎ፣ መቀስ ወይም መርፌ ያሉ ሹል ነገሮችን በመያዝ የተከሰተ ይመስላችኋል?

እስማማለሁ አልስማማም ገለልተኛ

7. የከንፈር እና የላንቃ መሰንጠቅ ያላቸው ግለሰቦች ለንግግራቸው ጉዳዮች የህክምና እንክብካቤ ማግኘት አለባቸው ብለው ያስባሉ?

እስማማለሁ አልስማማም ገለልተኛ

8. የከንፈር እና የላንቃ መሰንጠቅ ያላቸው ግለሰቦች ጓደኝነት ለመመሥረት ወይም ግንኙነት ለመጀመር የሚከብዳቸው ይመስላችኋል?

እስማማለሁ-አልስማማም ገለልተኛ

9. በአጠቃላይ የከንፈር እና የላንቃ መሰንጠቅ ያላቸው ግለሰቦች ዝቅተኛ የማሰባሰቢያ ስራ ያላቸው ጠለው ያስባሉ?

እስማማለሁ-አልስማማም ገለልተኛ

10. የከንፈር እና የላንቃ መሰንጠቅ ልጆች ያሏቸው ወላጆች ልጆቻቸውን በቤት ውስጥ ከማህበረሰቡ መደበኛ ይፈልጋሉ ጠለው ያስባሉ?

እስማማለሁ-አልስማማም ገለልተኛ

Gaaffii qorannoo beekumsaa fi ilaalchahidhii fi huubabaqaqaayaallamtootakutaa ilkaanii fi baqaqsaniiyaaluuAfaanii, A’oo fi FuulaaAmajjii 2016 hordofan irratti

Kutaa I: AmalootaDimogiraafii

1. Saala

Dhiira

Dhalaa

2. Umuriin waggaaadhaan

3. Iddoo jireenyaa

Magaala

Baadiyyaa

4. Haalagaa’elaa

Qeenxee

Kanfuudhe/kanheerume

Kan hiike

Kanirraadu’e

5. Sadarkaabarumsaa

Kan hin baranne

Barreessuu fi dubbisuu

Barumsasadarkaa 1ffaa kan xummure

Sadarkaa 2ffaa kanxummure

Kollajjii/University

Kutaa II: Gaaffiiwwan waa'eebeekumsahidhii fi huubabaqaqaailaalu

1. Kanaan durahidhiifi huubabaqaqaajechuunmaal akka ta'e beektuu?

EeyyeeLakkiiHinbeeku

2. Yooeeyyeetahe, beekumsaeessaa argattan?

A. miidiyaa B. hospitaala C. ollaa D. MaatiiE.mana barumsaa

3. Hidhii fi Huubabaqaqaanosohin dhalatin duraaddabaafamuudanda'ajettaniiyaaddu?

EeyyeeLakkiiHinbeeku

4. HidhiifiHuubnibaqaqaanwaliinumamuuni dand'a jettanii yaaddu?

EeyyeeLakkiiHinbeeku

5. Haati tamboo xuuxuu fi dhugaatii alkoolii dhuguun balaa kanaaf sababa ta'a jettanii yaaddu?

EeyyeeLakkiiHinbeeku

6. Qorichoota balaafamaa fudhachuun sababa ta'a jettanii yaaddu?

EeyyeeLakkiiHinbeeku

7. Mudaan Jeneetikii/seenaa maatii nama saaxilu jettanii yaaddu?

EeyyeeLakkiiHinbeeku

8. Gaa'elli fira jidduutti raawwatusababa ta'a jettanii yaaddu?

EeyyeeLakkiiHinbeeku

9. Hanqinni vitaaminii sababa ta'a jettanii yaaddu?

EeyyeeLakkiiHinbeeku

10. Daa'imnihidhiifihuubabaqaqaaqabuharma /xuuxxoo/ hodhuuf ni rakkata jettanii yaaddu?

EeyyeeLakkiiHinbeeku

11. Daa'imnihidhiifihuubabaqaqaaqabutokko rakkoo dubbii qaba jettanii yaaddu?

EeyyeeLakkiiHinbeeku

12. Daa'imnihidhiifihuubabaqaqaaqabutokkodhukkuba gurra gidduu fi dhageettii dhabuu qaba jettanii yaaddu?

EeyyeeLakkiiHinbeeku

13. Daa'imnihidhiifihuubabaqaqaaqabutokko fuula isaa irratti hir'ina qaamaa qaba jettanii yaaddu?

EeyyeeLakkiiHinbeeku

14. Daa'imnihidhiifihuubabaqaqaaqabudhiphina sammuu qaba jettanii yaaddu?

EeyyeeLakkiiHinbeeku

15. Daa'imnihidhiifihuubabaqaqaaqabuguddinailkaanisaakanhinbaramneqaba jettanii yaaddu?

EeyyeeLakkiiHinbeeku

16. HidhiifiHuubabaqaqaanyaalamuudanda'a jettanii yaaddu?

EeyyeeLakkiiHinbeeku

17. kanoliieeyyeyoota'e, mala kamiinjettu? Deebiintokkoolnidanda'ama

Gareeogummaagaragaraaqabaniin qorichaan namtolcheen

Baqaqsanii yaaluun

18. Wal'aansi baqaqsanii yaaluu yeroo baayyee barbaachisa jettanii yaaddu?

EeyyeeLakkiiHinbeeku

Kutaa III: Gaaffii ilaalchaa

1. HidhiifiHuubabaqaqaanhafuurotahamaairraakandhufujettaniiyaaddu?

Walii galla Walii hingallu Giddugaleessa

2.HidhiifiHuubabaqaqaankanuumameadabbiiabbootiibadiimaatiinraawwatameen walqabatee ta'e jettanii yaaddu?

Walii galla Walii hin gallu Giddu galeessa

3.HidhiifiHuubabaqaqaansababagochaWaaqayyoo/hireetiinkanuumamejettaniiyaaddu?

Walii galla Walii hin gallu Giddu galeessa

4. HidhiifiHuubnibaqaqaansababadubartoonniulfaa yeroo aduu
dukkanaa'uba'uuisaaniitiinkanuumamejettaniiyaaddu?

Walii galla Walii hin gallu Giddu galeessa

5. Hidhiifi Huubnibaqaqaa sababa dubartoota ulfaa guyyaa
gaariiba'uuisaaniitiinkanuumamejettaniiyaaddu?

Walii galla Walii hin gallu Giddu galeessa

6. HidhiifiHuubabaqaqaankanuumameyerooulfaawantootaqaraqabankanakkahalbee,
qartuuyknhaaduuqabachuuirraakanka'ejettaniiyaaddu?

Walii galla Walii hin gallu Giddu galeessa

7. Daa'immanhidhiifihuubabaqaqaqabandubbachuf kunuunsa fayyaa barbaaduu qabu jettanii yaaddu?

Walii galla Walii hin gallu Giddu galeessa

8. Daa'immanhidhiifihuubabaqaqaqabanhiriyummaauumuunyknhariiroojalqabuunitti ulfaatu jettanii yaaddu?

Walii galla Walii hin gallu Giddu galeessa

9. Akkawaliigalaattidaa'immanhidhiifihuubabaqaqaaqabanyaadagadi aanaa qabu jettanii yaaddu?

Walii galla Walii hin gallu Giddu galeessa

10. Warri ijoolleehidhiifihuubabaqaqaaqabanijoollee isaanii hawaasairraa mana keessatti dhoksuu barbaadu jettanii yaaddu?

Walii galla Walii hin gallu Giddu galeessa