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The Knowledge and Practice of Forced-Feeding among Mothers and Caregivers in Enugu, South East Nigeria

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Authors' contributions

This work was carried out in collaboration between all authors. Authors IKN, UE and CDIO did the study design and wrote the protocol. Authors CDIO and IKN did the statistical analysis and literature searches while analyses of study was by author CDIO. All authors read and approved the final manuscript.

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ABSTRACT

Background: According to the Convention of the Right of a Child, every infants and child has the right to good nutrition. In delivery of good nutrition to the child, it is however important to encourage a child to eat in a responsive-feeding (RF) rather than forced-feeding (FF) manner. Forced-feeding is a common practice in developing countries and despite the dangers associated with it, many mothers are still driven by various reasons in justifying its practice.

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Objectives: The study aimed to determine the knowledge and practice of forced-feeding among mothers and caregivers in Enugu, South East Nigeria. It also assessed the association between socio-demographic factors and the practice of forced-feeding.
Methods: This hospital based cross-sectional study used purposive sampling method to enroll one hundred and thirty-seven mothers and caregiver in Enugu state. Structured questionnaires were used in data collection. Chi-square and fisher's exact test were used in data analysis.
Results: Majority of the respondents were aware of practice of forced-feeding (80.3%) and its adverse-effects (46.0%). Only nine (6.6%) respondents got this information from a health worker. Force-feeding children was commonest in the 1 to 5 years age bracket. Significantly more respondents who were force-fed as children (83.0%) engaged in the practice of forced-feeding compared to those not force-fed (61.5%) as children. There was no association between socio-demographic factors and forced-feeding practice. Weight related reasons (60.4%) and administration of medication (12.0%) were the commonest reasons for force-feeding a child while forcing food into the mouth (29.1%), distraction (21.8%) and nose-pinching (19.1%) were the commonest methods employed in the practice of forced-feeding. Coughing and difficulty in breathing were the commonest perceived (49.5% and 18.8%) and experienced (33.3% and 36.1%) adverse-effects of forced-feeding in children of respondents.
Conclusion: The prevalence of forced-feeding among mothers and caregivers was high. This practice was particularly more among mothers in the higher socio-demographic strata. Relevant government agencies should be encouraged to formulate and enforce policies that discourage force-feeding. In addition, there is need for intensification of campaigns against the practice among mothers and caregivers.

Keywords: Knowledge; practice; forced-feeding; infants; children; Enugu.

1. INTRODUCTION

It is a common belief among parents and caregivers that the fatter a child looks the healthier he or she is. Furthermore, associated with this misconception is the belief that the appearance of a child in terms of weight is a reflection of the socio-economic status of the child's family. In order to achieve this appearance of 'well being' parents around the world especially in developing countries, use physical or psychological force to get their children to eat when they refuse feeds. This is borne out of the erroneous assumption that infants and children do not know how, what and when to eat. This practice regarded as forced-feeding has been defined as the administration of food by force to those who cannot or will not receive it [1]. The practice of forced-feeding is usually borne out of good intentions for the child's benefit. However because it is usually with the use of coercion, force, physical restraints or psychological threat, it has been regarded as a form of inhumane and degrading treatment that could lead to unhealthy food habits and other health related consequences. In a study involving 100 college students out of which 70% where force-fed during childhood, 31% experienced strong internal conflict, 41% moderate internal conflict and 29% slight internal conflict as a result of been force-fed. Also, forty-nine percent reported they cried, 55% experienced nausea, and 20% vomited during the forced-feeding episodes in addition to negative feelings of anger, fear, disgust, confusion and humiliation they usually felt during the feeding process [2]. Several cases of child death following force-feeding have also been reported globally [3,4]. Given the psychological trauma forced-feeding may inflict on children, this study determined the knowledge and practice of forced-feeding among mothers and caregivers in Enugu, South East Nigeria. It also assessed the association between socio-demographic factors and the practice of forced-feeding. It is hoped that findings of this study would help government and health care providers to develop strategies and interventions for preventing this practice, which has been generally regarded as a violation of the child's rights.

2. METHODOLOGY

2.1 Study Setting, Design and Sample

This study was conducted in Enugu state, South East Nigeria. it is located on latitude 6° 27´N and longitude 7° 30´E [5]. Coal mining use to be the driving force of the state's economy in the early twentieth century hence it was nicknamed coal city state but currently it is dependent mainly on national oil revenue and commerce. Enugu state

is made up of 17 Local Government Areas (LGA) with its capital carved from Enugu North, Enugu South and Enugu East LGAs. The majority of the inhabitants are Igbo by tribe, and Christianity is the dominant religion. The minimum monthly income, similar to the national average was 18,000 (110 US$). Literacy rate is 66%, fertility rate 4.5 births per woman and there are 955 males/1,000 females [6].

This is a hospital-based cross-sectional descriptive-analytical study that was conducted over a six months period (July 2014 to December 2014) in the Well Baby Clinics of Enugu State University Teaching Hospital, Parklane Enugu. Mothers and caregivers who had fed one or more children in the past three years were consecutively enrolled for the study using purposive sampling method, while those who refused consent were excluded. Their knowledge and practice of childhood forced-feeding was ascertained. This was done using structured pre-tested questionnaires administered by trained research assistants. Ethical approval for the study was obtained from the health research and ethics committee of Enugu State University Teaching Hospital and oral informed consent was obtained from the participants.

2.2 Main Measures

2.2.1 Socio-demographic characteristics

Information on socio-demographic characteristics of respondents were obtained and categorized as follows: *Age, Sex, Educational attainment, Religion, Socioeconomic status (O*yedeji's classification) [7] and *number of children alive.*

2.2.2 Knowledge of forced-feeding

Respondents were interviewed to ascertain whether or not they were aware of forced-feeding practice and if they have ever forced fed a child. The age of the child at forced-feeding was noted and categorized into 0 to 11 months, 1 to 5 years and above 6 years. The interview also sought to know whether or not they (the respondents) were forced fed as children.

2.2.3 Practice of forced-feeding

Those that admitted ever force-feeding a child were asked to list the reason(s) for doing so, the method they employed, knowledge of adverse events and adverse events experienced if they have witnessed if any. The age of the child at experience of the adverse event was also noted.

2.3 Statistical Analysis

Quality control check was done by researchers on daily basis after enrolment. Where there were errors detected, the interviewers were asked to clarify them accordingly with the interviewed mother or caregiver. Microsoft excel 2007 was used to input the raw data. Data cleaning was done by researcher assistants and the study researchers. SPSS version 20 was used for data analysis. Chi-square and fisher's exact test were used to establish the relationship between respondent's socio-demographic variable and practice of forced-feeding. Results were presented in percentages and statistical significance was set at p-value < 0.05.

3. RESULTS

3.1 Characteristics of Study Population

A total of 137 of the 206 participants who met the inclusion criteria consented, enrolled and were interviewed for the study giving a recruitment fraction and response rate of 66.5% and 100% respectively. The greatest number of respondents (37.2%) fell within the 26-30 years age group and almost all of them were female (92.7%). Most respondents had completed either University education (48.2%) or secondary school (40.1%). Respondents from the upper socioeconomic class made up more than two thirds of the study population (69.3%) and the overwhelming majorities were Christians (93.0%) and Ibos (92.7%).

3.2 Knowledge of Forced-feeding

One hundred and ten (80.3%) respondents considered themselves to have adequate knowledge of forced-feeding with only 9 (6.6%) of the respondents getting this information from a health worker. About a third (34.3%) of the respondents remembered been force-fed as a child. The majority of respondents (86.1%) alluded to the fact that one or more of their children had refused food consistently for a period of time that warranted forced-feeding. Of these, 88 (68.8%) force-fed their children and those within the 1-5 years age category were the most common victims of forced-feeding. Almost half of the respondents (46%) were aware of the adverse-effects of forced-feeding and only one-fifth (21.2%) had actually experienced one or more of these adverse-effects in their child or the children they cared for. Children in the 0-11 months and 1-5 years age group accounted for

43.3% and 50% respectively of children in whom these adverse events were experienced.

3.3 Respondent's Socio-demographics and Forced-feeding

Significantly more respondents who were force-fed as children also force-fed their child or children compared to those that were not forced fed as children (83.0% vs. 61.5%, P=0.018). Respondents in the younger age category [i.e. < 25 years (80.8%) and 26-30 years (69.4%) had force-fed the children they cared for compared to those in the older age categories [i.e. 31-35 years (61.5%), 36-40 years (63.2%) and > 40 years (62.5%)]. Surprisingly, the practice of forced-feeding was more among respondents with university education (71.4%) than those with secondary (65.5%) and primary or lower educational attainment (69.2%). Similarly, more respondents in the upper socioeconomic class (73.0%) had force-fed their children compared to those in the middle (59.1%) and lower class (58.8%). However, none of these socio-demographic variables attained statistical significance as seen in Table 1.

3.4 Practice of Force-feeding and Its Adverse-effects

Table 2 shows some of the reasons for forced-feeding a child and methods employed by respondents during force-feeding. Weight related reasons accounted for 60.4% of the reasons why respondents indulge in forced-feeding. About 9% of the respondents had force-fed because of advice and pressure from relatives. One in ten (10.1%) believed it is normal to force-feed a child while 12.0% usually force-feed only during administration of medications (Table 2). The most common strategies of forced-feeding used by the respondents were forcing the food into the child's mouth (29.1%) and distracting the child (21.8%). Other methods employed of force-feeding employed included nose pinching (19.1%), flogging (16.4%) and use of threats (12.7%). More than 90% of the respondents used combination of two or more force-feeding techniques, with the most common been physical restraint and nose pinching (Table 2). Coughing and difficulty in breathing were the most perceived and experienced adverse-events of forced-feeding listed by respondents (Table 2).

4. DISCUSSION

Knowledge and practice of forced-feeding were high among the respondents in the present study. Sarah et al. as early as the mid twentieth century had reported the common practice of forced-feeding in many communities in Nigeria [8]. Another study had also reported that this harmful feeding practice is commoner among the Yoruba tribe in the south-western part of Nigeria [9].

Table 1. Association between respondent's socio-demographics and forced-feeding

Socio-demographic factors	N (%)	Child was force-fed		P-value
		Yes (n%)	No (n%)	
Age of respondents (years)	**N= 128**			
Less than 25	26 (20.3)	21 (80.8)	5 (19.2)	0.590
26-30	49 (38.3)	34 (69.4)	15 (30.6)	
31-35	26 (20.3)	16 (61.5)	10 (38.5)	
36-40	19 (14.8)	12 (63.2)	7 (36.8)	
More than 40	8 (6.3)	5 (62.5)	3 (37.5)	
Sex of respondents	**N=128**			
Male	8 (6.3)	5 (62.5)	3 (37.5)	0.694
Female	120 (93.7)	83 (69.2)	37 (30.8)	
Respondents education	**N= 128**			
Completed university	63 (49.2)	45 (71.4)	18 (28.6)	0.902
Completed secondary	52 (40.6)	34 (65.4)	18 (34.6)	
Primary or lower	13 (10.2)	9 (69.2)	4 (30.7)	
Socio-economic class	**N= 128**			
Upper	89 (69.5)	65 (73.0)	24 (27.0)	0.287
Middle	22 (17.2)	13 (59.1)	9 (40.9)	
Lower	17 (13.3)	10 (58.8)	7 (42.1)	
Force-fed as a child	**N= 125**			
Yes	47 (54.0)	39 (83.0)	8 (17.0)	0.018
No	78 (46.0)	48 (61.5)	30 (38.5)	

Table 2. Practice and adverse-effect of forced-feeding reported by respondents †[2]

Reason for force-feeding	N= 159	Method used during force-feeding	N= 110
Anxiety about weight loss	62 (39.0)	Nose pinching	21 (19.1)
Child is thin (lean)	34 (21.4)	Flogging	18 (16.4)
Pressure from relatives	14 (8.8)	Restraining	11 (10.0)
Insecurity about parenting skills	3 (1.9)	Force spoon into mouth	32 (29.1)
To create mother-child bond	2 (1.3)	Feeding while sleeping	11(10.0)
Usually for medications	19 (12.0)	Distraction	24 (21.8)
Pressure from work and/or home	5 (3.2)	Threat to deprive usual benefits	14 (12.7)
Desperation about child's health	4 (2.5)	Blackmail	6 (5.5)
Normal for children	16 (10.1)	-	-
Perceived adverse-effect	**N= 101**	**Experienced adverse-effect**	**N= 36**
Growth faltering	6 (5.9)	Difficulty in breathing	13 (36.1)
Chronic illnesses	7 (6.9)	Coughing	12 (33.3)
Coughing	50 (49.5)	Vomiting	4 (11.1)
Death	9 (8.9)	Suffocation /choking	1 (2.8)
Difficulty in breathing	19 (18.8)	Crying inconsolably	2 (5.6)
Others†	10 (9.9)	Fever	4 (11.1)

†[1] Others include: vomiting (7), fear (1), crying (1), and overdose (1). †[2] Multiple response allowed

Apart from serving as a veritable means of feeding children who refuses feed, endangering mother to child bonding was the commonest reason the Yoruba people gave in justifying forced-feeding in their children. Unlike that study, weight related reasons rather than mother-child bonding was the main justifier of forced-feeding in our present study. The ethnic and socio-cultural difference between the two study populations could have accounted for the observed difference in reasons for the practice of forced-feeding. Drug administration was a notable reason given by mothers for the practice of forced-feeding in both studies. This is probably because of the common phobia of oral drugs among children, particularly the ones with unpleasant taste. This usually prompts mothers (out of anxiety or frustration) across ethnic and social strata to forcibly administer the drugs.

Forced-feeding is commoner among children aged 1-5 years in our study. This corresponds to the transition period when non-milk based food starts to predominate the child's diet and food refusal becomes an issue. Additionally, there is a relatively slower growth spurt in this age bracket, which may consequently result to poorer appetite for food [10]. It is therefore not surprising that children of this age group constituted a significant proportion of those force-fed in this study.

Though not statistically significant (probably due to sample size), mothers with higher socio-demographic parameters (i.e. higher educational attainment and upper socio-economic class) engaged more in the practice of forced-feeding in this study. In many African societies particularly in Nigeria, the weight of a child is believed to be directly related to the family's economic and financial status and thus serves as a status symbol [11]. It is therefore not surprising that mothers in this socio-economic class engaged more in the practice of forced-feeding in order to achieve this objective of a 'fuller' body for their children which they believe reflects their status. Furthermore, it is also likely that mothers in the lower socio-economic class due to lower resources may more likely be unable to feed their children adequately. These children are therefore more likely to be in a state of want of food (physiologic hunger) and thus will need less coercion to eat whenever food is available.

Contrary to this findings, a similar study in the United States of America showed that white middle class non-Hispanic mothers for fear of overweight (which they regarded as detrimental to health) restricted food to their children [12]. However, mothers in the low-income group who viewed large body size as a sign of good health and parenting had no concerns of restricting food [12]. This demonstrates the differences in societal values and perception attached to the weight of a child which was the main justification for forced-feeding among most respondents in the present study.

Forcing the spoon into the mouth of the baby, distraction, nose pinching and flogging were the common methods employed by our respondents in forced-feeding children. These practices have

been documented as types of physical child abuse and by extension a violation of the right of a child [13].

The common adverse-effect experienced among force-fed children in this study involved mainly the respiratory system with difficulty in breathing and cough ranking high. This could be easily explained by the common methods of forced-feeding seen in the study (i.e. forcing the spoon into the mouth and nose pinching) both of which are capable of increasing the risk of aspiration into the airway. A recent unfortunate event in the United Kingdom where a mother mistakenly killed her child during force-feeding lays credence to the possibility of fatality as adverse event of force-feeding [14]. This further stresses the critical need for intensified campaign and public education against the practice of forced-feeding.

Not surprisingly, more respondents who were force-fed as children force-fed their children compared to those not force-fed as children. This is in keeping with the notion that abused persons often end up as abusers [15]. Furthermore, respondents in the younger age category engaged more in the practice of forced-feeding their children compared to those in the older age categories. Experience of these older mothers with more children, may have given them the knowledge and patience required to feed children, thus reducing fears and worries by mothers often associated with food refusal of their children [16].

Finally, it is distressing to note that most of our respondents got their information about force-feeding through their friends and relatives. The electronic media and health workers were significantly less source of information for force-feeding among respondents in this study. This may be related to the general societal misconception of forced-feeding even among the enlightened people as highlighted in this study. Information from uninformed sources is more likely to be potentially incorrect and harmful. There is hence the need for the media and health workers to educate people and ensure proper dissemination of information on the practice forced-feeding and the potential danger associated with its practice.

5. LIMITATIONS OF THE STUDY

A main limitation of the study is that it is a hospital-based study which may lead to errors in estimating the actual prevalence of force-feeding in the study area. In addition, recall bias or intentional lie may lead to inaccuracies in information given by the respondents. Another limitation is that the questionnaire used for this study was developed de-novo by the authors based on review of literatures on force-feeding and was pretested on 15 respondents not included in this survey; an expert validation of the questionnaire was however not done.

6. CONCLUSION

Despite the limitations, this study demonstrated high prevalence of the practice of forced-feeding among mothers and caregivers in Enugu. Relevant government agencies in collaboration with healthcare workers are encouraged to formulate and enforce policies that would increase public education about the dangers of force-feeding. There is also need for intensification of campaigns against this practice among mothers and caregivers.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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