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Plastic Surgical Outreach Services in a Developing Country: The Challenges

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Abstract: Plastic and Reconstructive Surgery is making progress among the surgical specialties in the developing countries. The specialty encompasses a broad spectrum of disorders and covers many areas of human body thus making the scope very wide. Surgical outreach services are not an unusual programme in this environment but an outreach programme targeted to patients with plastic surgical conditions is rare to the best of our knowledge. We embarked on a free Plastic Surgical outreach services with a lot of challenges being faced. The programme was mainly initiated and sponsored by a Non-governmental Organization. The programme was well advertised on Cable Network News (CNN) as well as in some national newspapers in Nigeria. The programme lasted for eight days. Out of One-hundred and twenty patients that presented and were screened, only 22 patients benefited from the program. The cases were classified under 4 main headings-Congenital, Reconstructive, Tumour and Others. All the congenital cases were craniofacial defects of cleft lip and palate. If the shortcomings of this programme can be improved upon in similar future programmes, then more cases can be done and more patients can benefit from this philanthropic gesture.

Key words: Outreach service · plastic surgery · developing country

INTRODUCTION

Plastic and Reconstructive Surgery is making progress among the surgical specialties in the developing countries [1]. The scope is however not yet fully recognized by many people including the medical practitioner. It is a multi-faceted specialty that combines forms, function, techniques and principles [2]. It encompasses a broad spectrum of disorders and covers many areas of human body. All these make the scope of Plastic Surgery very wide. Surgical outreach services is not an unusual programme being embarked upon by team of surgeons aimed at providing skilled services in most cases to the people in the rural communities [3]. To the best of our knowledge, an outreach surgical service for patients with clinical conditions that will need mainly plastic surgical services is not common in our environment. More importantly in a developing country like ours where the specialty is just developing.

A plastic surgical outreach services took place at a state capital in the North Central Zone of Nigeria. As laudable as it was, a lot of challenges were faced that limited the effectiveness and capability of a hard working plastic surgical team.

MATERIALS AND METHODS

This free surgical outreach programme was mainly initiated and sponsored by the Body Enhancement and Reconstructive Surgery (BEARS) foundation, which is a non-governmental international organization that takes interest in helping patients with plastic surgical related problems. The programme was highly supported by the government of the state where the programme took place. They provided the team with logistics such as accommodation, transportation, feeding and most of the consumables such as intra-venous fluids, sutures materials and drugs. The University Teaching Hospital located in the State also supported the programme by releasing some manpower and materials which were quite useful for the main exercise.

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Table 1: Tested soft drinks; the manufacturers, packaging and acidulants

Congenital	Reconstructive	Tumour	Others
1. Unilateral (Lt) Cleft lip.	1. Post Burn Angular Contracture of the Mouth	1. Left Facial Tumer ? Cause	1. Facial/Neck Keloid.
2. Unilateral Cleft Plate.	2.Post Burn Lt axillary Contracture.	2.Huge Neck Mass ? STS	2. Lipoma Lt Keloid
3. Bilateral Cleft lip.	3. Post Burn Ectropion of the Lt upper lid.	3. Plexiform Neurofibromatosis Lt leg and upper eye lid.	3. Huge Facial Keloid.
4. Unilaterial (Lt) Cleft lip	4. Post Burn Cpntracture of the PIP and DIP of the Rt Ring finger.	4. STS Post-Trunk.	4. Fibroadenoma (Rt) Breast.
5. Unilateral (Rt) Cleft lip.	Post Burn Flexion Contracture of the Lt Knee.	5. Plex. Neurofibromatosis upper eye lids.	
		6. Plex. Neurofibro both upper and lower eye lids.	

The team comprised of four (4) surgeons, 3 of who are Plastic Surgical Specialists and the 4th surgeon is an Opthalmologist with sub-specialty in Occulo-plasty. Two Specialists Senior Registrars in Anaesthesia, three Senior Nurse Anaesthetists and seven well trained theatre nurses. One of the surgical specialist came from Europe, another on from United States of America and the remaining two are from Nigeria. The programme was well advertised on Cable Network News (CNN) and was also on the Internet. In Nigeria, there was wide national newspaper and television advertisement for the outreach programme. It was not surprising therefore seeing a large number of patients with different plastic surgical pathologies from different parts of Nigeria.

The team arrived the State capital, the venue of the programme on the 22nd of October, 2006. Screening of the patients took place at the State Specialist Hospital provided by the hosting State government for 2 days (23rd and 24th of October, 2006) where about one-hundred and twenty patients were screened. Surgical activities started on the 25th of October, 2006 and lasted for 8 days.

RESULTS

One-hundred and twenty patients presented for the free outreach programme and all of them were screened by the surgical specialists and some of the medical personnel working for BEARS foundation. Unfortunately only 22 patients benefited from the programme constituting 17.6% of screened patients despite the fact that the team resume work as early as 8 O'clock in the morning and ready to work till late in the evening.

It was interesting the varieties of cases that came from different part of the country. The cases were quite challenging and pathetic because most of them are at the advanced stage of the pathology. The cases we did were classified under 4 main headings, viz. Congenital, Reconstructive, Tumour and Others.

Table 2: Showing types of operations done

Procedures	Numbers
1. Modified millard procedure	4
2. Von langanbeck repair	3
3. Multiple-Z-plasties	2
4. Release+Split thickness skin graft (STSG)	3
5. Wide excision + primary wound closure	3
6. Debulking procedure	2
7. Excision+STSG	1
8. Incisional biopsy	1
9. Excision+primary wound closure	3

Table 1 showed different surgical pathologies that we were able to do during the 8th day programme. All the congenital cases were craniofacial defects of cleft lip and palate. There were several other more severe congenital craniofacial anomalies and tumours which we could not do. Most of the reconstructive cases that were done were mainly post-burn contractures of different types and degrees including ectropion of the eye lids. Under tumour, we excised a huge Soft Tissue Sarcoma (STS) of the posterior trunk in a 4-year old girl; the histopathology result later came out to be Embryonal Rhabdomyosarcoma.

We operated on two large facial keloids, one of them weight 6.5 kg post excision. Table 2 showed different types of surgical procedures that were done for the patients. Of those who had surgery, there were 8 males and 14 females (M:F ratio of 1:1.7) with ages ranging from 4 years to 46 years (mean age 21.0 years).

We lost one patient in the recovery room immediately after surgery constituting about 4.79% mortality; another patient had cardiac arrest post-operatively but was taken to the Intensive Care Unit of the Teaching hospital for resuscitation and patient recovered. There were 2 cases of post-operative wound infection which was managed by regular honey wound dressing.

DISCUSSION

Surgical services are often based on western principles, with the patient seeking the doctor in a hospital. The reverse is however with an outreach surgical service where several patients majority from low socio-economic class, who would otherwise remain with their surgical afflictions and the attendant complications benefited from such programme. One of the main thrusts of the International College of Surgeons (ICS) is the surgical visiting team programme. This has enabled expert and specialized surgery to be carried out to different parts of the world [4].

In several countries in the world, a significant proportions lives in rural areas [5-7]. In developing countries, however, an unacceptable large percentage of the population in the rural areas has no access to any form of surgical aid [6]. An awareness of the neglect of surgical care for most people in developing countries has resulted in interchange and cooperation among surgeons all over the world, with the development of such programme as the International College of Surgeons' Surgical Visiting Team Programme which carried out the first open heart surgery in Nigeria in 1974 [4]. The flying surgical service in Australia [7] and the East Africa Flying Doctor Service [8] are examples of such outreach programme aimed at providing skilled service to the poor patients in developing countries. We must appreciate the magnitude of effort undertaken by BEARS foundation for initiating and sponsoring this particular outreach programme. In Nigeria, in the past, we have heard of some religious organization sponsoring medical mission to remote and disadvantage areas [9]. Some people have also undertaken such outreach programmes in some geo-political zones in Nigeria. It is however interesting to note that most of the surgical pathologies encountered in these programmes were general surgical cases mostly hernias and hydrocoeles [3, 10]. This is why we feel that our programme which dealt with mainly plastic surgical procedures is an uncommon event. The practice of plastic surgery is still at infancy stage in Nigeria. To be able to cope with the varieties of cases that presented for screening, we needed a highly organized set-up backed up with some sophisticated equipments and modern laboratory services. For the purpose of the programme, we categorized our patients under 4 different headings-Congenital, Reconstructive, Tumours and Others. Suffice it is to say at this point that, in Nigeria, like in most developing countries, aesthetic cases do not commonly present to the plastic surgeons unlike in Europe and North America. Even though we had several cases of congenital craniofacial anomalies that presented for screening, we were only able to take the cases that require repair of cleft of the primary and secondary palate. To worsen the matter, we did not take a single case of infant cleft lip and palate, the youngest of the cleft patient repaired was a 12-year old girl. The reason for this was due to the fact that we did not have specialist anaesthetists on the team for the first 48 hours of the programme and the nurse anaesthetists on ground were not familiar with paediatric intubation. Figure 1a and 1b showed a 23-year old unilateral cleft lip pre and post-operative repair respectively. At this point one must acknowledge the support by the Teaching hospital who was able to release two specialist Senior Registrars in anaesthesia. This is not a common scenario in most rural outreach programme where anaethesia is most often been improvised. In most cases, there is no anaesthetist and so the anaesthesia is administered by non-anaesthetist [11, 12].

Fig. 1a: Preoperative unilateral incomplete left cleft lip in a 23 year old boy

Fig. 1b: Postoperative unilateral incomplete left cleft lip in a 23 year old boy

Fig. 2a: Preoperative huge Neck keloid

Fig. 2b: Immediate postoperative picture of Fig 2a

Most cases of the reconstructive procedures were post-burn contractures which we managed by Multiple-Z-plasties and others with release of contractures and split thickness skin graft (STSG). We had a huge case of facial keloid, the largest that has ever been seen by the authors as shown in Fig. 2a and 2b pre-operative and post-operative clinical photographs. He was later followed up at the out-patient clinic of the Teaching Hospital Plastic Surgical Unit where he had intralesional triamcenalone weekly injection for 8-weeks. The centre did not have facility for radiotherapy. We recorded one case of mortality constituting about 4.79%, patient probably died of aspiration post extubation and was managed at the Intensive Care Unit of the Teaching Hospital.

We must acknowledge the fact that this outreach programme was blessed with well trained manpower, viz. Four Plastic surgeons, Two specialist anaesthetists, 3 well trained anaesthetic nurses, 7-well trained theatre nurses and several other theatre attendants. Although the number can be improved upon in the future programme so that many more patients can be done within the stipulated time. We would have been able to take a lot of the cases even with the number of manpower we had if not for some practical and logistic problems. The screening of patients was a bit faulty, based on the facilities we had on ground, we should have been able to screen patients out of the programme, so we had a poor patient selection. Some patients were screened and promised surgical treatment when it was obvious that such cases can not be taken without having some specialized investigations such as Computed Tomography (CT) or Magnetic Resonance Imaging (MRI) done on them. There were also no adequate arrangements for massive blood transfusion in case there is need for one. For example, we could not take the two cases of huge craniofacial tumours shown in Fig. 3a and 3b. These children and their parents were crying and felt highly disappointed.

In most cases, we run out of consumables like sutures materials, intravenous fluids, some anaesthetic drugs and even sometimes common things like surgical drappings and linens. All these contributed to reducing the number of cases that could be done in a day. This plastic surgical outreach programme brought out the large number of patients with varieties of plastic surgical pathologies and because most of them are from low socio-economic class, they don't have the financial capability to seek for medical attention, so the lesions continues to get advanced as shown in figures 3a & 3b. This type of outreach programme will definitely help to solve most of these problems, therefore we advocate for more future outreach programme of this nature.

We recommend that in future programmes, more Nigerian Reconstructive Surgeons be invited to join their foreign counterparts. Material both consumables

Fig. 3a: Showing a huge craniofacial tumour in a child

Fig. 3b: Showing a massive plexiform neurofibroma in a child

and non-consumables be made abundantly available, arrangement can be made for those patients that will need specialized investigations like CT or MRI to have it done before the commencement of the programme. Provisions should be made for adequate blood transfusion.

If the shortcomings of this last programme can be improved upon, then more cases can be done and more patients can benefit from the philanthropic gesture of organizations like BEARS foundation and some willing governmental organization.

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