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Review Paper

Feeding and childcare practices in Sahelian zone, Chad: A documentary research

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Abstract

Inadequate children feeding practices constitute a high health risk for children and a public health problem. This documentary research examines young children care and feeding practices in the Sahelian zone. The present study used a documentary kind of research and employed content analysis to extract the data from documents. Findings revealed that the practice of exclusive breastfeeding was almost non-existent and early breastfeeding was not systematic after birth. Children were introduced very early to complementary dietary intake with very little adequate nutrition and variety of food. In addition, it was also found that cultural taboos' burden weighed heavy on the dietary intake of under 5 years old children and a greater consideration for the consultation of marabouts, healers and Dr Tchouckou for ill children's treatment. The study concludes by suggesting that there is a need for comprehensive health education for caregivers in order to change health seeking behaviors and children feeding practices.

Keywords: Children, feeding practices, care, Chad.

Introduction

Good nutrition constitutes the basis of good child health. Breastfeeding and weaning practices are important determinants of growth and development not only in childhood but also in later life[1,2]. Inadequate child feeding practices can delay growth, mental and motor development, cause immune deficiency and increase risk of infectious diseases such as diarrhea[3]. The benefits of breastfeeding, including exclusive breastfeeding, are well established, particularly in vulnerable settings, where early introduction of other milk is a particular problem due to risk of pathogenic contamination and over-dilution of milk, which leads to increased risk of morbidity and malnutrition[4,5]. Complementary feeding should begin at 6 month of age[2,5]. An optimal complementary feeding helps reduce a child's risk of developing different infectious diseases and mortality[6]. During the complementary feeding period, children consume a small amount of foods and complementary foods must have a high nutrient density[7]. However, inadequate feeding practices of children and the malnutrition remain a major public health problem.

Children aged between 0 to 59 months are more vulnerable to malnutrition. According to Integrated food security Phase Classification (IPC) analysis of acute malnutrition in Chad 1,897,901 children aged 6-59 months are acutely malnourished[8]. According to the Demographic Health Survey 2019, the prevalence of under-five years stunted children is 37.8%, wasted is 13.9% and over weighted children is 2.3%[9].

The malnutrition act severely due to under-nutrition (deficiency of calorie, imbalance food), unhealthy feeding practices and infectious diseases[10] and also practices such as abrupt weaning, lack of birth control, some harmful family practices or ignorance of pathologies. The prevalence of malnutrition and inadequate feeding practices are still increasing despite the Chadian government's efforts to achieve the Millennium Development Goal 4, precisely child survival. While there is an increased number of published studies on malnutirition and its associated factors in Chad and child feeding practices in subsaharan Africa, there is still a paucity of studies on childcare and feeding practices in Chad. Based on this, I judged it very interesting to undertake research to investigate feeding and childcare practices in Sahelian zone of Chad.

Methodology

This present study used a documentary research method which involves a collection, analysis and interpretation of data from existing documents[11,12]. This method is found to be relevant, trustful and useful in social research[11,12]. Researchers determine the documents that are found to be relevant to the study. The researcher searched and collected, during September to December 2021, institutional survey reports on children nutrition in Chad published between 2012-2021 and he selected after, those conducted in Sahelian zone of Chad. Content analysis method was used to analyze the selected documents. It helped the researcher to read the documents and selected key information which will help to attain the research objective.

Key information such as quotations selected was presented and quotations from documents in French language were translated into English language.

Results and discussion

Breastfeeding and weaning practices: Exclusive breastfeeding practices are not very evident in the Sahelian zone of Chad contrary to the recommendations of WHO which would like exclusive breastfeeding to be practiced until the age of 6 months. This is probably an erroneous reaction to health messages sometimes broadcasted because mothers and fathers could see exclusive breastfeeding as a dangerous practice for young children, in particular the drying out of the child due to the heat or traditional practices. According to a quantitative survey, only 3% of women practiced exclusive breastfeeding[13]. Breastfeeding is therefore supplemented so that the child is in good shape with goat's milk, beef, sugar water or simple water. In fact, very few children are systematically breastfed after birth. The proportion of children aged 0-23 month's breastfed within the first hour after birth in Sahelian zone varies from one region to another, with the lowest (24.9%) in the region of Wadi-Fira to the highest (68.4%) in Hadjer-Lamis[13]. These quantitative evidences are even supported by qualitative evidences.

At the birth of the child, a drink is traditionally given to the child: lemon juice, drops of pressed dates. In some cases, the 'best' aunt puts a few drops of her saliva in the child's mouth to give him 'a legacy of good behavior.[14]

Indeed, it is during the first breastfeeding, in particular within the 24 hours following the childbirth, that the child receives colostrums which contains antibodies necessary for the fortification of the organism of the infant. By depriving him of this essential substance and giving to him instead of maternal breast liquids, exposes him to more risk. Often, colostrums is perceived by some Muslim women as a dirt evacuated by the breast and often got rid of it by pressing all the colostrum before breastfeeding the baby. 9 out of 10 women (93.8%) in the Sahelian zone continue breastfeeding until the age 12 months[13].

But often this proportion decreased to reach a low level when the age tends to 20-23 months. Only 42.8% of children aged 20-23 months are breastfed[15]. These results are confirmed by qualitative studies. The children are weaned very early before the age of 2 years old and are often entrusted to their grandmothers to continue taking care of them. At this time, the children are nourished by the dishes eaten by the family.

For weaning, the tradition is to separate the child from his/her mother (at 17 months for boys and 18 to 20 months for girls) for several days and entrust him to his/her grandmother 'so that he/she forgets his/her mother's milk' or to cover the mother's breast with natron to divert the child [14]

Often mothers weaned their infants for one reason or another. Early weaning is associated with nutritional and health status of the mother[16]. The lack of birth control or use of modern contraception methods has an impact on breastfeeding practices. Pregnant women are often afraid to continue breastfeeding so as not to expose their infants to health risks or unpleasant sensations that can occur during breastfeeding.

To avoid the 'green milk' perceived as harmful for the child, a pregnant woman will suddenly wean her child upon the discovery of new pregnancy. The child is weaned not just off breast milk, but also of physical attention from the mother[16].

The weaned child is detached from his/her mother in order to eliminate the attachment that binds them and lead the child to forget or do without his/her mother over time. Often left in the care of the grandmother or his/her brothers and sisters, he/she is exposed to high risks, in particular the consumption of unclean or unhealthy water or unhealthy food.

Feeding practices: Feeding practices for children aged 6 to 23 months are inadequate and do not meet the required minimum international standards. Children are often introduced to the consumption of complementary foods to breastfeeding before the required age, precisely age of 6 months, in particular the consumption of porridge made from millet flour, corn, sorghum…and the consumption of porridge is often prepared as follows millet, corn, sorghum…+ water + sugar + salt. The following quotations give a more understanding.

From the age of four months, children often consume porridge in addition to breast milk. The porridge is mainly made of millet, flour, water, sugar, and salt. From July to December, milk is sometimes added to this porridge[16].

And sometimes other food supplements are added during the preparation in the porridge in order to enrich the nutritional content of the porridge.

Sometimes the women enriched the porridge prepared from corn or millet flour by adding other foods during preparation. These foods can be sesame flour, peanut paste, oil, milk, lemon, bean, koumbo, butter, natron, date, ginger, hilbé, salt and kamoune[17].

Quantitative surveys confirmed that in addition to breastfeeding, 51.8% of children aged between 6-8 months receive solid, semi-solid or soft complementary foods[13]. Consumption of a variety of foods is still low and monotony in food consumption is setting in households. From breakfast to the dinner, children from 12 months consumed almost the same dishes foods every day and consumed almost the family dishes prepared for the elderly. According to the results of survey in Sahelian zone, the proportion of children aged between 6-23 months who have consumed at least 4 food groups is relatively low and variations are observed across regions, from the lowest (0.6%) in the region of Kanem to the highest (33.8%) in the region of Sila[13].

By age, 16.9% of children aged between 6-11 months, 37.3% of those aged between 12-17 months and 45.8% of those aged between 18-23 months[13]. Children eat the family meal from the age of 1 year. These dishes foods sum up to bowl of corn, millet with the sauce of dried okra seaweed or kawal, rice and pasta.

The family breakfast dish is only the rest of the bowl from the day before (dead bowl) with the sauce (dried okra, seaweed, kawal…), souroundou (white rice prepared with salt, water, oil, onion and sometimes concentrated tomato) and pasta[17].

At approximately 12 months, the main household meal, boule, a kind of porridge, is introduced to the child's diet. Daily, households eat cereals, oil, vegetables (okra, leaves), condiments (chili, garlic, onions, dry meat) and sugar. Fresh meat is only eaten occasionally[16].

Sometimes the monotony in consumption leads to consequences in children, in particular the lack of appetite. Thus, these children would find themselves refusing the foods offered by the family and subsequently losing weight. The lack of diversity is sometimes due to difficulty in the access to markets that are poorly or not at all supplied and to the seasonality of agricultural and food production.

The monotony of food is a feeling often shared and linked to the loss of appetite in Children[14].

Therefore, it would be important to provide more variety in the dishes of young children in order for them to not develop this food monotony and to not be more exposed to the reduction of taste. Only 12.5% of breastfed children aged between 6-23 months and 24.2% of non-breastfed children in the same range age have a minimum acceptable diet in the Sahelian zone of Chad[13]. Complementary food for children aged between 6-23 months is therefore poor in micronutrients necessary for the proper functioning of the child's body. Action Contre la Faim[15] pointed out that these deficiencies may be due to the cultural food taboos of children and pregnant women.

Children's food perceptions: Many food prohibitions often based on the mythical conception of certain products of animal and vegetable origin would be harmful to women and children. The perception that certain foods are taboos and not suited for a child's consumption still persists and reduces children's consumption of certain foods.

Eggs favor stuttering or silly children. When it is retorted that in France, children eat eggs without any particular sequelae, parents and healers reply that in the food variety of Western children there are certainly 'anti' foods, a sort of antidote to the effects of eggs. […] the meat is rather for men, consumed in grills in the dedicated places. Liver and tripe are also appreciated because it makes strong and vigorous, but are also eaten by men. It does not really seem possible to make this type of food available to children[14].

While eggs and meats provide protein to the body, which could bring and increase more protein in the child's body necessary for their physical and mental development. Low protein nutrition has adverse effects on child functioning and development.

Sometimes women in the Sahelian zone deprived themselves from certain foods during pregnancy or while breastfeeding because of prejudices around certain foods that promote bad smells or tastes in milk or cause certain discomforts in the infant's body.

These women also deprived themselves of sweet potato, bean, cabbage, onion, egg and milk during lactation. They believe that these foods give milk different tastes and odors, cause edema, cause discomfort, constipation, nausea, gastritis, convulsion, have a diarrhoeic effect on breastfed children and are a source of fetal weight gain or because they simply do not like it[17].

This practice rather reduces the quality and consumption of nutrients and micronutrients necessary for the functioning of the body of the mother and child and could certainly reduce the quality and quantity of these nutrients contained in the breast milk and therefore affect the quality of milk supplied and the children become weak.

Child care practices: Positive and healthy infant and child health behaviors are significantly lacking in the Sahelian zone of Chad. Importance is more given to traditional medicine, in particular consultation with marabouts, and street sellers of medicines. Often the therapeutic itineraries of children who fall ill begin first at home with self-medication, then with marabouts or healers and finally in healthcare services if the child's condition worsens more.

When a child falls sick, the first recourse is self-medication. The child's mother gives him/her herbal or root infusions or makes the child fast. Then a traditional marabout or sorcerer is consulted. […]. The marabout 'attacks' the supernatural cause of the disease and treats the child with verses of the Koran selected according to the specific symptoms[16].

In addition to consulting marabouts or healers, the Sahelian population of Chad has more recourse to the street sellers of medicines, commonly called *Dr Tchouckou*, to obtain advices and prescriptions for the care of ill children.

People prefer to consult a Dr. Tchoukou rather than visit a health center as they are seen as cheaper and easier to access because they make house calls or attend markets. They tend to sell products for headaches, malaria, body aches, tension, fever, and sore kidneys that are acquired via networks trading in fake drugs (from India and China) or drugs intended for veterinary[16].

Often marabouts consulted carry out several ritual operations to cure ill children and these multiple operations can have harmful consequences on the health of the child by weakening him more.

Ritual operations: scarification, removal of the uvula and extraction of the bad tooth are therefore performed on children regardless of their health status. The confusion – that led to the belief that these were therapeutic – acts stems from the fact that these operations are decided upon when certain 'signs' appear in children that biomedical culture would qualify as symptoms: diarrhea, vomiting, loss of appetite, sleep disorders, night fever[14].

The use of current traditional medicine in this area is often fueled by persistent doubts about the effectiveness of medical therapeutic products and also barriers to access to treatment programs and the perception of the effectiveness of traditional medicines. The consultation of people who are not qualified in the diagnosis and the prescription of appropriate treatments that do not comply with the indications expose children to greater health risks and even death. The operations carried out by the marabouts could certainly aggravate the health situation of children and further weaken their organism and make them more vulnerable to other diseases. Prescribing drugs without a proper diagnosis of the health status can lead to negative side effects in the body of children. For example, in the region of Ouaddaï, there is low access to and use of healthcare services. Only 26.7% of women were consulted at least once in a health center[15]. Among children under 5 years old who suffered from diarrhea in the 14 days preceding the survey, only 58% sought treatment and among those for whom treatment was sought, only 37.6% sought a treatment at a health center[15].

Discussion: The study aimed at investigating children care and feeding practices Sahelian zone of Chad. The results found that very few children were exclusively breastfed in this zone, the rate of exclusive breastfeeding was very low (3%). The prevalence in this study is very low compared to the prevalence of exclusive breastfeeding obtained by Roy et al.[18] which was 28.33%. Lack of knowledge about adequate breastfeeding is a predisposing factor for inadequate practice, including the cessation of exclusive breastfeeding. The lack of exclusive breastfeeding in the Sahelian zone of Chad could be also explained by the symptoms of hunger perceived by mothers or the work load of women[19].

The proportion of children who received breast milk within one hour after birth was found to be low and to vary across the regions from 24.9% to 68.4% and to not be a systematic practice. Similar results are found in a study in Benishangui Gumuz region, Ethiopia indicating that 68.6% of children received breast milk one hour after birth[20]. 93.8% of children in the Sahelian zone of Chad were breastfed until the age of one. The results corroborate the results of Aguayo[7] which found that in South Asia, 88.1% of children continued breastfeeding up to one year. 42.8% of children are breastfed until the age of two. These results differ from the results obtained by Aguayo[7] which showed that a significantly high proportion (73.1%) of children continue breastfeeding until the age of two.

The results of this study found that many young children consumed poor foods during their childhood. Only 16.9% of children aged between 6-11 months, 37.3% of those between 12-17 months and 45.8% of those between 18-23 months consumed a minimum variety of foods in the Sahelian zone of Chad. Our results differ from the results obtained by Mitchodigni et al.[21] in the South of Benin, precisely in Bopa and Houeyogbe which showed that respectively 49% and 39% among children aged between 6-11 months, 74% and 62% among those of 12-17 months and 71% and 75% among those of 18-23 months consumed a minimum variety of foods. This prevalence is higher than the prevalence presented in this study. The general proportion of children aged 6-23 months who consumed at least 4 food groups was found to be relatively low (under 34%) and varied across regions in this study, from 0.6% to 33.8%. The results corrobate those of previous studies. It has been observed that 33% of children aged 6-23 months consumed a variety of foods[7] and 25% among them in Myanmar consumed a variety of foods[22]. Another study in Ethiopia showed that 27.5% of children aged 6-23 months consumed a minimum variety of foods[23].

It was also found in the study that only 12.5% of breastfed children aged 6-23 months and 24.2% among non-breastfed children within the same age consumed an acceptable minimum of foods in the Sahelian zone. The results confirm those of previous studies which reported that 20.5% of children aged 6-23 months consumed an acceptable minimum of foods[7]. In Myanmar, results revealed that 16% of children had an acceptable minimum of foods[22].

The study found also that cultural food taboos are still continued in the Sahelian zone and limit the consumption of some foods necessary for the good functioning of child's organism. These results are similar to those of previous studies. Roy et al.[18] argued that feeding practices for children in the community are influenced by what people know, think and believe about this. A study conducted by Lindsay et al.[24] found that perceptions, cultural believes and taboos had an influence on infant feeding practices of mothers. Others studies found also that inadequate feeding practices are influenced by the perception mothers have about the height of their babies at their birth, lack of education among mothers and lack of access to television[25], the age and gender of the child[23] and also mothers who have limited access or no access to journals and/or magazines[26]. The role of mass media in mothers' and caregivers' education on the feeding practices for a child is crucial[25].

The results of this study found also that in the sahelian zone of Chad, people have more recourse to traditional medicine for ill children's treatments by consulting marabouts, healers and *Dr*

Tchouckou. The results are similar to those obtained in a qualitative study conducted among refugees which revealed that mothers are more recourse to traditional medicine for their ill children's treatment[27].

Strengths and limitations of the study: The study gave insight on the children care and feeding practices and contributed to scientific literature in the context of Chad with limited studies and information and to the international literature. This study is without limitations, the first limitation is the focus on a limited geographical area. The second limitation is the limited studies on the topic under investigation. Qualitative studies are needed precisely ethnographic studies on the care and feeding practices in order to obtain relevant data enabling to constitute necessary educational interventions. Other studies can also seek to investigate in depth determinants of children care and feeding practices.

Conclusion

Child feeding practices in the Sahelian zone are poor in nutrients and micronutrients to allow children to grow and develop their potential. Results of this study revealed a low practice of exclusive breastfeeding. The three food's laws in the life of human being, especially in the life of under-five years children such as the law of food diversity, of quantity and quality are not at all respected in the frequency of food consumption, which does not satisfy the needs of the child's organism and does not favor his physical and mental development and does not prevent from infectious diseases. There are still cultural taboos around the consumption of some energizing foods for children and the use of traditional medicine instead of modern care, which constitutes a danger to the infant life and contributes to the weakening of the children's health status. Based on these results, there is a need to develop effective nutrition education strategies for child's health promotion that take into consideration the social and cultural context of low-income mothers. Comprehensive health education interventions are also needed to promote exclusive breastfeeding, appropriate complementary feeding practices, including local foods processing and use.

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