



Assessment of treatment-related changes in quality of life among preschoolers with early childhood caries using the naija-ecohis

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Abstract

Context: Early Childhood Caries (ECC), a major public health concern, significantly affects general health and the quality of life (QoL) of preschool children.

Objectives: To assess the QoL of preschoolers using the Nigerian Pidgin English version of the Early Childhood Oral Health Impact Scale (NAIJA-ECOHIS) before and after treatment.

Materials and Methods: A prospective longitudinal cohort study was conducted among preschoolers aged 2-5 years presenting with ECC. Parents/caregivers completed the NAIJA-ECOHIS questionnaire at baseline, and at 2 and 4 weeks after treatment, to evaluate changes in QoL following treatment of ECC. Treatment included restorations, extractions, pulp therapy, and preventive care. Data were analysed using SPSS, comparing pre- and post-treatment scores, paired t-tests assessed changes in quality of life over time while repeated measures of Analysis of Variance assessed changes across three time points.

Results: A total of 120 preschoolers participated, with a mean age of 4.34 ± 0.80 years; females constituted 53.3%. At presentation, pain (82.5%) was the most frequently reported complaint. Mean NAIJA-ECOHIS scores decreased from 12.42 ± 6.84 at baseline to 1.43 ± 2.16 at two weeks and 0.79 ± 1.24 at four weeks post-treatment. The child symptom domain and self image domain demonstrated largest and least effect sizes respectively. There were significant differences between all pre- treatments scores and four weeks' post-treatment scores. ($p < 0.001$)

Conclusion: ECC had a significant negative impact on daily functioning of preschoolers and caused considerable distress to families. Dental treatment significantly improved their QoL with the child symptom domain being the most improved.

Introduction

Early Childhood Caries (ECC) is a term used to define dental caries when it occurs in children less than six years of age.^{1,2} It remains the most common chronic disease in children and represents a serious global public health challenge affecting the quality of life of preschool-aged children worldwide.^{3,4,5} Recent systematic reviews indicate that ECC affects nearly half of children in this age group, with considerable

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variation in prevalence across regions and countries⁵. In their report, the estimated prevalence by continent was as follows: Africa: 30%, Americas: 48%, Asia: 49%, Europe: 43% and Oceania: 82%. Furthermore, in a more recent systematic review, the pooled estimated prevalence of early childhood caries was 17% with variations in different geopolitical zones of the country.⁶ These variations

are linked to differences in access to preventive care, feeding practices, oral hygiene habits, and a reflection of socioeconomic diversity of the country.^{5,6}

ECC imposes significant functional, emotional, and psychosocial burdens on affected children and their families. Children with ECC commonly experience toothache/dental pain, difficulty in chewing, reduced intake of nutritious foods, disturbed sleep, and diminished ability to smile or participate fully in school and social activities.^{3,4} Folayan *et al*⁷, in their study described an untreated form of Early Childhood Caries as a potential disability. Emerging evidence further highlights that the emotional and psychosocial consequences of oral disorders in childhood can be as profound as those associated with other chronic health conditions.⁸

Parents and caregivers bear substantial impact, including feelings of guilt or frustration, financial strain, and lost productivity due to missed workdays while seeking treatment for their children.^{9,10,11}

Therefore, assessing parents' perception of how oral health problems including symptoms, diseases and treatments influence their children's quality of life is an important aspect of assessing young children's oral health-related quality of life. Early Childhood Oral Health Impact Scale (ECOHIS), an instrument specifically developed for preschool children has made this assessment easy as it assesses the parental/caregiver perception of their children's well being.¹² ECOHIS has been translated to the Nigerian Pidgin English version, (Naija ECOHIS)¹¹ and has also been validated and found to be reliable and valid for use among Nigerian preschoolers.¹¹

Studies consistently show that comprehensive dental treatment leads to significant improvements in OHRQoL, including reductions in pain, better sleep and eating patterns, and decreased family distress.^{11,13,14} However, there are still gaps in understanding the magnitude and sustainability of OHRQoL improvements following treatment. Furthermore, findings across studies vary; while some report significant improvements in the OHRQoL of children and their parents or caregivers following dental intervention. Others reported no significant impact on quality of life of Nigerian children.¹⁵ Thus, there is still a significant gap in understanding the extent of the effect of dental caries on the quality of life of Nigerian pre-schoolers and

their parents as well as the extent of changes that occur after intervention, especially with the use of a culturally adapted, valid and reliable instrument, the Naija-ECOHIS. This is because perception of quality of life has a subjective component and could vary from one culture to another.¹⁶ It is therefore important to assess the quality of life of Nigerian children using a culturally adapted quality of life instrument, the NAIJA-ECOHIS as well as assess the changes that may occur in the quality of life of children who present with dental caries after undergoing dental treatment.

This study therefore evaluated oral health-related quality of life among preschoolers with early childhood caries before and after dental treatment. By assessing OHRQoL at baseline and at 2 weeks and 4 weeks after treatment, this study sought to quantify the impact of treatment on children's daily functioning and family well-being. It will also help to contribute region-specific evidence that can guide paediatric oral health policies and clinical practice in Nigeria.

Subjects/materials and Methods

Study area: The study was carried out at the paediatric dentistry unit of the Child Dental Health Department of the University of Calabar Teaching Hospital, Calabar. The University of Calabar Teaching Hospital, Calabar is the only Teaching Hospital in Cross River state and is well known for teaching, training and research. The hospital also serves as major referral centre for patients within the state and neighbouring state. The department is staffed by a Paediatric dental consultant, Orthodontics consultants, Resident doctors and other personnel involved in both clinical care and training. The department provides comprehensive oral health care for children, including preventive, restorative and surgical services.

Subject design: The study design was a prospective longitudinal observational cohort study with repeated measures. It investigated the effect of Early Childhood Caries and subsequent dental treatment on the quality of life of children aged 2-5 years, and their parents/caregivers. Data were collected within the study period of January 2025 and October 2025.

Subject population and sampling procedure: The study population comprised children aged 2 to 5 years who presented with dental caries at the

Paediatric Dental clinic of the University of Calabar Teaching Hospital, Calabar. The target population included both the affected children and their accompanying parents/caregivers, as they contributed to the assessment of quality of life outcomes.

The minimum sample size was estimated using the formula proposed by Eng.¹⁷ Assuming a power of 90%, a significance level of 0.05, an expected mean change of 4 in the children's oral health-related quality of life, and a standard deviation of 6.3, a sample size of 104 was obtained¹⁸. To account for possible incomplete responses and non-response, a 10% adjustment was applied, yielding a final sample size of 116.

A consecutive sampling technique was employed, whereby all eligible children and their parents/caregivers who visited the clinic and met the inclusion criteria were recruited until the required sample size was achieved.

Children who required emergency dental care and those with special health care needs were excluded from participating.

Participants were recruited after adequate history was taken, proper examinations and investigations carried out, definitive diagnosis made and a comprehensive treatment plan drawn up.

Clinical diagnosis of Early Childhood Caries was made when dental caries was present on the teeth of any child under the age of six years of age. Diagnosis of dental caries was made according to the diagnostic criteria of the World Health Organization.¹⁹

Data Collection and Data Collection Tool

Data was collected using the Nigerian Pidgin English version of the Early Childhood Oral Health Impact Scale (NAIJA ECOHIS) questionnaire.²⁰ This version was developed from the original ECOHIS questionnaire, 12 validated and found to be valid and reliable.

The NAIJA-ECOHIS questionnaire was interviewer-administered to the parent or caregiver after which treatment was instituted by the investigator and a review appointment given to patients at 2 weeks and at 4 weeks post treatment.¹⁸ These appointments were enhanced by phone calls to the parents a week before the appointment and a day before the appointment. On the second and

fourth-week review appointment day, the questionnaire was also administered to the parents/caregivers of the children that had undergone treatment. For patients who could not be treated on the day of presentation, an appointment was given. In addition, patients that required more than one visit for a treatment and those that required multiple procedures, the questionnaires were administered after successful completion of their treatments.

Data analysis

Data entry and analysis was done using the Statistical Package for the Social Sciences, SPSS by IBM® version 23. For each child-family pair, a total ECOHIS score was determined by simply summing the response codes for the 13 standard questions. ECOHIS scores for the Child impact and the family impact sections were computed as a summation of the response codes from questions in that section. ECOHIS scores for the family impact section was similarly determined. All I don't know responses were re-coded as missing.

A descriptive measure of location and of variability was determined for quantitative variables such as age, oral health-related quality of life scores and others. The association between categorical variables was determined using the chi-square statistic. All comparisons of paired measurements (pre and post) were based on the paired t-test statistic. Absolute and standardized changes in ECOHIS scores were computed. Standardized change for each of the 13 items was defined as the ratio of the difference between pre- and post-treatment mean ECOHIS scores to the standard error of the difference. It was hypothesised that there is an improvement in the quality of life of children when appropriate treatment is offered thus a one-tailed approach was adopted in assessing the magnitude of observed changes in oral health-related quality of life of children as well as that of the parents. Changes in which p-values were 0.05 or less were considered to be statistically significant. To assess changes in quality of life scores across the three points in time (Pre-treatment (T0), 2 weeks after treatment (T2) and 4 weeks after treatment (T4), repeated measures of Analysis of Variance test (ANOVA) was performed and Greenhouse-Geisser correction was applied. The one way Analysis of Variance test was

adopted to examine variations in mean ECOHIS scores by socio-economic status of parents. The socioeconomic status of the participants was assessed using the occupation of the father and the educational status of the mother. The use of these two variables in assessing the socioeconomic status of participants in Nigeria has been found valid and reliable.²¹ Ethical considerations and approval for the study was obtained from the University of Calabar Teaching Hospital Health Research Ethics Committee (UCTHREC) with reference number UCTH/HREC/33/VOL.III/224.

Results

A total of 130 pre-schoolers who met the inclusion criteria were recruited in this study but one hundred and twenty participants completed the study giving an overall participation rate of 92.3%. They comprised 56(46.7%) males and 64 (53.3%) females aged 2-5 years with a mean age of 4.34 ± 0.80 years. More than half of the participants were 5-year-olds (50.8%), and of high socioeconomic status 57(47.5%) (Table1). A higher proportion (71.9%) of the adults that accompanied the children to the clinic were mothers.(Figure 1)

Several diagnosis were made and included 58(48.3%) cases of uncomplicated dental caries, sequelae of dental caries such as reversible pulpitis 18(15.0%), irreversible pulpitis 16(13.3%), apical periodontitis 26(21.7%), periapical abscess 13(10.8%), and dentoalveolar abscess 21(17.5%).

Treatment offered ranged from scaling and polishing, fluoride therapy, Glass Ionomer cement, hall restorations, Silver Diamine Fluoride, Composite restoration, vital pulpotomy, pulpectomy to extractions.

Response to the ECOHIS questionnaire before treatment

At presentation, the items related to pain and difficulty in eating food were reported most frequently on the child impact section while items related to off work and feeling guilty were reported most frequently on the family impact section of the ECOHIS. Majority (91.7% and 90.0%) of the participants did not report any effect of dental caries on smiling or talking respectively (Table 2).

The mean ECOHIS score for Child impact

Table 1: Socio-demographic characteristics of the participants

CHARACTERISTICS	FREQUENCY	PERCENTAGE
(n=120)		
AGE (in years)		
2	5	4.2
3	19	15.8
4	35	29.2
5	61	50.8
GENDER OF THE CHILDREN		
Male	56	46.7
Female	64	53.3
MARITAL STATUS OF PARENTS/CAREGIVERS		
Married	101	84.2
Single	11	9.2
Separated	8	6.6
TRIBE		
Ibibio	40	33.3
Ibibio/Anang	34	28.3
Ibo	24	20.0
Yoruba	14	11.7
Hausa	3	2.5
Others	5	4.2
SOCIOECONOMIC STATUS		
High	57	47.5
Middle	19	15.8
Low	44	36.7

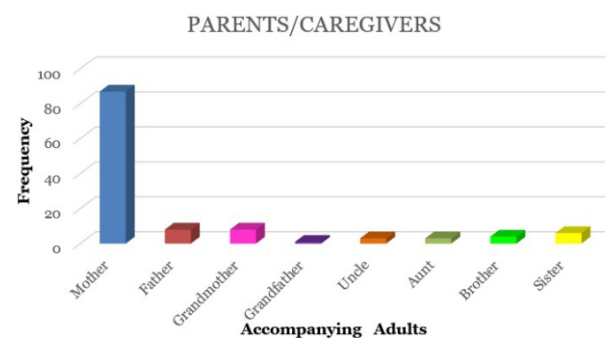


Fig. 1: Distribution of accompanying adults

Table 2: Distribution of Naija-ECOHIS response among participants before intervention

Impact	Never	Hardly ever	Occasionally	Often	Very Often	Don't know
Child impact Section						
Oral/dental pain	15(12.5)	6(5.0)	56(46.7)	33(27.5)	10(8.3)	0(0.0)
Difficulty drinking	87(72.5)	10(8.3)	16(13.3)	6(5.0)	0(0.0)	1(0.8)
Difficulty eating	34(28.3)	4(3.3)	67(55.8)	13(10.8)	2(1.7)	0(0.0)
Difficulty pronouncing words	107(89.2)	3(2.5)	7(5.8)	1(0.8)	1(0.8)	1(0.8)
Missed preschool/school	43(35.8)	14(11.7)	58(48.3)	5(4.2)	0(0.0)	0(0.0)
Trouble sleeping	54(45.0)	7(5.8)	43(35.8)	16(13.3)	0(0.0)	0(0.0)
Irritable or frustrated	61(50.8)	8(6.7)	46(38.3)	5(4.2)	0(0.0)	0(0.0)
Avoided smiling or laughing	110(91.7)	2(1.7)	7(5.8)	1(0.8)	0(0.0)	0(0.0)
Avoided talking	108(90.0)	3(2.5)	7(5.8)	2(1.7)	0(0.0)	0(0.0)
Family Impact Section						
Been upset	56(46.7)	8(6.7)	41(34.2)	13(10.8)	1(0.8)	1(0.8)
Felt guilty	57(47.5)	5(4.2)	38(31.7)	18(15.0)	2(1.7)	0(0.0)
Time off from work	43(35.8)	14(11.7)	59(49.2)	4(3.3)	0(0.0)	0(0.0)
Financial impact	76(63.3)	11(9.2)	26(21.7)	5(4.2)	2(1.7)	0(0.0)

section was 8.16 ± 4.66 while mean ECOHIS score for the family impact section was 4.26 ± 3.22 . On the child impact section, the highest impact was on the child function domain (3.53 ± 2.24) while the least impact was on the self-image/social interaction domain (0.35 ± 0.97). Parents/care-givers had more impact on the family distress (2.34 ± 2.06) than on family function (1.92 ± 1.63) domain. (Figure 2, Table

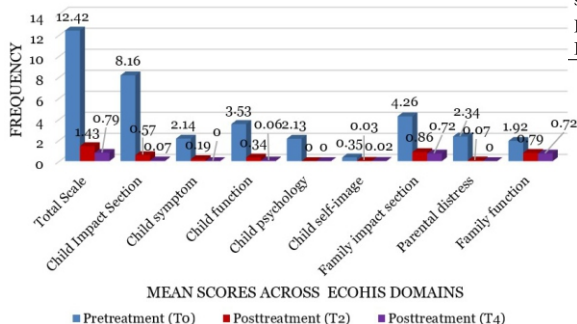
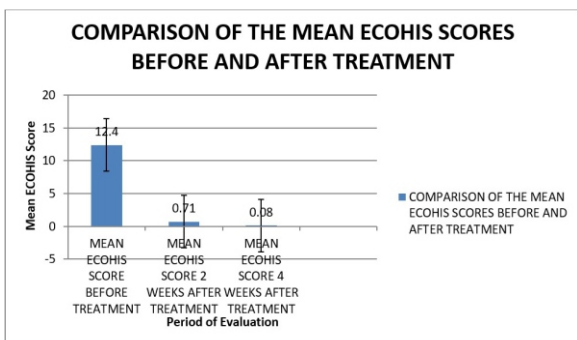


Fig 2: Mean ECOHIS Scores across the Domains before Treatment (T0), 2 Weeks (T2) and 4 Weeks (T4) Post Treatment



P>0.001

Fig 3: Comparison of the Total Mean ECOHIS Scores before Treatment, 2 Weeks and 4 Weeks after Treatment

Table 3: Change scores and effect sizes two weeks after intervention

ECOHIS DOMAIN	Pre-treatment (T0) Mean (SD)	Post-treatment (T2) Mean (SD)	P value	Change score (T2 -T0) Mean (SD)	Effect size
Total Scale	12.42 ± 6.84	1.43 ± 2.16	<0.001	10.99 ± 6.27	1.61
Child Impact Section	8.16 ± 4.66	0.57 ± 1.29	<0.001	7.59 ± 4.59	1.63
Child symptom	2.14 ± 1.07	0.19 ± 0.58	<0.001	1.95 ± 1.18	1.82
Child function	3.53 ± 2.24	0.34 ± 0.86	<0.001	3.19 ± 2.29	1.39
Child psychology	2.13 ± 1.89	0.00 ± 0.00	<0.001	2.13 ± 1.89	1.13
Child self-image	0.35 ± 0.97	0.03 ± 0.29	<0.001	0.32 ± 0.92	0.33
Family impact section	4.26 ± 3.22	0.86 ± 1.30	<0.001	3.40 ± 2.70	1.06
Parental distress	2.34 ± 2.06	0.07 ± 0.42	0.166	2.28 ± 2.07	1.11
Family function	1.92 ± 1.63	0.79 ± 1.14	<0.001	1.12 ± 1.04	0.69

Table 4: Change scores and effect sizes four weeks after intervention

ECOHIS DOMAIN	Pre-treatment (T0) Mean (SD)	Post-treatment (T4) Mean (SD)	P value	Change score (T4 -T0) Mean (SD)	Effect size
Total Scale	12.42 ± 6.84	0.79 ± 1.24	<0.001	11.62 ± 6.32	1.70
Child Impact Section	8.16 ± 4.66	0.07 ± 0.49	<0.001	8.08 ± 4.60	1.73
Child symptom	2.14 ± 1.07	0.00 ± 0.00	<0.001	2.14 ± 1.07	2.00
Child function	3.53 ± 2.24	0.06 ± 0.45	<0.001	3.47 ± 2.23	1.55
Child psychology	2.13 ± 1.89	0.00 ± 0.00	<0.001	2.13 ± 1.89	1.13
Child self-image	0.35 ± 0.97	0.02 ± 0.18	<0.001	0.33 ± 0.92	0.34
Family impact section	4.26 ± 3.22	0.72 ± 1.05	<0.001	3.54 ± 2.66	1.10
Parental distress	2.34 ± 2.06	0.00 ± 0.00	<0.001	2.34 ± 2.06	1.14
Family function	1.92 ± 1.63	0.72 ± 1.05	<0.001	1.20 ± 0.98	0.74

3).

There was a significant effect of time on the mean ECOHIS score with a decline from 12.42 ± 6.84 before treatment to 1.43 ± 2.16 two weeks after treatment and to 0.79 ± 1.24 , four weeks after treatment (Figure 3, Table 3 & 4). ($P < 0.001$, $\eta^2 = 0.759$). Also observed were significant linear and quadratic trends indicating improvement over time ($p < 0.001$).

Following dental treatments, there was a significant improvement in oral health related quality of life with moderate to large effect. (Effect size statistics of < 0.2 indicate small difference, $0.2-0.7$ indicates moderate difference and > 0.7 indicate large difference (Cohen, 1988). The child symptom domain demonstrated largest effect size while child self- image domain represents the least effect size. (Table 3) There was a statistically significant association between the pre-treatment and the four weeks post-treatment scores across all the domains. ($P < 0.001$) (Table 4)

Association between Age, Gender, Socioeconomic Status and ECOHIS Scores

In relation to age, gender and socioeconomic status, the 5-year-olds, the females and participants in high socioeconomic status had higher ECOHIS scores than the other age groups, males and those in other socioeconomic status respectively. There was a statistically significant difference between gender and ECOHIS scores ($p = 0.05$). However, there was no statistical significant difference between age ($p = 0.41$), socioeconomic status ($p = 0.65$) and ECOHIS score.

Table 5: Description of effect size 2 week and 4week post treatment

ECOHIS DOMAIN	Effect Size (Post treatment T2)	Description	Effect Size (Post treatment T4)	Description
Child Impact Section (9)	1.63	Large Change	1.73	Large Change
Child symptom	1.82	Large Change	2.00	Large Change
Child function	1.39	Large Change	1.55	Large Change
Child psychology	1.13	Large Change	1.13	Large Change
Child self-image	0.33	Moderate Change	0.34	Moderate Change
Family impact section (4)	1.06	Large Change	1.10	Large Change
Parental distress	1.11	Large Change	1.14	Large Change
Family function	0.69	Moderate Change	0.74	Moderate Change

Discussion

There was a significant improvement in the oral health quality of life of preschoolers and their parents/caregiver evidenced by a reduction in the Naija-ECOHIS scores following dental treatment.

The 5-year-olds were the majority in this study and this is possibly because they are the oldest among the group studied and have had teeth in their mouth for a longer duration compared to the other age groups. It could also be because majority of paediatric patients in this centre presented late 22 and sought for care as a result of pain from complicated carious lesions. As a result, they may have developed decayed tooth/teeth at an earlier age but failed to present till later years when it became symptomatic. In addition, they were at the age where they struggle to perform their oral hygiene by themselves, while refusing help from their caregivers, thus giving rise to a suboptimal oral health as an outcome.¹¹ At this age, they are more independent than the 2- and 3-year-olds, and have more access to what they eat which may most likely be cariogenic diets. This is similar to the reports of other studies among preschoolers in Austria²³ and Nigeria¹¹. In this study, females were more affected with early childhood caries than males. Females also had higher ECOHIS scores than their male counterpart. This may be due to the fact that the girl child has a different dietary choices and snacking habits compared to the boy child with a tendency towards cariogenic substances. Several studies^{11,24,25,26}, reported that dental caries are more prevalent among females than males. This was attributed to the fact that females have “sweet tooth” and prefer cariogenic snacks to non-cariogenic diets. Lukacs *et al*²⁴ reported the same and also suggested that because females erupt their teeth earlier than males, there is a longer exposure of their teeth to cariogenic substances than the males. In contrast, an

Austrian study²³ reported that males had more ECC than females, and this was attributed to boys’ less consistent oral hygiene practice compared to the girl child.

The mean ECOHIS score before intervention was higher than the mean score after post interventions; the higher the ECOHIS score, the poorer the quality of life. This shows that untreated dental caries affects the quality of life of preschoolers and their parents/caregivers and that dental treatment caused a positive change in the child’s quality of life. This is

evidenced by the significant decrease in the overall ECOHIS scores, both in the child impact and the family impact sections. This study supports the already existing evidence that standard treatment of dental conditions improves the quality of life of an individual.^{23,27}

Interestingly, among the six domains, the child function domain and parent distress domain were the most commonly affected domains. This is similar to the report of the other studies in Nigeria,²⁰ Austria,²³ China,²⁸ and Brazil²⁹ where these two domains were the most affected. This shows that in young children dental caries affected childrens’ ability to perform function more than the other domains. Some were not able to eat, speak, drink or even attend school. Hence, the most frequently reported item in the child impact section is “pain in the teeth, mouth or jaw; “difficulty eating some food”. This finding is comparable to the reports of other studies across both developed and developing countries such as China³⁰, Austria²³, Nigeria¹¹ and India²⁸

In the family impact section, “take time off work’ and “feeling guilty were the most frequent responses. Majority of the parents/caregivers took time off work and felt guilty as a result of their children’s dental problems. They may have left work or businesses to attend to their children’s dental need. In some cases, treatment was not offered immediately and the parent/caregiver had to bring the child back on an appointed day. Furthermore, some parents/caregivers as a result of their busy schedule felt guilty because they did not bring their children earlier at the initial complaint but did so only when complications had set in. Mendonca *et al*.³¹ also reported that guilt was one of the most frequently reported items at presentation in their study and this was attributed to ignorance or lack of

knowledge.

Just as the effect of the dental caries was assessed at presentation, the effect of the dental intervention on the participants were also obtained at two weeks and at four weeks after treatment and various scores of Naija ECOHIS were obtained. There was a decrease in the overall mean ECOHIS scores at two weeks and at four weeks after intervention. In this study, the greatest decreases were for the child function domain and the parental distress domains but differs slightly from the findings of Yawary *et al.*³⁰ where the greatest decrease were in child symptom and psychological domains.

The mean difference between ECOHIS score at the pre-intervention stage and two weeks after intervention was highly significant resulting in changes in all the domains of ECOHIS. This shows that patients had significant improvement in their quality of life because higher scores denote greater negative oral health impact and/or poorer OHRQoL and vice versa.

Most of the domains showed large effect sizes indicating a significant improvement following dental intervention. (Effect size statistics of < 0.2 indicate small difference, $0.2-0.7$ indicates moderate difference and > 0.7 indicate large difference.³²

A large effect size means that there was a significant change after treatment. This shows that the problem of symptoms, functions, psychology, self image, parental distress and family function were sorted out when appropriate treatment was given causing a positive change in quality of life. The child psychology/self-image domain showed a moderate effect size at both two weeks and four week post treatment, suggesting that effect of early childhood caries on the psychosocial aspect of the quality of life of children is noticeable and meaningful but not overwhelming. In this study, the child symptom and function domains demonstrated largest effect sizes indicating that pain (which is the symptom) and ability to function were the most improved items after effective treatment was offered. This is similar to another study in Austria where child symptom and child function domains also showed large effect sizes.²³

The mean difference between the two weeks post-intervention and four weeks post-intervention was very minimal (mean difference = 0.63) compared to

the mean difference between pre-intervention and two weeks post intervention. This therefore indicates that the improvement achieved after 2 weeks post intervention was more significantly increased but was rather sustained at the 4 weeks post intervention period. It can be inferred that shortly after appropriate treatments were given, there was a positive change in the quality of life of the participants.

It is interesting to note that there is significant change in the child function domain after two weeks and four weeks post treatment. This could be because the symptoms experienced at the time of presentation did not immediately wear off completely after treatment till about 4 weeks after treatment. In relation to treatment, scaling and polishing was the highest treatment offered because majority of them had poor oral hygiene. This is not surprising as poor oral hygiene is a major risk factor for the development of dental caries,^{33,34} However, the relationship between oral hygiene index and ECOHIS score was not significant. This could be because almost all the patients are usually required to do scaling and polishing before other treatments so that the mouth would be in a clean and healthy state.

With regards to change scores, positive changes were generated both in the child and family impact sections indicating an improvement in the level of impacts. The change score between pre-intervention and 4 weeks post-intervention was larger than between pre-intervention and two weeks post-intervention. It shows that the improvement achieved was sustained over the remaining few weeks after treatment.

Conclusion

Participants were mostly affected by pain and least affected by difficulty in smiling in the child impact section while “taking time off work” was the most affected item in the family impact section of Naija ECOHIS. There was a significant improvement in the oral health related quality of life of the children and their parents/caregiver after dental intervention evidenced by a score reduction in both sections of ECOHIS post intervention. The child symptom domain was the most improved domain with a large effect size.

The Naija-ECOHIS should be used by Nigerian

clinicians, researchers and policymakers to describe the effects of dental caries and treatment experience on young children and their families and to plan effective oral health promotion interventions and oral health care services

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Contribution by Authors: CLN initiated the idea, actively participated in the data collection, edited the writing, analyzed the data, wrote the first draft, and edited the article. HI participated in the data collection process. OOT made substantial contributions to the conception and design, acquisition of data, analysis, and interpretation of data, All authors read the final manuscript and contributed to this work.

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