

Awareness and perception towards children with cleft lip and/or palate (clp) among pregnant women attending antenatal clinics in the primary health centres in suburban region

Adejobi A F¹, Okeowo T A², Afolabi T³, Fatusi O A⁴, Ojo T⁵, Ugwu E I⁶, Akinniyi T A⁷

¹Department of Oral & Maxillofacial Surgery, Obafemi Awolowo University, Ile-Ife, Nigeria

²Department of Preventive and Community Dentistry, Obafemi Awolowo University, Ile-Ife, Nigeria

³Department of Preventive and Community Dentistry, Obafemi Awolowo University Teaching Hospital Complex, Ile-Ife, Nigeria.

⁴Department of Oral & Maxillofacial Surgery, Obafemi Awolowo University, Ile-Ife, Nigeria.

⁵Department of Community health, Obafemi Awolowo University, Ile-Ife, Nigeria

⁶Department of Oral & Maxillofacial Surgery, Obafemi Awolowo University, Ile-Ife, Nigeria

⁷Department of Oral & Maxillofacial Surgery, Obafemi Awolowo University, Ile-Ife, Nigeria

ABSTRACT

Objectives: The sight of orofacial cleft lip/palate (CLP) can dampen the joy of expectant mothers at baby's delivery. Worse still, the cultural bias and psychosocial effect on mothers can mitigate against baby's care and possibility of surgical correction. Health seeking behavior is determined by health education, therefore a well-informed mother would seek help. Consequently, it is pertinent to assess knowledge and perception of pregnant women about CLP and its association with their sociodemographic profile.

Methods: This was a prospective cross-sectional descriptive study that was conducted at three randomized primary health centres (PHCs) in a suburban location. A total of 211 pregnant women attending PHCs antenatal clinic were recruited over a 4-month period (April-July, 2023). A validated structured questionnaire was used to collect data on sociodemographic, level of awareness and perception of CLP. Categorical variables were presented as frequency and percentages, and summary statistics (mean, standard deviations and range) for continuous variables as appropriate. Associations between continuous (dependent) and categorical (independent) variables were analyzed using Analysis of Variance (ANOVA). Statistical significance was inferred at $P < 0.05$.

Result: The age range of the 211 pregnant women studied was 18-42 years with a mean age of 27.70 ± 5.31 . One hundred and five (49.8%) of them had secondary school education while 130 (61.6%) were of middle socio-economic class. The majority of pregnant women (185 (87.7%)) had poor awareness of CLP ($\leq 50\%$ score). In contrast, 149 (70.6%) pregnant women had higher perception score ($\geq 50\%$) indicating better perception of CLP. Level of education (p -value < 0.001) and socio-economic status (p -value 0.002) of pregnant women have a statistically significant effect on both awareness and perception about CLP. Only age was found to have a statistically significant (p -value 0.041) effect on perception of pregnant women about CLP.

Conclusion; The level awareness is low among pregnant women in suburban PHC with indices showing low awareness score. However, the level of perception and perception score was high in contrast to awareness. There was a significant association between the socio-economic status and education level on the awareness and perception of pregnant women towards CLP. We found age to be the only significant associated factor for perception.

Keywords: Pregnant women, cleft lip and palate, suburban, perception, socio demographics

INTRODUCTION: The sight of orofacial cleft lip and palate (CLP) can dampen the joy of expectant mothers at baby's delivery and thus triggers a multitude of mixed reactions.¹ Cleft lip and palate is one of the most common orofacial congenital deformities, with prevalence of 1 in 500 live births in Nigeria.² This condition is aesthetically unpleasing and manifests as a separation or gap in the upper lip and/or roof of the mouth (palate), resulting from deformity in the lip and primary palate. Worse still, the cultural bias and psychosocial effect on mothers can mitigate against baby's care and possibility of surgical correction. Psychosocial effects are manifested in social discrimination and bias, low self-esteem, poor academic performance, and withdrawal from social interactions as a result of teasing and bullying, potentially leading to depression and anxiety^{3, 4}. Functional problems caused by CLP often include feeding difficulties, speech disorders, hearing impairments, dental problems, and ill cosmetics.⁵ Furthermore, the financial and emotional burdens associated with CLP worsen the burden of care on the family and caregiver.⁶

Congenital CLP deformity usually occurs within the first trimester of pregnancy, and is regarded as a window for prediction and prevention of pregnancy-related complications.⁷ Awareness about the risk factors associated with CLP is abysmally low among pregnant women.⁸ Previous study in our center, assessed knowledge and awareness using hospital based design.¹ However, this study assessed awareness, knowledge and perception of pregnant women who presented in PHCs. Lack of awareness and knowledge about CLP may delay mothers from seeking early interventions. The perception of mothers about this congenital defect is determined by their previous awareness and knowledge of such defect. Health education has been used to modify health related behavior by altering awareness, knowledge and

perception towards a better health-related behavior. Regrettably, there is dearth of data on this topic despite the role of the mothers and caregivers on the care and survival of children with CLP. The aim of the study is to assess the awareness and perception of pregnant women attending antenatal clinics of PHCs in a suburban settlement, about children with CLP. The objectives are: to assess the level of awareness and knowledge of pregnant women; to assess the perception of pregnant women, on children with CLP and; to assess the association between sociodemographic profile, awareness and perception of pregnant women on CLP.

MATERIAL AND METHODS

This cross-sectional descriptive study was conducted among 211 pregnant women attending antenatal clinic at three randomly selected primary health centers (PHC) in Ife Central local government area (LGA), Ile-Ife, Southwest Nigeria. The study was carried out over a 4-month period (April -July 2023). Three primary health centers were selected at Ife Central LGA in Ile-Ife and pregnant women attending antenatal clinics from the selected PHCs were recruited into the study. The first stage of the study was the selection of one LGA from the two LGAs in Ile-Ife and its environs. The two LGAs are Ife Central local government and Ife East LGA. One LGA was selected from the two LGAs using simple random sampling (Balloting method was used). Ife central LGA was selected. The Second stage was the selection of three PHCs from Ife Central LGA using simple random sampling. A sampling frame consisting of all the PHCs in Ife central LGA was assessed and 3 PHCs were selected using balloting method Eleyele, Enuwa and Seven Days Adventist PHCs were selected. The third stage was the selection of pregnant women attending antenatal clinic in the selected PHCs via a convenient sampling. Ethical approval was obtained from the Health Research Ethics Committee, at the Institute of Public Health of Obafemi Awolowo University, Ile-Ife, Osun state, Nigeria with protocol number IPH/OAU/12/2055 before the commencement of study. Both written and verbal informed consent was obtained from every participant. After data collection, there was a 10-minute interactive session with each pregnant woman, focused on

Correspondence: Adejobi A .F

Department of Oral and Maxillofacial Surgery
Obafemi Awolowo University,
Ile-Ife

Tel:08129470808

Email: aadejobi@oquife.edu.ng

explaining the aetiology of cleft, problems associated with cleft lip and/or palate, societal/cultural misconceptions, as well as the management options available.

The research instrument was a structured interviewer-administered, self-designed questionnaire adapted from existing literatures on awareness and perception on orofacial cleft.^{1,9} The research instrument had questions in 3 sections to assess awareness, perception and cultural beliefs of the participants on left lip and palate. Section A assessed sociodemographic data of participants. Age, occupation, religion, and level of education were assessed. Section B assessed participants' prior awareness of the condition of cleft and method of awareness, parts of the body believed to be affected by cleft lip and palate as well as their ability to identify the defects in the pictorial aids provided. Section C had questions on attitudes and reactions to children born with cleft lip and palate, perceived impact of orofacial clefts on affected individuals, knowledge of various diagnostic and management options. The questionnaire was translated by a certified translator to the local language (Yoruba). Backwards and forwards

translation of the questionnaire was done. A pilot study involving 26 pregnant women attending an antenatal clinic was done prior to the commencement of the study, however, they were not part of the study participants, this was to ensure reliability and validity of our data collection instrument. Cronbach's alpha value was estimated to a 0.802. Questions that were misunderstood by the participants were restructured/ modified and questions that were deemed unnecessary from the Cronbach's alpha value were eliminated. Prior to the commencement of data collection, permissions were obtained from each PHC administrator, through which the unit Head of Nursing Department in each center were duly informed. Each pregnant woman was made to sit in a separate vacant consulting room within the clinic, away from the others, while answering the questionnaire to ensure visual and auditory privacy.

In section B and C, eight and twenty-two questions were used to assess awareness and perception of CLP respectively by the participants, the maximum score attainable were 8(100%) and 22 (100%) respectively. The total

Table 1: Socio-demographic profile of pregnant women recruited for the study.

Age	Frequency	Percentage	
<20	10	4.7	Mean (SD): 27.70 ± 5.31 Age range: 18-42
20-24	54	25.6	
25-29	80	37.9	
30-34	43	20.4	
35-39	19	9.0	
>39	5	2.4	
Socioeconomic status			
Upper	45	21.3	
Middle	130	61.6	
Lower	36	17.1	
Level of Education			
No Formal Education	3	1.4	
Primary	9	4.3	
Secondary	105	49.8	
Tertiary	94	44.5	
Religion			
Christianity	138	65.4	
Islam	73	34.6	
Total	211	100%	

Table 2: Awareness of CLP among pregnant women

Level of awareness of CLP	Frequency	Percentage	
Have you ever heard of cleft lip/palate			
Yes	62	29.4	
No	143	67.8	
Do not know	6	2.8	
Have you ever seen a child with cleft lip/palate			
Yes	41	19.4	
No	170	80.6	
Circle the problem (cleft lip)			
Correct	197	93.4	
Incorrect	2	0.9	
Do not know	12	5.7	
Circle the problem (cleft palate)			
Correct	177	83.9	
Incorrect	3	1.4	
Do not know	31	14.7	
Knowledge of cleft affectation			
A gap in the mouth/ lips			
Yes	192	91	
No	14	6.6	
Do not know	5	2.4	
A problem of the eyes			
Yes	10	4.7	
No	195	92.4	
Do not know	6	2.8	
A hole in the heart			
Yes	19	9.0	
No	186	88.2	
A problem with the legs and hands			
Yes	8	3.8	
No	197	93.4	
Do not know	6	2.8	
Awareness score	Frequency	percentage	Mean (SD):
	185	87.7	3.17 ± 1.06.
Good > 50%	26	12.3	
	211	100	

scores were categorized as good or poor at $\leq 50\%$ or $> 50\%$ correspondingly. Descriptive statistics was done using frequency tabulations and percentages for categorical variables, and summary statistics (mean, standard deviations and range) for continuous variables as appropriate. Associations between continuous (dependent) and categorical (independent) variables were analyzed using Analysis of Variance (ANOVA). Statistical significance was inferred at $P < 0.05$. Data analysis was carried out using IBM SPSS (Statistical package for social sciences) version 26.

RESULTS

3.1. Socio-demographic profile of pregnant women recruited for the study. Two hundred and eleven pregnant women were recruited for the study as shown in Table 1. Their age range was 18-42 years with a mean age of 27.70 ± 5.31 . Age group 25-29 years had the highest frequency 80 (37.9%). Approximately half, 105 (49.8%) of the pregnant women had secondary school education as their highest level of education, A hundred and thirty (61.6%) of those recruited were of middle socio-economic class.

3.2. Awareness of CLP among pregnant women

In table 2, 62 (29.4%) of the pregnant women had ever heard of cleft lip/palate while 41 (19.4%) confirmed that they had seen a child with cleft lip/palate. However, majority 197 (93.4%) and 177 (83.9%) correctly identified the defect in the picture showing the cleft lip and defect in the picture depicting cleft palate respectively. Most of pregnant women, 192 (91%) correctly identified the site of cleft affectionation. The highest score attainable from positive responses to the

questions on awareness was 8 which makes a total score of 100%. The mean cumulative awareness score was 3.17 ± 1.06 . Only 26 (12.3%) of the pregnant women had good awareness ($>50\%$) while majority 185 (87.7%) had poor awareness of cleft lip/palate ($\leq 50\%$ score).

3.3: Sources of information on CLP among pregnant women of the 62 (29.4%) pregnant women who had heard of cleft lip/palate, hospital/clinic (27/43.5%) ranked first as the most common source of information, followed closely by social media/ internet (25/40.3%). Only two (3.2%), one (1.6%) and none (0.0%) received information regarding CLP from family members, market and religious centers respectively.

3.4. Level of perception and perception scores of pregnant women on CLP.

In table 4, 90 (42.7%) pregnant women perceived that a child with CLP would live a normal life and 119 (56.4%) agreed they would survive to adulthood. Based on intelligence, 57 (27.0%) perceived that people with CLP are less intelligent while 137 (64.9%) agreed that they could have problem securing a good job. Majority, 157 (74.4%) of the pregnant women perceived that a child with CLP is not infectious, 177 (83.9%) agreed, it is not acceptable to tease people with CLP and 187 (88.6%) believed children with CLP should not be hidden at home. One hundred and twenty-two (57.8%) pregnant women agreed that it is not possible to know a child with CLP before birth but agreed that genetic (81/38.4%) and psychological counselling (192/91%) are needed to support parent. Most pregnant women (137/64.9%) agreed that CLP patients should seek surgical help and 111

Table 3: Sources of information on CLP among pregnant women

Sources of information on CLP	Yes (%)	No (%)	Chi-square (df)	P value
Hospital/ Clinic	27 (43.5)	35 (56.5)	69.937 (1)	0.001**
Family members	2 (3.2)	60 (96.8)	4.852 (1)	0.028**
Friends	10 (16.1)	52 (83.9)	25.228 (1)	0.001**
Social media/ Internet	25 (40.3)	37 (59.7)	68.156 (1)	0.001**
Television/ Radio	9 (14.5)	53 (85.5)	18.589 (1)	0.001**
School	11 (17.7)	51 (82.3)	27.889 (1)	0.001**
Church/ Mosque	0	62 (100)	0	0
Market Place	1 (1.6)	61 (98.4)	2.415 (1)	0.120
Community/ Neighborhood	7 (11.3)	55 (88.7)	17.400 (1)	0.001**

Table 4: Level of perception and perception scores of pregnant women on CLP

	frequency	%
Any child born with cleft lip/palate can live a normal life		
Yes	90	42.7
No	88	41.7
Do not know	33	15.6
Children with cleft lip/palate should be allowed to mingle with other "normal" children to avoid infecting others.		
Yes	157	74.4
No	37	17.5
Do not know	17	8.1
Cleft lip/palate can be transferred to others by touch and close contact		
No	144	68.2
Yes	20	9.5
Do not know	47	22.3
There is cure or treatment for Cleft lip and/or palate		
Yes	112	53.1
No	37	17.5
Do not know	62	29.4
Children born with cleft lip/palate can survive to adulthood		
Yes	119	56.4
No	43	20.4
Do not know	49	23.2
Children with cleft lip/palate are likely to be less intelligent than other children		
No	116	55.0
Yes	57	27.0
Do not know	38	18.0
Children with cleft lip and palate suffer from emotional trauma		
Yes	159	75.4
No	28	13.3
Do not know	24	11.4
It is okay to tease or make fun of anyone with cleft lip and palate.		
No	177	83.9
Yes	25	11.8
Do not know	9	4.3
The problems caused by cleft lip/palate (difficulty breathing, feeding, hearing, talking etc.) are permanent		
No	79	37.4
Yes	68	32.2
Do not know	64	30.3
People with cleft lip and palate have trouble getting a good job		
Yes	137	64.9
Negative response (NO)	42	19.9
Do not know	32	15.2
People with cleft lip and palate should have friends or get married		
Yes	149	70.6
No	50	23.7
Do not know	12	5.7

Table 5: Association between demographic profile, awareness and perception scores

Sociodemographic profile	Awareness score			Perception scores		
	Mean (SD)	df	P-value	Mean (SD)	df	P-value
Age group (years)/ (freq)						
< 20 / (10)	3.40 (± 0.52)	5	0.3840*	11.6 (±2.32)	5	0.041**
20-24 / (54)	2.96 (± 0.86)			12.28 (±4.23)		
25-29 / (80)	3.18 (±1.18)			13.61 (±4.31)		
30-34 / (43)	3.23 (±1.21)			14.12 (±3.28)		
35-39 / (19)	3.40 (±0.90)			14.68 (±3.74)		
>39 / (5)	3.40 (± 0.89)			15.8 (±3.70)		
Level of education						
No formal 3	1.67 (±0.58)	3	<0.001*	6.67 (±3.51)	3	<0.001**
Primary 9	2.44 (±1.13)			12.11 (±3.48)		
Secondary 105	3.02 (±0.67)			12.53 (±3.84)		
Tertiary 94	3.44 (±1.29)			14.77 (±3.80)		
SES						
Upper class 45	3.44 (±1.24)	2	0.0018*	14.89 (±3.50)	2	0.002**
Middle class 130	3.02 (±0.95)			12.6 (±4.01)		
Lower class 36	3.36 (±1.10)			14.39 (±4.08)		

*Kruskal Wallis test** One-way Anova P- value < 0.05

(52.6%) supposed that the dentist have a role in the management of CLP. Majority (153/72.5%) of the pregnant women do not know of any NGO involve in the treatment of CLP. The highest perception score attainable was 22 which makes a total score of 100%. The mean cumulative awareness score was 13.43 ± 4.03 . One hundred and forty-nine (70.6%) pregnant scored higher than 50% of the total perception score.

3.5. Association between demographic profile, awareness and perception of CLP among pregnant women. Table 5 showed the association between socio-demographic profile, awareness and perception of pregnant women on CLP. Perception score was normally distributed and one-way ANOVA was used to analyzed association between this variable and demographic profile. Kruskal wallis test was deployed to assess the association between awareness score and sociodemographic profile because the variable was not evenly distributed. Level of education and SES of pregnant women have a significant effect on both awareness and perception about CLP, with mean awareness and perception score increasing as the education level and SES increases. Only age group was found to have a statistically significant effect on for

perception of pregnant women.

DISCUSSION

The age range of 18-42 years was in concordance with women reproductive age group in Nigeria.¹⁰ However, few pregnant women were less than 20 years old in this study. Early childbearing in women of reproductive age more common in the northern part of the country¹¹ compared to the south where this study was conducted. This disparity has been associated with religious and cultural believe. There is high risk of early childbearing in women who resides in the north-east and practice Islamic religion compared to those in the south, with medium literacy level, being Christian and of Yoruba ethnicity.¹¹ This was in agreement with our findings.

Oluleke at al.,¹² conducted a study among pregnant women attending antenatal clinic in PHCs in Ile-Ife. They observed that they were mostly from middle-income and high-education backgrounds. This trend had not change in this current study. The suburban nature of the study may be a reason. In contrast to our observation, a study¹³ conducted in Southern part of the

country on household SES and antenatal utilization in rural PHC found that women of reproductive age are mostly illiterate, from low socioeconomic status and low post secondary qualification. The variability in our observation may be attributed to different study locations and dissimilar methodology.

It is not surprising that approximately one third of the pregnant women were aware of CLP, although with slightly low average awareness score (3.17

REFERENCES:

- Owotade FJ, Ogundipe Ok, Ugboko VI, Okoje VN, Olasoji HO, Makinde ON, et al., Awareness, knowledge and attitude on cleft lip and palate among antenatal clinic attendees of tertiary hospitals in Nigeria. *Nigerian J Clin Pract.* 2014; 17: 6-9.
- Butali A, Adeyemo WL, Mossey P, Olasoji HO, Onah I, Adebola A, et al., Prevalence of orofacial clefts in Nigeria. *The Cleft Palate-Craniofacial Journal.* 2014; 51: 320-325.
- Adeyemo WL, James O, Butali A. Cleft lip and palate: Parental experiences of stigma, discrimination, and social/structural inequalities. *Annals of Maxillofacial Surg.* 2016; 6: 195.
- Fadeyibi IO, Coker OA, Zacchariah MP, Fasawe A, Ademiluyi SA. Psychosocial effects of cleft lip and palate on Nigerians: The Ikeja-Lagos experience. *J Plast Hand Surg.* 2012; 46: 13-18.
- Gkantidis N, Papamanou DA, Karamolegkou M, Dorotheou D. Esthetic, functional, and everyday life assessment of individuals with cleft lip and/or palate. *BioMed Res Int.* 2015; 2015: 1-8.
- Wells-Durand E, Buchel A, Tuen YJ, Thomson R, Staples J, Gibson, TL et al., What Does Cleft Lip and Palate Care Cost? The Time and Economic-Associated Burden of Care From Birth to Maturity. *Plast Surg.* 2023; 1: 1-10.
- Poon LC, McIntyre HD, Hyett JA, da Fonseca EB, Hod M. The first-trimester of pregnancy—A window of opportunity for prediction and prevention of pregnancy complications and future life. *Diabetes Res Clin Pract.* 2018; 145: 20-30.
- Rusdy H, Syaflida R, Hanafiah OA, Ratnaningtyas J. Knowledge of pregnant women about risk factor of cleft lip and palate at Puskesmas Mutiara, Asahan, Indonesia. *Majalah Kedokteran Gigi Indonesia.* 2023; 8: 151-160.
- Alnujaim NH. Awareness knowledge and attitudes of Saudi pregnant women towards cleft lip and palate. *Curr Pediatr Res.* 2017; 21: 595.
- Nigeria demographic and health survey. National Population Commission, ICF International. 2013. (Accessed on 26/02/25)
- Bolarinwa OA, Ahinkorah BO, Seidu AA, Mohammed A, Effiong FB, Hagan Jr JE, et al., Predictors of young maternal age at first birth among women of reproductive age in Nigeria. *PLOS ONE* 2023; 18: e0279404.
- Oluleke M, Ogunwale A, Olaleye O, Tubi I, Arulogun O. Practices relating to dietary intake of pregnant women attending antenatal clinic at primary healthcare centres in Ile-Ife, Nigeria. *J Adv Med Med Res.* 2018; 25: 1-12.
- Sui Y, Ahuru RR, Huang K, Anser MK, Osabohien R. Household socioeconomic status and antenatal care utilization among women in the reproductive-age. *Front Public health.* 2021; 9: 724337.
- Trotter MI, Morgan D. Patients' use of the Internet for health-related matters: a study of Internet usage in 2000 and 2006. *Health informatics J.* 2008; 14: 175-181.
- Kadagad P, Pinto P, Powar R. Attitudes of pregnant women and mothers of children with orofacial clefts toward prenatal diagnosis of nonsyndromic orofacial clefts in a semiurban set-up in India. *Indian J Plast Surg.* 2011; 44: 489-493.
- Karamitros G, Kitsos K. Clefts of the lip and palate: is the Internet a trustworthy

- source of information for patients? *Int J Oral Maxillofac Surg.* 2018; 47: 1114-1120.
17. Adebola RA, Bamgbose BO, Adeoye JB. Community mobilization and awareness creation for orofacial cleft services: a survey of Nigerian cleft service providers. *Int Sch Res Notices.* 2014;2014: 1-10.
18. Aimede OS, Olalere GO, Olaosun AS, Adeshola S. Orofacial clefts: Our experience in two suburban health facilities. *Dentistry.* 2013;3: 1-4.
19. Salomon LS, Alfirevic Z, Berghella V, Bilardo C, Hernandez-Andrade E, Johnsen SL, et al., Practice guidelines for performance of the routine mid-trimester fetal ultrasound scan. *Ultrasound Obstet Gynecol.* 2011; 37(1): 116-26.
20. Akadiri OA, Eigbobo JO, Otaigbe BE. Amniotic band syndrome in a Nigerian cleft patient: A case report. *Nigerian J Plast Surg.* 2014;10: 15-27.
21. Kurjak A, Azumendi, Andonotopo W, Salihagic-Kadic A. Three-and four-dimensional ultrasonography for the structural and functional evaluation of the fetal face. *Am J Obstet Gynecol.* 2007; 196: 16-28.
22. Akintomide AO, Obasi UO. Intimate patient examinations: The awareness, acceptance and practice preference of transvaginal ultrasound scan among women in a South-southern State of Nigeria. *J Family Med Prim Care.* 2019;8: 109-114.
23. Komolafe JO, Akindele RA, AKinleye CA, Fashanu AO, Adeleke NA, Isawumi AI et al., Awareness & Acceptance of Transvaginal Ultrasound Scanning Among Ever Pregnant Women in Nigeria. *Women's Health and Gynecology.* 2016;4: 1-4.
24. Ravintaran T, Go KX, Che Isa IN, Mohd Norsuddin N, Sabarudin A, Mohamed Sharif N, et al., Effectiveness of an educational module in improving knowledge, awareness and perception among pregnant women regarding the safe use of prenatal ultrasound. *Heliyon.* 2023;9: e12773.
25. Han HH, Choi EJ, Kim JM, Shin JC, Rhie JW. The importance of multidisciplinary management during prenatal care for cleft lip and palate. *Arch Plast Surg.* 2016; 43: 153-159.
26. Khan MA, Okeah BO, Mbivnjo EL, Kisangala E, Pritchard AW. The Role of Community Health Workers in Oral Health Promotion and the Impact of their services in Sub-Saharan Africa: A Systematic Review. *SADJ.* 2022; 77: 284-293.
27. Ferede AA, Kassie BA, Mosu KT, Getahun WT, Taye BT, Desta M, et al., Pregnant women's knowledge of birth defects and their associated factors among antenatal care attendees in referral hospitals of Amhara regional state, Ethiopia, in 2019. *Front Glob Womens Health.* 2023;4: 1085645.
28. El-Shazly M, Bakry R, Tohamy A, Ali WM, Elbakry S, Brown SE, et al., Attitudes toward children with clefts in rural Muslim and Hindu societies. *Ann Plast Surg.* 2010;64: 780-783.
29. Stewart BT, Hatcher KW, Sengupta A, Burg RV. Cleft-related infanticide and abandonment: a systematic review of the academic and lay literature. *Cleft Palate Craniofac J.* 2018;55: 98-104.
30. Kimotho SG, Macharia FN. Social stigma and cultural beliefs associated with cleft lip and/or palate: parental perceptions of their experience in Kenya. *Humanities and Social Sciences Communications.* 2020;7: 1-9.
31. Oginni FO, Asuku ME, Oladele AO, Obuekwe ON, Nnabuko RE. Knowledge and cultural beliefs about the etiology and management of orofacial clefts in Nigeria's major ethnic groups. *Cleft Palate Craniofac J.* 2010;47: 327-334.
32. Antwi-Kusi A, Addisson W, Oti AA, Amuasi AA, Sabbah DK, Bernice WE, et al., Mother's of children with cleft lip and/or palate, perception about aetiology, social reaction and treatment of cleft. *J Biosciences Med.* vol. 2015; 3: 98-10.
33. Phyu MN, Lin Z, Tun KM, Wei TH,

- Maung KK. Maternal stressful events and socioeconomic status among orofacial cleft families: a hospital-based study. *J Cleft Lip Palate Craniofac Anomal.* 2020;7: 24-29.
34. Kesande T, Muwazi LM, Bataringaya A, Rwenyonyi CM. Prevalence, pattern and perceptions of cleft lip and cleft palate among children born in two hospitals in Kisoro District, Uganda. *BMC Oral Health.* 2014; 14: 1-7.