



## Assessment of Facilities and Best Practices in Orphanages in Benin City, South-South Region, Nigeria.

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### ABSTRACT

**Aim:** Increasing number of orphans will adversely affect the existing facilities and best practices in orphanages if there are no plans to accommodate the anticipated increase in demands. There is the need therefore, to assess the facilities and best practices in orphanages in view to obtain information necessary for provision and improvement of care of these vulnerable groups of children.

**Methods:** Ten registered and functional orphanages were assessed between January and May 2011. A researcher administered questionnaire on the best practices such as adequacy of school enrolment, nutritional status, housing and security, the availability of potable water, playground/ playing materials and the adequacy of child-caregivers ratio was used to obtain information about the orphanages and the findings were compared with the standard practices.

**Results:** Mean year of operation of the orphanages was 16.9 (95%CL 3.1, 30.7) years. Total number of children in all the 10 orphanages was 150 (males 62 [41.3%] and females 88 [58.7%]); mean age [SD] 7.0 [4.6] years. Although school enrolment in all the orphanages was good, however, there was poor child-caregiver ratio in 7 orphanages. Most of the children in the orphanages were stunted and was significantly observed in older children ( $p < 0.001$ ) and in children who had stayed longer in the orphanages ( $p = 0.001$ ). Over-crowding and inadequate toilet facilities were observed in 4 orphanages. Only one (10.0%) of the 10 orphanages, however, met all the best standard practices assessed.

**Conclusion:** Adherence to best practices in most of the orphanages assessed in this study was poor.

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## INTRODUCTION

An orphan is any individual that has lost either or both parents by death.<sup>1</sup> Orphans can be cared for at home by close relations or can be cared for in an institution by other people. It is estimated that there were 145 million orphans in the world in 2012.<sup>1</sup> In Nigeria, the estimated number of orphans was 7 million by the end of 2010.<sup>1,2</sup> Since then there has been an increase in the number of orphans in Nigeria mostly due to the high parental mortality from the Human Immunodeficiency Virus (HIV)/ Acquired Immune Deficiency Syndrome (AIDS), disasters (such as flood), warfare (communal and religious clashes), poverty and abandonment.<sup>1,2</sup>

Institutions that are dedicated to caring for orphans are known as orphanages. The aim of an orphanage

is to provide shelter, care, love and protection to these vulnerable children. It has been documented that most orphanages world-wide are under-funded due to the increased number of children to orphanages at one time or the other.<sup>2-4</sup> Most of these orphanages may be unable to provide some of the expected basic needs of these children.<sup>2-4</sup>

The concept of best practices deals with provision of basic rights of the children in orphanages such as right to birth registration, education, health services, adequate nutrition, safe and potable water, good housing, adequate toilet facilities, presence of playground and playing materials such as toys; provision of adequate security for the children and adequate number of caregivers in the institution. These best practices have been developed by several

international aid organizations working with children.<sup>3,4</sup> Orphanages are expected to ensure implementation of these aforementioned best practices for the care of the vulnerable children and orphans.<sup>3,5</sup>

This study aimed at assessing facilities in orphanages in Benin City and determining whether these institutions implemented best practices as described by international aid organizations. Information obtained from this study could form the base line on best practices in the care of the orphans in the country as well as provide information that will be useful for evaluating interventions targeted at providing and improving on these best practices for adequate care of orphans.

## **METHODS AND STUDY PARTICIPANTS**

This was a descriptive cross sectional evaluation of facilities and best practices of orphanages in Benin City, south-south region of Nigeria and was carried out between January and May 2011. The City lies within the rain forest belt at 122 meters above sea level, has 5 Local Government Areas (LGA) namely Egor, Ikpoba-Okha, Oredo, Ovia North-east and Ovia South-west. It has a total population of 1,085,676,<sup>6</sup> and the setting is predominantly urban with the inhabitants being mainly civil servants and traders. In the rural areas of Benin, petty trading and peasant farming are practised.

There were 15 registered orphanages located in different parts of the City. A list containing the names of these orphanages was obtained from the State Ministry of Women Affairs and Social Development. Of the 15 registered orphanages, 10 were eligible for inclusion in this study. The other 5 were excluded from the study for the following reasons: 2 orphanages were non-functional and another 2 had no child during the period of the study; one orphanage was used to validate the questionnaire and was excluded from the final analysis.

The selected orphanages were labelled A to J in a simple random fashion.

Data were obtained from the caregivers of the children in the orphanages using a researcher administered questionnaire. The caregiver in this study was the proprietor/ proprietress and/or the longest serving caregiver in the orphanages.

Information obtained included the year the orphanage was established, number of children and staff; personal hygiene of the children including method of sewage disposal; and school enrolment. A simple head count of all children in the orphanages was done at the time of visit to the orphanage. The size of the orphanage playground where applicable was measured using a simple measuring tape (sensitivity of measurement was to the nearest 0.5 meters).

The caregiver was requested to provide the birth certificates of each child in the orphanage. For the purpose of this study, the best practices assessed included adequacy of number of caregivers, school enrolment, adequacy of housing such as number of rooms with good ventilation and absence of overcrowding. Others included nutritional status of the children, provision of safe and potable water, toilet facilities, and evidence of birth registration and immunization status (card) of each child. The security within the orphanage was assessed based on the presence of a perimeter wall fence and at least one security officer.

Weight was measured using the mechanical bench scale [SALTER model 180 England] for those aged twelve months and below, and a mechanical floor scale [SECA model 761] for children above twelve months. Children below 3 years were weighed nude while older children were weighed lightly clothed. Weight was recorded in kilograms to the nearest 0.1 kilograms. Height was measured using a standiometer and supine length (for children less than 2 years) was obtained using a non-distensible measuring tape with sensitivity of 0.5 cm.

**Ethical Statements:** Ethical and Research Certificate approval for this study was obtained from the Ethics and Research Committee of University of Benin Teaching Hospital (UBTH), Benin City, Nigeria. Written permission for the study was obtained from the Ministry of Women Affairs and Social welfare, Edo State, Nigeria. Written informed consent was read in standard English language and the content explained to all caregivers (in local English known as 'pidgin English' where applicable). Assent was obtained from older children in the orphanages.

**Data analysis:** Duration of practice/age of establishment of each orphanage was recorded in years. Best practices assessed in this study were compared with standards in literature and was recorded as appropriate or inappropriate. These best practices included adequate child-caregiver ratio (appropriate child-caregiver ratio according to set standard is 1 – 3: 1), adequate or poor nutrition,<sup>3,5</sup> appropriate school enrolment using the national school enrolment figure for comparison (appropriate primary school enrolment was 80.0% of total children for age within the age for primary school and appropriate secondary school enrolment was 75.0% of the total children for age within the age for secondary school),<sup>7</sup> number of children per sleeping room (an orphanage was said to be overcrowded if there were more than 6 children sleeping in one room or adolescent boys and girls sharing the same room irrespective of their number).<sup>4,5</sup>

Security was considered adequate if the orphanage had a perimeter wall fence and at least a security officer.<sup>4,5</sup>

Presence of playground and playing materials such as toys, presence of potable drinking water, and adequate toilet facility (adequate toilet facilities included a toilet shared by not more than 10 children).<sup>4,5</sup>

Nutritional status of the children was assessed using the WHO normogram for nutritional assessment

and was classified as follows: height for age (HFA) Z-score, weight for height (WFH) Z-score and weight for age (WFA) Z-score below -2 standard deviation of the reference median value was stunted, wasted and under-weight respectively.<sup>8</sup>

Analysis was done using Statistical Package for Scientific Solution software 16.0 (Inc Chicago, Illinois, USA). Quantitative variables were summarized using means and standard deviations. The significance of association between variables was done using Chi-square such as gender, age and duration of stay of the children in the orphanages and their effect on nutritional status (under-weight, stunted growth and wasting) of the children in the orphanages. The level of significance was set at  $p < 0.05$ .

## RESULTS

All 10 functional orphanages evaluated in this study were privately owned (by individuals or corporate bodies). All the proprietors/ proprietresses of the orphanages had tertiary level of education. Self-funding as well as donations from community members were the source of funding for the orphanages.

The total number of children in all the orphanages was 150; males 62 (41.3%) and females 88 (58.7%); mean age [SD] was 7.0 [4.6] years and the mean duration of stay of the children in the orphanages was 4.0 [3.7] years.

The mean duration of years for which the orphanages were operational was 16.9 (95%CL 3.1, 30.7) years. Gender distribution, age range, number of caregivers and nutritional status of the children in each orphanage is shown in Table I.

The mean number of caregivers in the orphanages was 6.0 (95%CL 3.0, 9.0). There was poor child/caregiver ratio in 7 orphanages. More than 50.0% of the children in 9 (90.0%) orphanages had stunted growth. Stunted growth was observed with

Table I: Gender distribution, age range, number of caregivers, child-caregiver ratio and nutritional status of children in each orphanage

ORPHANAGE	GENDER		AGE Age Range (Yrs)	CAREGIVERS No of Caregivers	NUTRITIONAL STATUS		
	Male (%)	Female (%)			Under - weight (%)	Stunted (%)	Wasted (%)
A (n = 31)	10 (32.3)	21 (67.7)	2 – 16	4	9 (29.0)	25 (80.6)	5 (16.1 )
B (n = 13)	6 (46.2)	7 (53.8)	2 – 13	3	6 (46.2)	9 (69.2)	3 (30.0)
C (n = 32)	14 (43.8)	18 (56.2)	1 – 16	4	8 (25.0)	22 (68.8)	0 (0.0)
D (n = 6)	4 (66.7)	2 (33.3)	1 – 14	2	0 (0.0)	3 (50.0)	1 (16.7)
E (n = 10)	3 (33.3)	7 (66.7)	1 – 10	2	0 (0.0)	6 (60. 0)	0 (0.0)
F (n = 12)	6 (50.0)	6 (50.0)	0 – 11	1	7 (58.3)	11 (91.7)	0 (0.0)
G (n = 9)	2 (22.2)	7 (77.8)	2 – 12	2	1 (11.1)	4 (44.4)	0 (0.0)
H (n = 22)	13 (59.1)	9 (40.9)	1 – 17	3	3 (13.6)	17 (77.3)	0 (0.0)
I (n = 5)	1 (20.0)	4 (80.0)	0 – 13	3	2 (40. 0)	4 (80.0)	1 (25.0)
J (n = 10)	3 (33.3)	7 (66.7)	1 – 14	2	3 (30.0)	8 (80.0)	1 (10.0)
Total (n=150)	62 (41.3)	88 (58.7)	0 – 17	26	39 (26.0)	109 (72.7)	11 (7.3)

increasing age of the children and it was found to be highest in children 10 – 17 years ( $\chi^2 = 29.6$ ,  $df = 2$ ,  $p < 0.001$ ).

Children who had stayed longer than 5 years in the orphanages were significantly more stunted than those who had stayed for shorter periods. Stunting

was also worse with increase in duration of stay in the orphanages ( $\chi^2 = 15.13$ ,  $df = 2$ ,  $p = 0.001$ ) (Table II). There was a positive correlation between stunted growth and age of the children ( $r = 0.94$ ,  $p < 0.001$ ) and the duration of stay in the orphanages ( $r = 0.54$ ,  $p < 0.001$ )

Table II: Relationship between nutritional status, gender, age group of children and duration of stay in the orphanages

	Under-weight		Stunted Growth		Wasting	
	Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)	No (%)
<b>Gender</b>						
Male (n = 62)	17 (27.4)	45 (75.6)	46 (74.2)	16 (25.8)	3 (4.8)	9 (95.2)
Female (n = 88)	22 (25.0)	66 (75.0)	63 (71.6)	25 (28.4)	8 (9.1)	80 (90.9)
	$\chi^2 = 0.02$ , $OR = 1.1$ , $p = 0.89$		$\chi^2 = 0.03$ , $OR = 1.1$ , $p = 0.87$		$\chi^2 = 0.44$ , $OR = 0.6$ , $p = 0.51$	
<b>Age (Years)</b>						
0 – 5 (n = 64)	16 (25.0)	48 (75.0)	32 (50.0)	32 (50.0)	7 (10.9)	57 (89.1)
6 – 9 (n = 50)	14 (28.0)	36 (72.0)	43 (86.0)	7 (14.0)	4 (8.0)	46 (92.0)
10 – 17 (n = 36)	9 (25.0)	27 (75.0)	34 (94.4)	2 (5.6)	0 (0.0)	6 (100.0)
	$\chi^2 = 0.16$ , $df = 2$ , $p = 0.93$		$\chi^2 = 29.6$ , $df = 2$ , $p < 0.001$		$\chi^2 = 4.1$ , $df = 2$ , $p = 0.13$	
<b>Duration of stay in the orphanages (years)</b>						
0 – 5 (n = 113)	29 (25.7)	84 (74.3)	73 (64.6)	40 (35.4)	9 (8.0)	104 (92.0)
6 – 9 (n = 18)	8 (44.4)	10 (55.6)	18 (100.0)	0 (0.0)	2 (11.1)	16 (88.9)
10 – 17 (n = 19)	2 (10.5)	17 (89.5)	18 (94.7)	1 (5.3)	0 (0.0)	19 (100.0)
	$\chi^2 = 5.56$ , $df = 2$ , $p = 0.06$		$\chi^2 = 15.13$ , $df = 2$ , $p = 0.001$		$\chi^2 = 1.95$ , $df = 2$ , $p = 0.38$	

Of the 150 children in the orphanages, 47 (31.3%) were not in school while 103 (68.7%) were in school. Of the 47 that were not in school 34 (72.3%) were under age of school attendance, 4 (8.5%) were new arrivals at the orphanages, 6 (12.8%) were physically challenged and there was lack of fund to send 3 (6.4%) to school. Of the 103 that were in school, 68 (66.0%) were in primary school, 9 (8.7%) secondary schools, 25 (24.3%) kindergarten, and one (1.0%) in school for the handicapped children. The net primary school enrolment was 78.0% while net secondary school enrolment was 24.1%. All the orphanages had appropriate primary and secondary school enrolment. All orphanages also had access to potable water either from the bore hole (80.0%) or municipal water source in 20.0%.

The distribution of the orphanages according to best practices assessed (child-caregiver ratio, overcrowding, presence of adequate toilet facilities,

potable water, playground, security, educational status and stunted growth) is shown in Table III. Only one orphanage met all the criteria for the best practices assessed in this study. The mean number of children that sleep in one room in the orphanages was 5.0 (95%CL 3.0, 6.0). Four orphanages were over-crowded. The mean number of children that use one toilet was 14.0 (95%CL 6.0, 22.0). Four orphanages also had inadequate toilet facilities. The mean number of times the children take their bath per day was 2 [95%CL 1.9, 2.1]; however use of common towels to dry the children after bathing was observed in half of the orphanages and these towels were washed once in a week. Half of the 10 orphanages did not have a playground. Of the five with playgrounds, the mean square area was 312.5 (95%CL -417.8, 1042.8) meter squared. Nine orphanages had a perimeter concrete fence walls and had iron gates and at least one security officer at the entrance post.

Table III: The distribution of the orphanages according to best practices assessed

	A	B	C	D	E	F	G	H	I	J
<b>Pri School Enrolment</b>	√	√	√	√	√	√	√	√	√	√
<b>Sec School Enrolment</b>	√	NA	NA	√	NA	NA	NA	√	NA	√
<b>Potable water</b>	√	√	√	√	√	√	√	√	√	√
<b>Security</b>	√	√	√	√	√	√	√	√	√	√
<b>Nutritional status</b>	√	X	X	√	X	√	X	√	√	√
<b>Child-caregiver ratio</b>	X	√	X	√	X	X	X	X	√	X
<b>Overcrowding*</b>	X	X	X	√	√	√	√	X	√	√
<b>Adequate Toilet</b>	X	√	X	√	√	X	√	X	√	√
<b>Playground</b>	X	√	X	√	X	X	X	√	√	√
<b>Overall Performance</b>	X	X	X	√	X	X	X	X	X	X

√ = Not Over-crowded

X = Poor or Absent

\*X = Over-crowded

NA = Not applicable

## DISCUSSION

This study showed that most orphanages had poor practices. This is in keeping with previous documentation that most orphanages in Africa and

Asia do not meet the best standard practices in care of children in these institutions.<sup>3,5,9</sup> The increasing number of orphans in orphanages may over-stretch the available meagre resources thereby worsening the conditions.<sup>3</sup> In the face of poor funding, most



of the orphanages may be unable to provide the expected basic needs required for these children.

One of the functions of the orphanage is to provide food (adequate nutrition) for optimal growth of the children. The finding of under-nutrition in majority of the children may attest to poor funding of the orphanages. Under-funding is very likely given that all the orphanages were self-funded and dependent on charity. Such under-funding will lead to inability to provide adequate food both in quantity and quality which will result in under-nutrition. It could be argued that children who end up in orphanages are likely to be malnourished before being admitted in the institutions, however, the prevalence of stunting observed in the children (72.7%) in this study was much higher than the national figure of 41.0% among the general population.<sup>10</sup> Again, the fact that children who had stayed longer in the orphanages significantly had stunted growth than their counter-parts who had spent less time in the orphanages is a reflection of under-nutrition over a period of time. There was also a positive correlation between stunted growth and increasing age of the children as well as increasing duration of stay within the orphanages. The failure of government to support these orphanages and lack of implementation of government policies on social welfare could be another major contributing factor to the poor state of the orphanages. As observed in this study, there was no government owned orphanage identified. An innovative approach may be the creation of public-private partnerships to fund orphanages.

Some of the orphanages in this study were overcrowded. This may have resulted from an increasing number of children without concomitant improvement in the existing facilities in the orphanages. There has been an increase in the number of orphans and vulnerable children due to HIV. In Benin City, Sadoh and colleagues<sup>2</sup> reported a prevalence of 31.6% orphans among HIV infected children in 2011 as against a previous

report of 13.7% in the same locale in 2005.<sup>11</sup> Also at the period of this study, there was flooding in many parts of the country including the study locale resulting to loss of lives and homes. This may have contributed to additional increase in number of orphans in the orphanages. Increasing number of orphans in the society would adversely affect the existing facilities as well as best practices in these orphanages if there are no plans and interventions to accommodate the increased demands. Overcrowding is an important risk factor to major childhood killer diseases such as pneumonia, diarrhoea, measles, malaria, and tuberculosis.

There were inadequate toilet facilities for the children in some of the orphanages. This finding was similar to the published data on toilet facilities in orphanages in China.<sup>5</sup> Inadequate toilet facilities may lead to poor sanitary condition and epidemic of water borne diseases such as cholera and other diarrhoeal diseases especially in institutionalized homes as the orphanages. Half of the orphanages in this study did not have a playground for the children. Physical exercise promotes good health in both children and adults. There is therefore the need to provide play grounds as well as improved play materials/facilities for the children in all the orphanages. Other recreational activities could be under-taken by the children outside the orphanages such as visit to amusement parks, etc.

Access to quality education is an invaluable gift to children.<sup>12</sup> Education ensures the supply of highly invaluable human resources by developing the abilities in the individual and equipping them with knowledge, skills, and attitudes that are needed for self-reliance.<sup>12</sup> The net secondary school enrolment (21.4%) in this study was similar to the national values (25.8%).<sup>7</sup> This is also comparable to Oladokun and colleagues' report which showed that there was no significant difference in school enrolment between HIV infected orphans and non-orphans.<sup>13</sup> In that report, however, none of the orphans were institutionalized as against this index

report where all the children were institutionalized. The net primary school enrolment (78.0%) was far more than the national figure of 58.0%,<sup>7</sup> and also higher than the findings in studies in Kenya.<sup>14,15</sup> The high value observed in this study could be attributed to the peculiarities of the study location. Benin is a cosmopolitan City that places high premium on formal education, while the Kenyan study was done in a rural area. This assertion was supported by the fact that all the children in this present study were in privately owned primary and secondary schools despite the economic difficulties of the time.

### LIMITATION OF THE STUDY

Reporting bias of the proprietors/ proprietresses of the orphanages on variables that could not be independently verified by the researchers is a limitation of this study. For example, most of the caregivers in this study did not provide the birth registration and immunization certificates of the children to the researchers during the period of this study resulting in exclusion of these two best practices in the final analysis.

### CONCLUSION AND RECOMMENDATION

Best practice in orphanages in this study was poor. Most of the children in the orphanages had stunted growth. There is need for public-private-partnership for improved facilities and best practices in orphanages in Benin City.

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