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## **'NTA', a locally named unclear condition that causes failure to thrive amongst under five children in southeastern Nigeria: An assessment of mothers' and caregivers' perception of its causes and management**

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**Abstract:** *Background:* The age old childhood condition locally called 'NTA' in most South eastern parts of the country Nigeria is unclear and a challenge to health care professionals whose patients refuse orthodox medicine and choose alternative medicine. This study was to find the typical features of this condition as perceived by the populace

*Method:* Two hundred and twenty six questionnaires on symptoms and signs were satisfactorily filled by participants residing in parts of Ebonyi state, southeast Nigeria. Data were analysed using SPSS version 15. Cross tabulations and comparison of means were done using chi square with level of significance set to  $p<0.05$ .

*Results:* Over 90% (217/231) of the respondents including Nurses and community health extension workers, believed in the existence of 'NTA' with significant variation across levels of education ( $p=0.019$ ); A total of 82.3%

(190/231) reported peak occurrence between the ages of one to three months. Features were; Weight loss (94.4%), Excessive cry (89.2%), Dry skin (87.9%), Restlessness (86.6%), sleeplessness (80.5%), appearance of whitish/dyspigmented hair on skin (77.6%), etc. Most respondents were unsure of cause, some assume infective and fewer assume dietary cause. A total of 82.7% (191/231) reported that the traditional healers were the best managers of 'NTA'

*Conclusion:* The level of belief in the existence of 'NTA' is significant and deserves a research into the cause of the condition. The use of alternative medicine is indeed a challenge for us to use reason and wisdom to deal with culture, belief and illnesses.

**Key words:** Alternative medicine, failure to thrive, , south-eastern Nigeria, under five children

### **Introduction**

Failure to thrive has been defined in a range of ways, with no overall accepted definition but an essential element is subnormal growth or weight gain. It is a sign of under nutrition, which may result from many biologic, psychosocial and environmental processes, singly or in combination<sup>1,2</sup>. It is a disease more likely to be diagnosed in a child than in an adult. It takes a careful history and physical examination to identify the most likely cause of failure to thrive in a child. The definition of failure to thrive however faces problems as no one single criterion can be used to achieve a proper definition<sup>3</sup>. The causes are classified into organic (medical) and nonorganic (social or environmental). Nonorganic

causes are often associated with abnormal interactions between the caregiver and the infant or child while the organic causes are often associated with medical conditions or systemic pathologies which may lead to inadequate energy intake, poor absorption and/or the inability to use absorbed nutrients, and increased metabolic demands.<sup>1</sup> There is increasing recognition that in many children the cause is multifactorial. Furthermore, in more than 80 percent of cases, a clear underlying medical condition is never identified.<sup>4</sup>

The condition locally called 'NTA' in south eastern parts of Nigeria, has been observed to present clinically as failure to thrive. It is a condition that commonly affects infants, characterized by poor weight gain or pro-

gressive weight loss amongst other symptoms. As of now, there is no available literature on this condition. It is not yet clear whether the condition is a disease or a disorder or whether the cause is organic or inorganic. In other words, the actual cause of the condition is yet unknown although some of its victims have been successfully managed at home by the traditional healer, using herbs. This makes most mothers to refuse orthodox medical management and so prefer to seek herbal treatment once their relatives suspect 'NTA'.

Every culture has beliefs about health, disease, treatment, and health care providers. People tend to bring their beliefs, and the practices that accompany them, into the health care system and this often proves challenging to health care professionals who have been trained in the philosophy, concepts, and practices of orthodox medicine.<sup>5</sup> The local condition called 'NTA' has been a controversial issue between health care professionals and the general population in the south eastern Nigeria. This often proves challenging to health care professionals. It places one at the dilemma on how to prove the relatives or the general populace wrong or right. To prove or disprove the local entity called 'NTA' is an issue that requires scientific backing. So far, the aetiology like many other factors associated with failure to thrive appears to be unknown<sup>1-3</sup> and its course is not fully understood.

In our practice, within the Federal Teaching Hospital, Abakaliki, a tertiary health institution in the south-eastern Nigeria, there has been recurrent incidents of children admitted with features of 'Failure to thrive' who were taken away against medical advice by their parents, because of pressure from relatives, who believe that 'NTA' is the cause and should be better presented to the traditional healer for treatment. Indeed, some of these patients actually do well on herbs thus strengthening their confidence in alternative/herbal medication. This general belief in the remedial effect of herbs from the traditional healer on this condition poses a challenge to orthodox medicine, one of the many conflicting situations encountered between orthodox and unorthodox medicine. However, it may be wise to say that respecting patients' ideas about what should work as treatment may be the only way to help the patient effectively.<sup>6</sup> This study is a preliminary baseline study to identify the common symptomatic features of the condition called 'NTA' and to find out the general knowledge and the attitude of the people on the causes and management of 'NTA'.

## **Subjects and methods**

This study was carried out within Ebonyi State from February 2014 to September 2014. Our study instrument was a questionnaire which had been structured following a focus group discussion held by the researchers with some selected local women, health workers and two traditional healers met at two different parts of the study area, one suburban and the other rural area. They

were selected based on their ability to communicate effectively. This background work of focus group discussion took us about two months, between February and April as it entailed visiting some sub urban areas and rural areas where some of the traditional healers resided. Some of the local women, the community health extension workers and some trained nurses were involved in this discussion. The discussion was moderated by one of the researchers and was audio and video recorded and as well documented in writing. This interaction gave us some reasonable information which we used to develop the questionnaire. The questions were grouped into sections A and B. Section A contained information on the bio-data of the respondents while Section B was on case definition or symptomatic features such as fever, excessive cry, weight loss, degree of appetite for food, known cause, known outcome etc.. The answers to the questions in section B were graded on a three point scale of *Yes*, *No*, or *Not sure*.

Ethical approval to conduct this study was obtained from the Ebonyi state University Research Ethics Committee. The questionnaires were administered to about two hundred and fifty participants who had given their informed consent to partake in the research after due explanation of our objectives. Confidentiality of responses was ensured by the maintenance of anonymity in the questionnaires. The questionnaires were self-administered to some participants according to their capabilities while the rest were researcher-administered. To cover a significant variety of the populace, questionnaires were distributed with the help of community health extension workers covering some of the local or district health centers. Eventually, two hundred and twenty six questionnaires were analysed while the rest were discarded due to significant information gaps. Data collected were analysed using SPSS version 20. Cross tabulations and comparison of means were done using chi square, spearman correlation was used to compare the ordinal variables and the level of significance was set to  $p<0.05$ .

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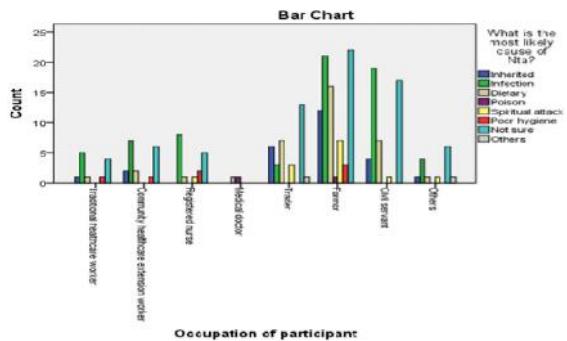
## **Result**

Over ninety percent (217/213) of the respondents believed in the existence of the condition called 'NTA'. There was no significant variation in belief across the age groups ( $p= 0.58$ ). Across the various levels of education, the affirmation to existence of 'NTA' was strongest amongst the respondents with primary and no formal education. Generally, greater than ninety percent of respondents who had Higher Diploma and below in education, believed in 'NTA', whereas, 86.9% of those with University education believed in the existence of 'NTA'. The variation between levels of education was statistically significant ( $p=0.019$ ; spearman; 0.018). Across the occupational groups, it was interestingly found that 88.2% (15/17) of the registered/certified nurses who participated, believed in 'NTA' and 100% (33/33) of the community health extension workers who

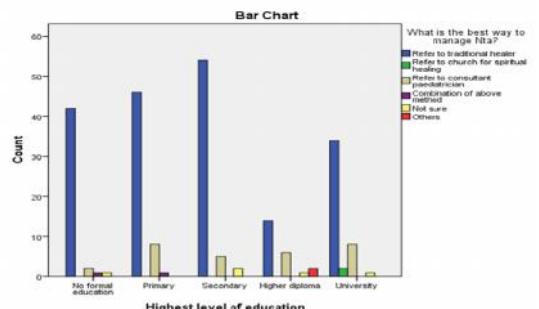
participated believed in the condition. Amongst the traditional healers, 91.7% (11/12) believed in 'NTA'. However, there was no statistically significant variation across the occupational groups.

On the cause of 'NTA', 32.9% (76/231) of the respondents, were not sure of the cause, 29.4% (68/231) thought it was some infection, while 15.6% (36/231) thought it was of dietary cause. This observation did not vary significantly with age, but it varied significantly across occupation ( $p=0.00$ ) and level of education ( $p=0.03$ , ( see Figure 1 & 3). Most of the Community Health Extension Workers (CHEWs), the registered nurses and the other Civil servants (who were not health workers) thought the cause was an infection. Amongst the majority of traders and farmers, the response was 'not sure'. The commonest response concerning cause amongst those with no formal education was 'not sure' (21.7%), followed by infection. Commonest response from those with primary education was 'not sure' also followed by infection. Similar responses cut across those with secondary education and above. The general trend of response to cause in descending order was 'Not sure' being greater than Infection which is followed by dietary causes.

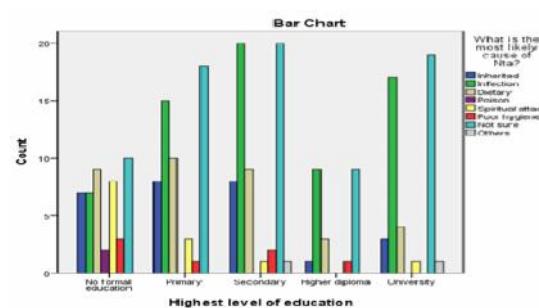
**Fig 1:** Perceived cause of NTA with respect to the people's occupation



**Fig 2:** People's level of education and their opinion on the best way to manage NTA



**Fig 3:** The perceived cause of NTA with respect to the people's level of education

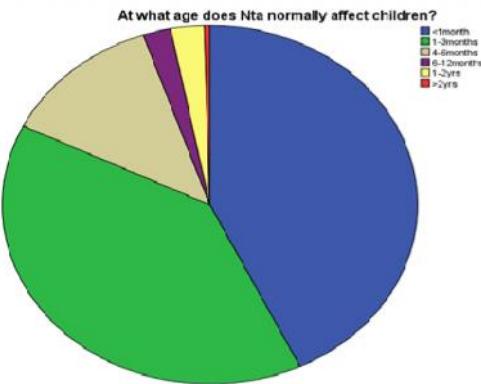


Concerning the best treatment option for 'NTA', 82.7% (191/231) reported that the traditional healers were the best managers of 'NTA'. This was the option more frequently chosen across all age groups, levels of education and occupation except among the registered nurses, where 64.7% (11/17) reported that the case should be referred to a pediatrician. There was some significant variation within the levels of education ( $p=0.004$ ) (see Fig 2) where over 80% of respondents within the levels of secondary education and below reported that the condition is better managed by the traditional healer and only 60.9% (14/23) and 75.6% (34/45) of the Higher Diplomas and University degree holders respectively supported that traditional healers were the best option. The variation of choice of treatment across occupations was also seen to be significant. ( $p=0.00$ ).

The commonest age at presentation of 'NTA' was said to be at less than one month by 42.9% (99/231) and between 1 -3 months old, by 39.4% (91/231) of respondents. Much fewer respondents, indicated presentation after the age of three months (Figure 4).

On prognosis, 40.7% Of respondents reported that very few children survive 'NTA', whereas, 32.5% (75/231) reported that most children would survive 'Nta'. Majority of the respondents were not sure of any disability arising from 'NTA'.

**Fig 4:** Pie chart illustrating the age of NTA presentation



A look at the various symptomatic presentations of 'NTA' in their order of commonest to the least common feature shows ; Weight loss (94.4%), Excessive cry (89.2%), Dry skin (87.9%), Restlessness (86.6%), sleeplessness (80.5%), appearance of whitish/dyspigmented hair on skin (77.6%), Weakness (74.9%), Fisting of palms (72.5%), Aggressive eater (71%), Fever (70.6%), Widened anterior fontanelle (55%), Connected anterior and posterior fontanelle (47.6%), Cough (34.2%). By this, it appears that weight loss, excessive cry, dry skin and restlessness are most frequent features seen in children with 'NTA'.

## Discussion

Culture and personal belief play a vital role in the health seeking behaviour of the people.<sup>7</sup> Culture influences health and the management of illnesses, and issues re-

lated to culture can sometimes heighten risks or impact care.<sup>8</sup> Culture may influence the belief about what causes diseases, whether to engage a certain health promotion activity or seek advice regarding health concerns or which treatment options are to be followed. It is known that culture also plays a role in the level of family influence in patient care decision.<sup>9</sup> It is of little surprise that there was a near consensus opinion that 'NTA' can only be treated best by alternative/traditional medicine. Alternative medicine is a term used to refer to medical products and practices that are not part of standard care (given or taught in the medical schools) which are used in place of standard medical care whereas Complementary medicine is used to describe the use of alternative medicine alongside standard or orthodox medicine.<sup>10</sup>

The use of complementary medicine is not at all new to medical history. It is a fact that the use of complementary and alternative medicine (CAM) is on the increase globally with a high prevalence in developed countries.<sup>11</sup> In developing countries, about 80% of the population are dependent on traditional healing methods, including herbal remedies, for health maintenance and therapeutic management of diseases. CAM use in acutely ill children has been reported in Nigeria, traditional/herbal medicines being the most frequently used CAMs.<sup>12,13</sup> It has often times been a challenge to orthodox medicine. Patronage to CAM by some individuals may be for certain reasons that are not fully attributable to culture. About 85% of Nigerians are known to use and consult traditional medicine for healthcare, social and psychological benefits because of poverty and disillusionment with conventional medical care<sup>14</sup>

Some authors have reported that alternative medicine allows for patient's control and active participation in one's care which has been associated with better outcome.<sup>15</sup> Some other reasons of concern is that some patients have expressed negative comments about their interaction with their physicians, making them prefer to use alternative medicine.<sup>16</sup> Wilcox and Bodekar in their paper aptly noted that with increasing challenge of drug resistance, affordability and availability of good quality, safe and effective medicine in developing countries, herbal medicine have become a very important option in our health care system.<sup>17</sup> The use of alternative medicine has become quite significant in every society. It is no longer an option to ignore it or treat it as something that is outside the normal process of science and medicine. It only challenges us to move forward carefully using both reason and wisdom as we attempt to separate the pearls from the mud.<sup>18</sup>. However, it may be a source of worry, that alternative medicine is usually adopted long before scientific evidence has established its safety and efficiency<sup>18</sup>.

Because of culture and ethics of autonomy and justice, it becomes necessary that a physician should play safe, such that he gives room to appreciate the diversity between his culture and that of his patients. It takes a culturally competent doctor to recognize patient's own and one's own sociocultural background and use skills ap-

propriately. This is not to say that the physician should be controlled by patients' choices but that he must learn to respect patients' culture and adapt styles that will be helpful to the patient while encouraging patient's participation in his own health care. By so doing, the physician is building a relationship that focus on increasing the opportunities and choices of individuals and communities to access health care. This is termed cultural safety.<sup>19</sup> This relationship allows the physician to further explore and analyze a chosen alternative therapy or research on the illness itself.

The participants in this research cut across various ages, educational levels and occupation. They generally seemed to share similar perceptions about 'NTA'. The aetiology appears unknown and its course not fully understood. The description for the local condition 'NTA' fits into a situation of failure to thrive. However, whether it is of organic or of non- organic origin is unclear. Looking at the constellation of symptoms as commonly indicated, which includes weight loss despite aggressive appetite, excessive cry, Dry skin, sleeplessness and restlessness, one may think of Protein energy malnutrition or Marasmus, From the focus group discussion with some people, 'NTA' was said to occur amongst any social class and so it did not appear to be a consequence of lack of food otherwise the rich or the high socioeconomic class would not be affected. The cause had been suspected to be of either infection or simply unknown. One thing they did know was that most of the patients responded well to the herbal medications hence the increasing patronage that the traditional healers enjoyed.

The picture of poor weight gain despite a good appetite or increased feeding brings to mind endocrine disorders such as diabetes mellitus or hyperthyroidism but then if the condition is endocrine why would it respond dramatically once and for all, to herbs given over a two to four weeks period? Excessive crying in babies aged between 0 – 3 months is often associated with Colic. Could the commonly noted excessive cry be due to a concomitant colic or is it pathology of the 'NTA'. The respondents also mentioned the presence of an unusually open anterior fontanelle which usually extends to the glabella anteriorly and seemingly connects with the posterior fontanelle. Studies have consistently reported that the size of the anterior fontanelle usually increases during the first month of birth before it begins to reduce and eventually close.<sup>20</sup>

The size of the anterior fontanelle reflects the balance between brain growth and skull, and can reflect skeletal morphogenesis. Many conditions are associated with large anterior fontanelle and they include hypothyroidism, rickets, malnutrition, hypophosphatemia, osteogenesis imperfect, achondroplasia and some Trisomies<sup>13,8,21</sup>. Some other conditions like the congenital Rubella syndrome, syphilis and prenatal exposure to drugs like angiotensin converting enzyme inhibitors, methotrexate, fluconazole, primidone etc, may be associated with large fontanelle<sup>22</sup> In general, the child with 'NTA',

fails to thrive. The common causes of failure to thrive within the first three months of life include feeding difficulties, infections, gastroesophageal reflux, inborn errors of metabolism, cystic fibrosis and milk-protein intolerance. It is expected that infants double their birth weight by the first four to six months of birth. Maximal brain growth also occurs within the first six months. A child who has gone seven weeks without regaining her birth weight deserves a thorough work up to determine the cause. This would include a detailed feeding history and a careful physical examination. If the cause is not clear from the above, investigations such as complete blood count and differentials, urinalysis, serum electrolytes, urea and creatinine and stool analysis for malabsorption. If these do not yield a result, further investigations would include a thyroid function test, liver enzymes, ammonia, lactate pyruvate, sweat – chloride test etc. The existence of 'NTA' as an unclear condition that makes an infant to thrive poorly appears to be real. The unanswered question is the type of condition it is. Is it a disease or a disorder? Is it caused by some pathogens or is it due to some physiological or biochemical imbalance in the child's system. What are the therapeutic components of the herbs commonly used in the treatment of this condition? To answer the above questions, one needs to do a comprehensive research and pathological analysis of available case series. It is our opinion that community perceptions about diseases and their management should not be ignored but rather should be explored, appreciated and corrected where necessary when enough evidence is gathered on the safety and dangers of a particular mode of therapy.

#### *Study limitations*

We could not extend the scope of this study beyond the

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south eastern Nigeria. We were unable to undertake the clinical and laboratory analysis of cases of 'NTA' in the present study since our intention is to provide base line information on the perception of the mothers and care givers regarding 'NTA'. A more complex study design taking into account the clinical and laboratory assessment is recommended in future studies.

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#### **Conclusion**

Culture greatly influences medical care and beliefs influence health seeking behavior and response to treatment. Effective communication however, is central to high quality therapeutic interaction. It enables greater involvement of patients in their own care, better outcomes and increased satisfaction.<sup>23</sup>

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