

## ORIGINAL ARTICLE

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# DAY CASE SURGERY IN NIGERIAN CHILDREN: INFLUENCE OF SOCIAL CIRCUMSTANCES OF PATIENTS

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### Abstract

**Background:** In order to achieve good results in day surgery and avoid pitfalls, selection of appropriate procedures and patients is required with attention given to the social circumstances among other considerations. The aim of this prospective study therefore was to evaluate the influence of the social circumstances of the patients on the performance of day surgery practice in our environment.

**Method:** This was a prospective study carried out between April, 2004 and December, 2004, during which time 88 children aged 15 years and below with uncomplicated inguinal hernias were treated at the Obafemi Awolowo University Teaching Hospitals Complex (OAUTHC). The parents of the patients were interviewed about their social circumstances to determine the possibility of compliance with postoperative instructions. The data generated were then analyzed.

**Results:** More than half (54.6%) of the patients were from Ile-Ife. A few came from towns varying in distances from 65 to 80 km and spent an average time of 75 to 90 minutes to reach the hospital. Majority of the patients used public vehicles as a means of transport to and from the hospital in escort of their mothers. Despite the long distances and difficult traveling conditions, the parents still preferred day case surgery and were willing to obey postoperative instructions.

**Conclusion:** From the findings in this study, day case surgery in children in our environment is feasible, despite the poor social circumstances of most of them. There is, however a compelling need to raise the standard of living of the people to enable them benefit maximally from day case surgery.

**Keywords:** Day case surgery, Nigerian children, social circumstances.

### Résumé

**Fond:** Dans l'ordre pour réaliser de bons résultats dans la chirurgie de jour et pour éviter des pièges, le choix des procédures appropriées et les patients est exigé avec l'attention donnée aux circonstances sociales entre d'autres considérations. Le but de cette étude éventuelle était donc d'évaluer l'influence des circonstances sociales des patients sur l'exécution de la pratique en matière de chirurgie de jour dans notre environnement.

**Méthode:** C' était une étude éventuelle effectuée entre les avril 2004 et décembre 2004, et pendant ce temps 88 enfants ont vieilli 15 ans et ci-dessous avec des hernies inguinales peu compliquées ont été traités aux hôpitaux de enseignement d'université d'Obafemi Awolowo complexes (OAUTHC). Les parents des patients ont été interviewés au sujet de leurs circonstances sociales pour déterminer la possibilité de conformité aux instructions postopératoires. Les données produites ont été alors analysées.

**Résultats:** Plus que la moitié (54.6%) des patients étaient d'Ile-Ife. Uns sont venus des villes changeant dans les distances de 65 à 80 kilomètres et ont passé un temps moyen de 75 à 90 minutes pour atteindre l'hôpital. La majorité des patients a utilisé les véhicules publics comme moyen de transport à et de l'hôpital dans l'escorte de leurs mères. En dépit des longues distances et des conditions de déplacement difficiles, les parents ont toujours préféré la chirurgie de cas de jour et étaient disposés à obéir des instructions postopératoires.

**Conclusion:** Des résultats dans cette étude, la chirurgie de cas de jour chez les enfants dans notre environnement est faisable, en dépit des circonstances sociales pauvres de la plupart d'entre elles. Il y a, toutefois un besoin contraignant de soulever le niveau la vie du peuple pour leur permettre de bénéficier au maximum de la chirurgie de cas de jour.

**Mots-clés:** *Chirurgie de cas de jour, enfants nigériens, circonstances sociales*

Selecting the right pediatric surgical patients for day case surgery is an important step aimed at avoiding predictable complications and morbidity.<sup>1-3</sup> This is probably why day surgery has an excellent safety record.<sup>3</sup> However, what is common is minor morbidity which can also have significant consequences.<sup>3,4</sup> In order to achieve good results, therefore, suitable procedures and patients have to be selected based on three considerations, which include, the procedure to be undertaken, the social circumstances and the fitness of the patient.<sup>1-3</sup>

It was earlier thought that developing countries whose social circumstances were not ideal would find it difficult to introduce day surgery. The aim of this study, therefore, was to evaluate the influence of the social circumstances of the patient on the performance of day surgery practice in our environment.

## Patients and Methods

Between April, 2004 and December, 2004, Eighty-eight children aged from birth to 15 years who had uncomplicated inguinal hernias were prospectively studied at the Day Case Unit of the Obafemi Awolowo University Teaching Hospitals Complex (OAUTHC). Ethical clearance was obtained from the hospitals Research/Ethics Committee, and consents from the patients' parents or guardians. The parents of the patients were interviewed about their social circumstances in order to determine the possibility of compliance with postoperative instructions. The following data were collected – area of domicile, distance of patients home to hospital, means of transportation, length of time before reaching the hospital, parents highest educational status and occupation. The data were entered in a proforma designed for the purpose and stored on a personal computer using public domain software. Data analysis was done using Computer Program for Epidemiologic Analysis (CPEA).  $\chi^2$  was employed to ascertain the influence of these social parameters on the performance of day surgery practice in our

environment. The level of statistical significance was taken as  $p \leq .05$ .

## Results

More than half (54.6%) and about a third (31.8%) of the patients were from Ile-Ife and Ilesa axis respectively. (Table 1). The rest came from towns located at varying distances from Ile Ife, some of them as far as 65 to 80 km away. Similarly the average traveling time varied relative to the distance to hospital ( $P = .562$ ) (Table 1). This variation was statistically insignificant meaning that distance to hospital was not entirely responsible for the variation in average traveling time. At least, seven (7.9%) patients spent an average time of 75 to 90 minutes to reach the hospital. None of the patients was excluded from the study on account of traveling distance and time and none of them needed postoperative care but could not get due to distance. In fact, none took other medications at home other than that prescribed postoperatively.

Majority ( $n = 61$ ) of the patients used public vehicles as a means of transport to and from the hospital. In fact, a few ( $n = 6$ ) of them were actually conveyed home by motor bicycles while some others were lifted by parents who walked home on foot (Table 2). This meant that only a handful of the patients had a reliable means of transport to and from hospital.

The highest educational levels attained by the mothers of patients studied are as shown in Table 3. Whereas each mother had at least some level of formal education, about half (47.7%) of them fell below the school certificate level. They, however, proved very effective in caring for the patients at home as shown by the fact that only a few minor wound infections were observed in this series and the mothers' levels of education (whether high or low) had no effect on postoperative complications. This implied that the level of responsibility expected from the mothers was adequate, their low educational status notwithstanding. The overall

morbidity was slight and no mortality was recorded in this series. No recurrence of inguinal hernia was noticed throughout the period of follow-up and no patient required readmission after discharge. The wound infection rate of 4.8% (5/104 procedures) was irrespective of which income group the patient belonged nor the distance needed to be covered to hospital.

As shown in Table 4, 46 (52.3%) of the fathers were self employed as traders, drivers, mechanics, tailors etc. Just a few (n=19) of them were civil servants who were on a regular monthly income. However, their average monthly income could not be determined.

**Table 1.** Distribution of children in the study based on area of Domicile and average traveling distance and time to hospital in Ile Ife, Nigeria

Area of Domicile	N	%	Average traveling distance (km)	Average traveling time (Min)	P-value
Ile Ife	48	54.6	3	12	0.562
Illesa	28	31.8	35	40	
Modakeke	3	3.4	15	20	
Ikpetumodu	2	2.3	20	30	
Ede-Osogbo	3	3.4	60	75	
Ondo	3	3.4	65	75	
Ibadan	1	1.1	80	90	

**Table 2.** Distribution of children in the study based on means of transportation to hospital in Ile Ife, Nigeria

Means of transport	No.	%
Public vehicle	61	69.3
Private vehicle	16	18.2
Motor bicycle	6	6.8
Walked on foot	5	5.7

**Table 3.** Distribution of children in the study based on mothers' highest educational level

Level of education	No.	%
Degree /HND	10	11.4
OND/its equivalent	12	13.6
School certificate	24	27.3
JSS 3	20	22.7
FSLC	22	25.0

HND: Higher national diploma; OND: Ordinary national diploma; JSS: Junior secondary school; FSLC: First school leaving certificate

**Table 4.** Distribution of children in the study based on Fathers'/guardians' occupation

Occupation	No.	%
Civil servant	19	21.6
Self employed	46	52.3
Farming	11	12.5
Private sector	12	13.6

## Discussion

From the results of this study, some of the patients lived at considerably long distances from the hospital as was the observation in earlier reports from this environment.<sup>5</sup> Such patients obviously exceeded the one hour travel time<sup>3,6</sup> that is allowable for patients recruited into a day surgery service. It is worthy of note that the concerns on long distance from the hospital and greater than 1 hour travel time were to minimize patients' discomfort on the way home and to have ready access to hospital if needed.<sup>3</sup> Despite these unfriendly traveling conditions, our patients' parents continued to prefer and request for day case services.<sup>7-9</sup> It is, however, possible that much of the time wasted on the way to hospital could be as a result of the poor state of our roads and not necessarily as a result of long distances to the hospital. This was underscored by the fact that there was no statistical significance between the average travel time and distance to hospital.

The findings of the study showed that public or commercial vehicles were the major means of transport used by the patients to and from the hospital. This is contrary to what obtains in the industrialized countries where patients are not expected to travel home by public transport.<sup>3</sup> Aside the convenience of a privately owned car, it is a more reliable means of transport and as well minimizes delays on the way home usually occasioned by search for more passengers by the commercial vehicle drivers. Unfortunately, most of the parents of these children did not own cars of their own to ease their movement, yet, they are reported as preferring day case surgery to routine inpatient admission.<sup>7,8</sup> These

observations negate the believe by workers in the developed nations that developing countries with long distances and difficult traveling conditions to reach medical care may find that these are obstacles to introducing day surgery. Despite that the social circumstances are not ideal, day surgery has been practiced successfully in many parts of the sub-region.

Because most of the patients were escorted by their mothers who also cared for them at home, it was pertinent to determine their level of awareness as well as ability to obey postoperative instructions. The study showed that all the mothers of the patients studied had some level of formal education. Of interest, however, was that a large percentage (47.7%) of them had only basic education. This, no doubt enabled them to adequately care for their children at home and very well satisfied the general guideline of a responsible adult escorting and caring for the patient at home.<sup>2,3</sup> We agree to the added advantage of home support from the traditional extended family system in existence in most parts of Africa in assisting in the nursing of these children after leaving the hospital.<sup>7</sup> While some mothers brought their children in company of their extended family relations others no doubt had nannies who assisted in the care of these children at home.

That the fathers of the children in this study were low income earners is not in doubt as most of them were subsistent farmers, petty traders, drivers, tailors etc. In most cases, they were directly responsible for the cost of the day case operation. Little wonder, then, that they rarely joined in escorting the children to hospital, as they are out working to earn their daily wages. It is for this group of income earners that day care surgery is particularly beneficial as early discharge of the children home implied a quick return to their means of livelihood.<sup>10</sup> On the other hand, in our society where women contribute to the economic survival of the family, day case surgery allows them the opportunity to meet other responsibilities.<sup>11</sup> Our findings also agreed with this observation.

In conclusion, successful day case surgery requires that the social circumstances of the patients be optimal to avoid pitfalls. Though day case surgery seems to be thriving at the present in our environment in spite of the poor social

circumstances, there is a compelling need to raise the standard of living of the people through provision of basic amenities, free formal education to at least school certificate level and economic empowerment of the parents of these children on whom we build our hope. There is also need for prompt maintenance of our roads to ease traveling conditions and as well enhance safety of the citizenry.

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