

**Cleft Surgery Service at National Orthopaedic Hospital Enugu (Nov 2004-Oct 2008): impact of free treatment programme**

I I Onah, CON Ezinwa

Consultant Plastic surgeon

Plastic Surgery department

National Orthopaedic Hospital, Enugu

Correspondence:

Ifeanyichukwu Onah

Plastic Surgery department

National Orthopaedic Hospital, Enugu

PMB 1294 Enugu

Nigeria

Telephone: +2348058471489

E mail: [anyionah@yahoo.com](mailto:anyionah@yahoo.com)

Previous presentation: 3<sup>rd</sup> Pan African Congress on Cleft Lip and Palate, Addis Ababa, Ethiopia  
February 18, 2009

## **Abstract**

### Introduction

Outcomes of free surgeries have been reported in the numbers of patients attended. Little has been documented on the impact on training hence this report. Such grants should positively impact training, patient outcome and volume of patients.

### Methods

A retrospective review of all surgeries two years before and after the commencement of free surgical treatment at the hospital was undertaken. The demographics were studied for both primary and revisional surgeries. The primary surgeons were also noted. Excluded from the study are procedures to remove sutures. Simple arithmetic analysis was used.

### Results

Seventy-three cleft procedures had been carried out before, while 168 procedures were carried out after October 2006. Eight patients aged over 15 years had lip repairs before while 42 patients over 15 years had lip repair after commencement. Fourteen procedures were carried out by three trainee surgeons before; while 29 procedures were carried out by nine trainees after October 2006. In 2005 an average of four procedures a month were undertaken; this increased by 2008 to eight.

### Conclusion

Free treatment positively impacts patient turnout and training, and are encouraged to improve the quality of healthcare in the country.

Keywords: cleft care, free treatment, training Nigeria

## **Introduction**

Free cleft treatment programmes have been variously reported in developing nations.<sup>1-4</sup> Some allude to the benefits of such programmes not only to patients but also to the scientific community, but such reports often have not quantified the impact such have on surgical training programmes.<sup>2,3</sup>

This study was undertaken to assess the impact on the training of residents at the National Orthopaedic Hospital Enugu, an apex training hospital for plastic surgical residents in the periods 24 months before and after the commencement of free treatment. Cleft surgery has been undertaken at the hospital since inception in 1975.

## **Materials and methods**

A retrospective analysis of patient records 24 months prior to, and following, the commencement of the Smiletrain treatment grant at the hospital was made (November 2004 to October 2008 inclusive). Information was from theatre records, medical records department and theatre facilities. Excluded are procedures for removal of sutures only. The study includes unilateral and bilateral cleft lip patients, alone and in combination with cleft palate. The age of presentation for surgery during the periods were compared. The total numbers of surgeries in the period under review, monthly averages, age and gender of pts were sought out. This includes primary surgery and revision procedures. Completion of procedures for patients requiring lip as well as palate surgery was noted. The primary surgeons were also noted. The number of surgeries performed by consultants or trainees in each period were compared and noted. Simple arithmetic analysis was used.

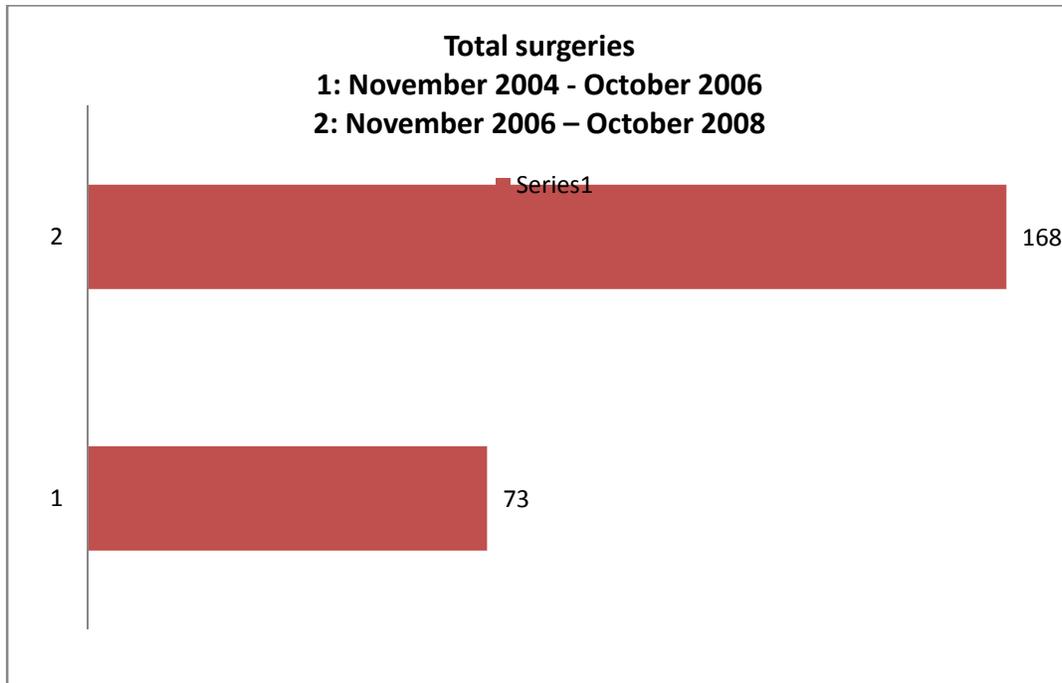
Limitations of study: Pictorial records for comparison of outcomes were not done, nor were the fistula or wound dehiscence rates assessed in any of the periods owing to absence of a scoring method in use at the hospital, and poor follow up in both lip and palate. As completion of lip and palate procedures in patients with both lip and palatal clefts is ongoing it was difficult to assess the completion rate attributable to free treatment. Speech results were not assessed.

Patients above 15 years in this study were termed adults.

## **Results**

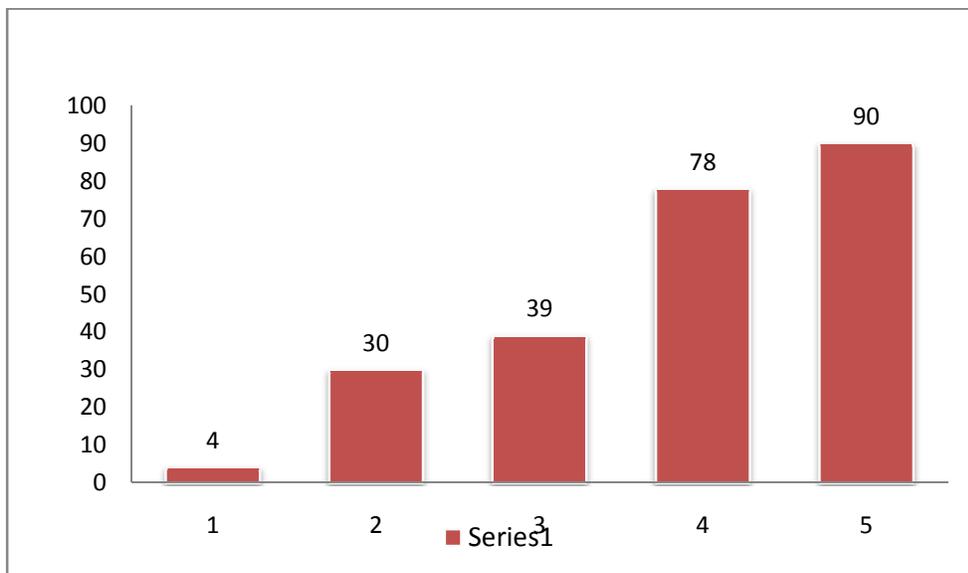
There were 241 cleft surgeries performed between November 2004 and October 2008. Of these 173 were lip repairs and 68 palate repairs. A total of 73 surgeries were performed 24 months before grant, and 168 surgeries performed 24 months after the grant (November 2006 – October 2008) representing a 2.3 fold increase (figure 1).

Figure 1: bar chart of total surgeries in the two periods



Between January and December 2005 30 cleft surgeries were performed, with a maximum of four procedures a month recorded. Between January and October 2008 90 surgeries had been performed with a maximum of 11 cleft surgeries a month recorded (figure2).

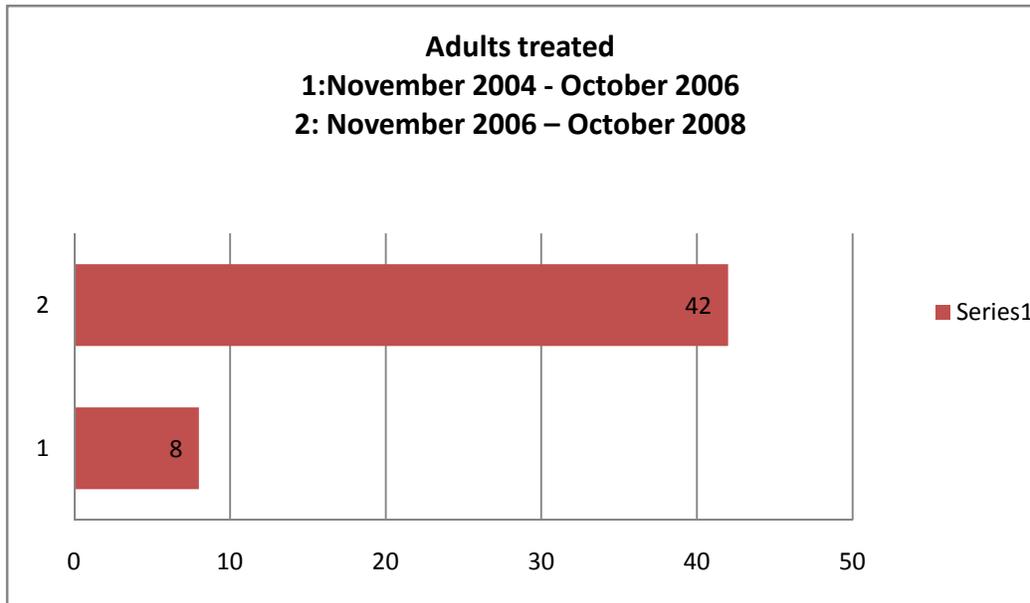
Figure 2: procedures done in each year of the study period. 1: November to December 2004. 2: January to December 2005. 3: January to December 2006. 4: January to December 2007. 5: January to October 2008.



Age at presentation for surgery:

Between November 2004 and October 2006 (before the grant) eight adults (11%) had lip repairs. Between November 2006 – October 2008 (after the grant) 42 adults (25%) had lip repairs representing a greater than fivefold increase in adults presenting for lip repair (figure 3).

Figure 3: adults 15 years and above treated in the period



#### Revision surgery

Between November 2004 and October 2006 there were two lip revisions, but eight lip revisions between November 2006 and October 2008. Incidentally all were for female patients (figure 4).

Figure 4: pre and post operative patient for revision cleft lip surgery



## Palatorrhaphy

Between November 2004 and October 2006 13 palatorrhaphies were performed as against 39 palatorrhaphies between November 2006 and October 2008.

### Impact on primary surgeon assignment

There were a total of seven senior residents training in plastic surgery between 2004 and 2006, and nine between 2006 and 2008. Between November 2004 and October 2006 14 lip repairs were carried out by a total of three trainee surgeons. Between November 2006 and October 2008 29 lip repairs were carried out by a total of nine trainees representing a two-fold increase in the number of trainee procedures, and a threefold increase in the number of participating trainees. No palatorrhaphy was done by trainee in the period under study. There were five consultant plastic surgeons in the employment of the hospital throughout the duration of the study.

### Team care

Prior to commencement orthodontics and speech therapy were unavailable at the hospital. Following free surgery the services for both were obtained.

## Discussion

There was no expansion of facilities such as bed space or theatre space in the hospital in the period under study. The number of consultant plastic surgeons also was static, so the increase in volume is most likely due to free treatment. However the average of 36.5 surgeries per year in the period before the free treatment differs from the average of 13 surgeries a year between 1993 and 1999 in the same institution.<sup>5</sup> The difference may be as a result of manpower shortage in the earlier period. The finding of increased volumes when free treatment commences is expected. It had been noted previously that cleft patients are often from low socioeconomic backgrounds<sup>3,5</sup> therefore awareness of treatment within their grasp makes significant impact. The increase in volumes of adult patients presenting is also similar to other reports where free cleft surgery has been carried out.<sup>1-4</sup> This backlog of cases has been a driving force for several cleft outreaches.

Whilst improving the volume of patients treated and the quality of treatment is a reported goal in free treatment projects, impact on training of surgeons is occasionally unmentioned.<sup>1-4</sup> Diminishing access to surgical care through prohibitive user fees have already altered the bed occupancy of teaching hospitals and changed the frequency ratios of diseases for the balanced instruction and experience of medical students and surgical trainees, respectively.<sup>6</sup> Improved

financing of surgery is expected to reverse this. This study notes the doubling of procedures carried out by trainees and tripling of trainees serving as primary surgeons. With an increase in the number of residents showing interest in plastic surgery training an increasing number of cases for hands-on training are needed in all accredited centres. Without the increase in volumes afforded by the grant, a smaller fraction of trainees would have ended up having hands-on training at the institution; however each trainee was able to get to do at least one cleft surgery in the period of the increased volume. This increase is an important aspect of surgical training in the West African sub region where a decreasing ratio of senior resident to new fellows has been noted.<sup>6,7</sup> All consultants have vicarious liability for the surgeries performed by trainees under them in Nigeria.

A number of non teaching hospital resident training centres may be unwilling to employ adjunct staff (such as speech therapists) considered necessary for optimal care cleft patients for fear the volumes of such patients may be too few to justify the pay of the staff, even on a part time basis. Increasing the volume definitely increases the encouragement for such institutions to provide such services leading to a multidisciplinary care. This generates better patient care, more employment, and better training of residents.

As outcomes of results were not routinely carried out in the hospital (though various scoring methods are available)<sup>8</sup> it was not feasible to assess the quality of work done by trainees. Studies have indicated that the outcomes of cleft surgery is better with increasing volumes done,<sup>8,9</sup> but more recent work suggest experience has no impact on incidence of complications in palatoplasty.<sup>10,11</sup> However these latter studies are reports from centres and surgeons exceeding 30 new cases a year which was the cut off in previous studies. With 5 consultant surgeons the increase to 168 surgeries in two years still firmly places the institution where volume has been shown to affect outcomes. Using two years for comparison is the same as that done in the UK study.<sup>8</sup> This may explain the reluctance of the consultants allowing trainees to serve as primary surgeons in palatoplasty, the more functional repair.

## **Conclusion**

Free cleft surgery does positively impact on indices of surgical training and every training institution for cleft surgeons is encouraged to seek it.

## **Acknowledgements**

I thank Emmanuel Onyenzoputa and Dr J U Achebe for the inspiration.

## References

1. Hodges AM, Hodges SC A rural cleft project in Uganda. *Br J Plast Surg.* 2000; 53(1):7-11.
2. Bhatt YC, Panse NS, Vyas KA, Bakshi HS, Tandale MS, Shrivastav RK. Project Muskan: Social responsibility of the plastic surgeon. *Indian J Plast Surg.* 2008; 41(2):128-32.
3. Aziz S R, Rhee S T, Redai I. Cleft Surgery in Rural Bangladesh: Reflections and Experiences. *J Oral Maxillofac Surg.* 2009; 67:1581-1588.
4. Olusanya AA, Ademola S.A, Akimoladun VI, et al. The impact of Smile Train on the management of patients with Cleft Lip and Palate in UCH, Ibadan. *NJPS* 2011;7(1); 26-27 [ABSTRACT]
5. Onah II, Opara KO, Olaitan PB, Ogbonnaya IS. Cleft lip and palate repair: the experience from two West African sub-regional centres. *J Plast Reconstr Aesthet Surg.* 2008; 61(8):879-82.
6. Ajayi OO, Adebamowo CA. Surgery in Nigeria. *Arch Surg.* 1999; 134(2):206-11.
7. Bode C O, Nwawolo C C , Giwa-Osagie O F. Surgical Education at the West African College of Surgeons. *World J Surg.* (2008); 32:2162–2166.
8. Bearn D, Mildinhall S, Murphy T, et al. Cleft Lip and Palate Care in the United Kingdom—The Clinical Standards Advisory Group (CSAG) Study. Part 4: Outcome Comparisons, Training, and Conclusions. *Cleft Palate Craniofac J.* 2001; 38(1):38-43.
9. Sommerlad BC. A technique for cleft palate repair. *Plast Reconstr Surg.* 2003; 112:1542-1548.
10. Sullivan SR, Marrinan EM, LaBrie RA, Rogers GF, Mulliken JB. Palatoplasty outcomes in nonsyndromic patients with cleft palate: a 29-year assessment of one surgeon's experience. *J Craniofac Surg.* 2009;20 (1):612-616.
11. Khosla RK, Mabry K, Castiglione CL. Clinical outcomes of the Furlow Z-plasty for primary cleft palate repair. *Cleft Palate Craniofac J.* 2008;45(5):501-510.