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Local Dishes versus "Ready-to-Use Therapeutic Foods" in the Management of Severe Acute Malnutrition during the Rehabilitation Phase: A Randomized, Single-Blind Study

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Abstract

Background: In a context of frequent shortages of ready-to-use therapeutic foods (RUTFs), this study aimed at assessing the effectiveness of the use of local dishes combined with nutritional education for children with severe acute malnutrition (SAM) during the rehabilitation phase. **Methods:** This work is based on a randomized, single-blind trial conducted over a period of 11 months. Children aged between 6 to 59 months, hospitalized for SAM and undergoing treatment during the rehabilitation phase, were included. Randomization was performed by consecutive inclusion based on even order numbers (control group under RUTFS) and odd order numbers (intervention group with local dishes). The minimum sample size, according to Kelsey's formula, was 24 patients. Data were recorded on a data sheet and analyzed using IBM SPSS 27 software. Ethical considerations were respected. **Results:** A total of 30 patients were included. The duration of the rehabilitation phase was longer in the intervention group. Weight gain, expressed in g/kg/day, was 12.98 (control group) and 17.90 (intervention group). Mean brachial circumference or Mid-Upper Arm Circumference (MUAC) at discharge was greater in the control group. All these observed differences were not statistically significant ($p > 0.05$); no cases of death were recorded. **Conclusions:** Patient outcomes at the end of the study were similar, despite a relapse in the intervention group. The use of local dishes, coupled with nutritional education, in the treatment of SAM during the rehabilitation phase has similar efficacy to conventional treatment with

RUTFS.

Keywords

Efficacy, Local Dishes, RUTF, Severe Acute Malnutrition

1. Introduction

Malnutrition is a major public health problem in low- and middle-income countries [1]. Few children consume the minimum recommended number of food groups, contributing to rising malnutrition rates [2]. In Cameroon, the Far North region is the most affected, with 35% of children malnourished, 13% severely [3]. Severe acute malnutrition (SAM) management follows WHO guidelines and includes the resuscitation, transition, and rehabilitation phases [4] [5]. Rehabilitation relies on high-energy diets, typically RUTF (F75, F100, Plumpy'Nut), aiming for rapid weight gain ≥8 g/kg/day [6]. Patients begin rehabilitation once appetite returns and major complications resolve, often continuing at outpatient centers. Frequent RUTF shortages hinder effective implementation [7]. Amid frequent RUTF shortages, this study evaluated the effectiveness of local dishes combined with nutritional education in children with severe acute malnutrition (SAM) during the rehabilitation phase. Specifically, it compared clinical outcomes (weight, mid-upper arm circumference, hospital stay), assessed the efficacy of local dishes with nutritional education in SAM management, and examined treatment outcomes.

2. Methodology

2.1. Study Design Duration and Setting

This was a randomized, single-blind study conducted over an 11-month period spanning from October 2023 to June 2024 at the in-house Therapeutic Nutrition Center (ITNC) of the Mokolo Regional hospital Annex in the Far North region of Cameroon. The study population consisted of children aged between 6 to 59 months hospitalized in the ITNC ward for severe acute malnutrition in the rehabilitation phase.

2.2. Sample Size

The sample size was calculated using Kelsey's formula, based on the prevalence of severe acute malnutrition (1.6%) among children under 5 years old in the Mayo Tsanaga and Logone et Chari divisions of Cameroon [8].

Value obtained using the following formula:

$$N = \frac{\left(Z_{\frac{\alpha}{2}} + Z_{\beta}\right)^2 + p(1-p)(r+1)}{r\left(p_0 - p_1\right)^2}$$

P_1: Proportion of patients cured on RUTFS;

P_0: proportion of patients cured on local dishes;

N: Target sample size.

Other parameters: Percentage of unexposed people with results: 50%, Exposed/unexposed sample size ratio: 1, Odds ratio: 62, Risk-prevalence ratio: 31, Difference between risk and prevalence: 48. The calculated minimum sample size was 24 participants.

2.3. Eligibility Criteria

Children aged 6 - 59 months with SAM in the rehabilitation phase were included if their parents or guardians provided written informed consent. This consent was documented before the randomization process to ensure adherence to ethical standards for clinical trials. Children with chronic conditions such as HIV/AIDS, tuberculosis, or heart disease, were excluded. Recruitment was facilitated in collaboration with community health workers.

2.4. Randomization and Blinding

The study was conducted as a randomized, single-blind trial. After enrollment and baseline assessment, participants were assigned to one of two groups using a computer-generated randomization list. Children assigned an even order number were allocated to the control group (RUTF) following the national protocol, while those assigned an odd order number were allocated to the intervention group (local dishes with nutritional education). Participants were assigned an order number based on their arrival.

Both interventions were provided in neutral code labelled with non-descriptive codes (A or B) to ensure allocation concealment. Health workers responsible for anthropometric and clinical assessments were blinded to treatment allocation. Unblinding was allowed only in the event of a serious adverse event requiring medical intervention. Group codes were disclosed only after completion of data collection and database locking.

2.5. Intervention

Control group: received RUTF according to national guidelines.

Intervention group: The meals consisted of a variety of local dishes. Mothers selected menus typically consumed in their homes, including the five food groups of the "My Plate" concept [9], prepared them under usual conditions, and then fed their children according to their appetite. Nutrition education sessions were conducted with caregivers covering malnutrition awareness, food groups, child weaning and practical cooking workshops.

2.6. Follow-Up and Outcome Measures

Follow-up was divided into a hospital phase (3 days) and a community phase for 2 weeks with daily monitoring which was equivalent to the time need to feed him according to his clinical progress.

Physical examination: For the child's physical examination, the investigator used WHO Z-score curves, vital sign monitoring equipment, a SECA electronic scale with a 150 kg capacity and ±100 g precision, an infantometer, and a pediatric MUAC tape measure from UNICEF.

2.7. Data Collected

- **Socio-demographic characteristics** of the parents or guardians of the children.
- **Clinical and nutritional characteristics**: child's age, sex, breastfeeding method, type of malnutrition, vaccination status, Z-score at admission, mid-upper arm circumference (MUAC) at admission and discharge, duration of the rehabilitation phase, medical complications, and Z-score at discharge.
- **Monitoring and progress during treatment**: vital parameters (temperature, heart rate, pulse), anthropometric data (weight, height, Z-score, blood pressure), clinical parameters, and weight progression.
- **Therapeutic outcomes**: cured, relapse, or death.
- **Weight gain was calculated using the following formula:**

$$\text{Weight gain}\left(\text{g/kg/day}\right) = \left(\text{g/kg/day}\right)\frac{\left(\text{final weight in kg} - \text{initial weight in kg}\right)\times 1000}{\left(\text{Initial weight in kg}\right)\times\left(\text{Number Treatment days}\right)} \quad [10]$$

2.8. Data Management and Statistical Analysis

The data collected were analyzed using IBM SPSS 27 and organized in Microsoft Office Excel 2019. Statistical tests used were the chi-square test, Fisher's exact test, and Student's t-test. Categorical variables were described as percentages, proportions, and/or frequencies. For statistical analyses, an α error threshold of 5% was applied, and means were expressed with 95% confidence intervals. P-values < 0.050 were considered statistically significant. Matching socio-demographic parameters between the two study groups was challenging, but the groups were compared to eliminate any statistically significant differences that could influence the final results.

2.9. Ethical Considerations

The research protocol was submitted to the regional ethics committee and received approval under ethics clearance and, trial registration number. Ethics clearance number 0065/CERH/NO/2024 date: January, 22, 2024. Trial registration number: NCT06759883 (Retrospectively registered) date of registration: Decembre, 29, 2024. Consent to participate was obtained from the parents or legal guardians of all participants (Children). No invasive procedures were performed, and parents were free to decline participation without any impact on their child's follow-up.

3. Results

3.1. Clinical and Nutritional Characteristics of Children

The study involved 30 children aged between 6 to 59 months, with 15 in the in-

tervention group and 15 in the control group. The predominant form of malnutrition was marasmus, accounting for 100% (n = 15) of cases in the intervention group and 80% (n = 12) in the control group, with the remaining 20% (n = 3) presenting marasmic-kwashiorkor. The sex ratio was 0.88 in the intervention group and 1.5 in the control group.

Children aged 6 to 12 months were predominant in the control group (53.3%, n = 8), while those aged 12 to 24 months were predominant in the intervention group (46.7%, n = 7). The mean age was 15.03 ± 7.43 months in the control group and 17.73 ± 7.63 months in the intervention group, with age extremes ranging from 6 to 31 months in both groups (Table 1).

The predominant Z-score on admission was below −3 SD in both groups: 66.7% (n = 10) in the control group and 60% (n = 9) in the intervention group. Gastroenteritis was the most common complication in both groups. None of these differences were statistically significant. However, statistically significant differences ($P < 0.05$) were observed regarding food groups in household meals, Mid-Upper Arm Circumference (MUAC) at admission, and the age of dietary diversification onset (Table 1).

Regarding the socio-demographic characteristics of the mothers, the average age was 25.46 ± 5.71 years in the control group and 22.99 ± 4.37 years in the intervention group, with extremes ranging from 17 to 33 years in both groups. The majority of mothers in both groups had a primary school education or less. Polygamous marital status was more prevalent in the control group (60%, n = 9), while monogamous marital status was higher in the intervention group (33.3%, n = 6). Household occupations dominated in both groups, representing 46.7% of cases.

Table 1. Clinical and nutritional characteristics of children.

Terms and conditions	Controls (N = 15) (%)	Interventions (N = 15) (%)	P-value (Chi-2 test)
Gender			
Male	9 (60.0)	7(46.7)	0.464
Female	6 (40.0)	8 (53.3)	
Sex ratio	1.5	0.88	
Age range			
06 - 12 Months	8 (53.3)	5 (33.3)	
13 - 24 Months	5 (33.3)	7 (46.7)	0.542
25 - 36 months	2 (13.3)	3 (20.0)	
Average	15.03 ± 7.43	17.73 ± 7.63	
Food groups household meals			
Vegetables, fruit, cereals	2 (13.3)	1 (6.7)	
Cereals, meat/fish, fruit	1 (6.7)	0	
Vegetables, fruit	0	2 (13.3)	

Continued

Dairy products, fruit, vegetables, cereals, meat/fish	2 (13.3)	2 (13.3)	**0.04**
Vegetables, cereals, dairy products	6 (40.0)	0	
Vegetables, cereals	0	8 (53.3)	
Vegetables, cereals, meat/fish	4 (26.7)	2 (13.3)	
Do you breastfeed exclusively until your baby is 6 months old?			
Yes	10 (66.7)	7 (46.7)	0.266
No	5 (33.3)	8 (53.3)	
At what age do you start diversifying your children's diet?			
≥6 Months	14 (93.3)	8 (53.3)	**0.04**
≤6 Months	0 (0.0)	3 (20.0)	
≤3 Months	1 (6.7)	4 (26.7)	
What foods do you make it with?			
Enriched porridge	7 (46.7)	7 (46.7)	
Family meals	6 (40.0)	3 (20.0)	0.506
Cow's milk	1 (6.7)	2 (13.3)	
Fruit compotes	1 (6.7)	3 (20.0)	
Vaccination status according to the Expanded Programme on Immunization			0.065
Vaccination in progress and on schedule	11 (73.3)	6 (40.0)	
Current vaccination with skip dose	4 (26.7)	9 (60.0)	
Type of malnutrition			0.068
Marasmus-Kwashiohor	3 (20.0)	0 (0.0)	
Marasmus	12 (80.0)	15 (100.0)	
Z-score (weight/height) on admission			1.000
≤−3	10 (66.7)	9 (60.0)	
≤−4	5 (33.3)	6 (40.0)	
Brachial perimeter at intake (mm)	110.66 ± 1.6	109.40 ± 2.54	**0.001** (student test)

3.2. Evolution of Clinical Parameters and Effectiveness of Local Dishes Combined with Nutritional Awareness

Weight gain, expressed in g/kg/day, was 12.98 for the control group and 17.90 for the intervention group (Table 2). In the in-patient setting, the weight curves of both groups overlapped at the start of the transition phase until day 2. This was followed by a lag during the initial days in the community setting, with the control group's curve being higher, crossing over on day 5. At the start of the second week, the intervention group's weight curve rose above that of the control group and remained consistently higher in the community setting (Figure 1).

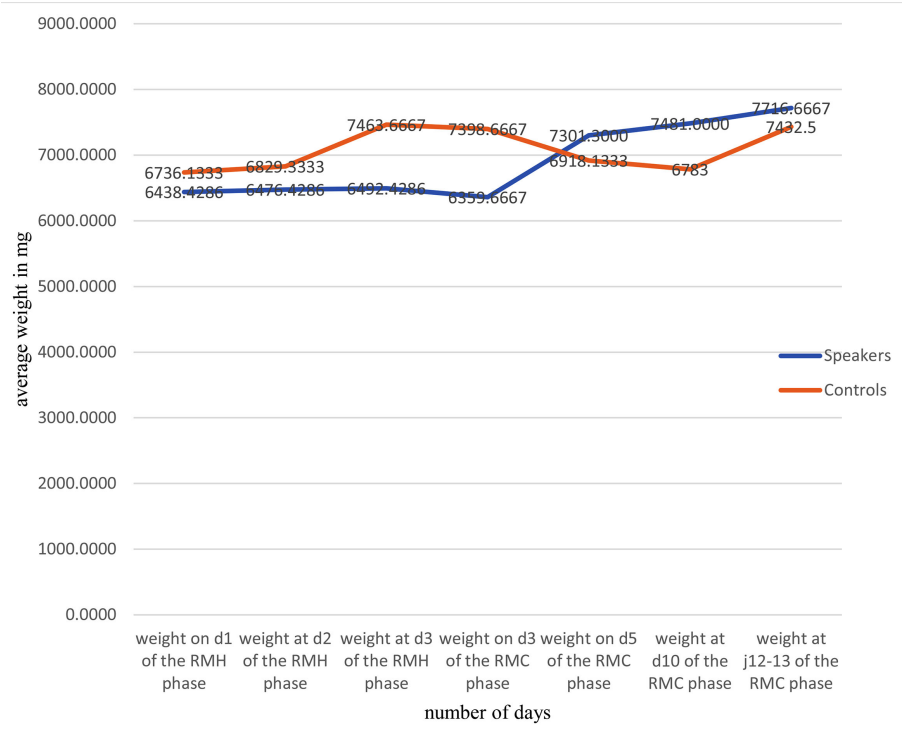

Figure 1. Comparative evolution of weight in the rehabilitation phase.

The duration of the rehabilitation phase was longer in the intervention group (12.16 ± 3.06 days) than in the control group (10.35 ± 2.56 days) (P = 0.121).

The mean Mid-Upper Arm Circumference (MUAC) at discharge was greater in the control group (123 mm) than in the intervention group (119.80 mm).

None of the observed differences between the two groups in terms of weight change, length of hospital stays, or MUAC were statistically significant (P > 0.05) (**Table 2**).

Table 2. Comparison of children's clinical data at the end of the study.

Terms and conditions	Group type		P-value (Student's t test)
	Control group	Intervention group	
Rehabilitation time (In days)	10.35 ± 2.56	12.16 ± 3.06	0.128
Average weight gain (g/kg/day)	12.98 ± 6.40	17.90 ± 12.76	0.065
Average outlet PB (mm)	123.07 ± 3.515	119.80± 6.073	0.160

3.3. Therapeutic Outcomes

Regarding therapeutic outcomes, no deaths were recorded in either group. The majority of patients were cured: 53.8% (n = 14) in the control group and 46.2% (n = 12) in the intervention group. However, the intervention group showed a higher relapse frequency, with 3 cases compared to 1 in the control group, primarily due to the onset of diarrhea. The difference observed at the end of treatment between the two groups was not statistically significant (P = 0.283) (**Table 3**).

Most patients in both groups had a Z-score between −2 and −1 at the end of treatment (Table 4). While the difference in this Z-score range was not statistically significant, the difference in the −1 to +1 range was statistically significant (P = 0.042), with a majority in the control group.

Table 3. Comparison of therapeutic outcome in the two groups at the end of the study.

Therapeutic outcome	Group type		Total	P-value (Chi-2 test)
	Control group	Interventional group		
Healed	14 (53.8%)	12 (46.2%)	26 (100%)	0.283 (Fisher test)
Relapse	1 (25%)	3 (75%)	4 (100%)	0.598
Total	**15 (50%)**	**15 (50%)**	**30 (100%)**	0.283

Table 4. Comparison of Z scores for different groups at the end of the study.

Z score at the output	Group type		Total	P-value (chi-2 test)
	Control group	Intervention group		
−2 to −1	10 (41.7)	14 (58.3)	24 (100%)	0.169
−1 to +1	5 (100%)	0 (0%)	5 (100%)	**0.042**
<−3	0 (0%)	1 (100%)	1 (100%)	1.000 (Fisher test)
Total	**15 (50%)**	**15 (50%)**	**30 (100%)**	**0.036**

4. Discussion

The aim of this study was to evaluate the efficacy of enhanced councelling on the use of local dishes for severely malnourished patients in the rehabilitation phase, given the frequent shortages of RUTFs (Ready-to-Use Therapeutic Foods). A randomized, single-blind study was conducted, with patient selection in a hospital setting involving a limited number of children in the rehabilitation phase.

4.1. Socio-Demographic Characteristics of Parents or Guardians of Malnourished Children

Most children were 13 - 24 months old, a critical dietary diversification period. Early or improper feeding, including giving water during breastfeeding, and low maternal education increase malnutrition risk [11]-[14]. Low household socioeconomic status further heightens vulnerability [15]. Marasmus was the predominant malnutrition type, consistent with other Cameroonian studies [16] [17]. Gastroenteritis was the most common complication at admission (40%), higher than reported in Cameroon (34%) and Mali (15%) [16] [18].

4.2. Evolution of Clinical Parameters and Effectiveness of Local Dishes Combined with Nutritional Awareness

The weight curve for patients receiving Plumpy'Nut or RUTF (Ready-to-Use

Therapeutic Food) showed an initial upward trend during the hospital phase, followed by a decline in the community phase by the second week, and a gradual increase by the end of treatment. Weight gain at the end of the study was 12.12 g/kg/day, reflecting the limitations of RUTF. Its administration is typically supervised in hospitals, explaining the initial rapid weight gain. In poorer households, RUTF is often shared among family members, preventing the malnourished child from receiving the recommended amount for optimal weight recovery. Additionally, mothers may not strictly adhere to feeding malnourished children exclusively with RUTF and may supplement with other foods at home.

In contrast, the weight curve for patients receiving local dishes remained stable during the first week, with a gradual increase observed in the second week. By the end of the study, weight gain reached 17.94 g/kg/day, numerically higher than in the control group, though the difference was not statistically significant ($P = 0.128$). This superior numerical weight gain demonstrates not only the effectiveness of local dishes but also their equivalence to RUTF in managing severe acute malnutrition. These weight gains align with the World Health Organization's Integrated National Protocol for Acute Malnutrition, which recommends a minimum weight gain of 8g/kg/day [19]. The intervention group's weight gain is comparable to that reported by Nguefack *et al.*, who observed gains of 15 to 20 g/kg/day with alternative F-75 and F-100 preparations [16].

The key advantage of using local dishes is the nutritional counselling and support provided to mothers, empowering them with skills in infant nutrition and ensuring sustained weight gain. Initially, weight gain in this group was slow in the hospital setting but improved significantly once at home. This may be due to the hospital being an unfamiliar environment, limiting the mother's ability to prepare meals as she would at home. With the skills acquired through nutritional education, mothers were able to better implement the "Five Food Groups" concept at home.

Despite the improvements, none of the patients achieved their target weight at discharge. Z-score values at discharge showed a statistically significant predominance in the −1 to +1 Z-score range in the control group, highlighting the faster initial impact of RUTF compared to local meals.

The intervention group required a longer duration of treatment compared to the control group. This result exceeds the findings of Nguefack *et al.*, who reported a treatment duration ranging from 3 to 9 days using therapeutic milk alternatives [16].

4.3. Therapeutic Outcome

A comparison of the therapeutic outcomes between the two groups revealed no deaths during the study, supporting the comparable efficacy of local dishes in managing malnutrition during the rehabilitation phase. However, the intervention group exhibited a relapse, although the difference between the two groups was not statistically significant. The relapses were primarily attributed to diarrhea,

particularly in the intervention group, where mothers prepared the meals, highlighting hygiene concerns in meal preparation. This underscores the need to emphasize hygiene practices during nutritional education, as our results are higher than those reported in previous studies [16] [20]-[22].

4.4. Validity and Reliability of Results

The minimum sample size was 24 but increased to 30 based on patient availability. A single-blind randomization design reduced measurement and experimenter bias. Statistical analyses (Student's t-test, Chi-square, Fisher's exact test) showed significant differences in meal composition, timing of dietary diversification, and brachial circumference ($P < 0.05$), indicating some baseline heterogeneity which was considered in result interpretation.

The observed baseline differences (MUAC, household food groups, age of complementary feeding introduction) indicate a non-equivalence between the study groups at the outset. Mid-Upper Arm Circumference (MUAC), as an indicator of nutritional status, is particularly concerning. These pre-existing variables constitute important confounding factors, capable of having modulated or biased the estimation of the intervention's true effect.

4.5. Practical Implications

In a context where RUTF shortages frequently disrupt the care of malnourished children, family-prepared meals can serve as a viable alternative, provided they adhere to the WHO-recommended food groups and are combined with nutritional education and support for mothers.

4.6. Limitations

Study Design: Unlike typical single-blind studies where medication is identically packaged, it was not possible to package local meals in the same way as RUTF.

Selection Bias: Randomization did not always ensure equal distribution of characteristics between the two groups, potentially overestimating or underestimating certain trends based on available data.

Economic Constraints: Due to a lack of subsidies, the investigator had to personally contribute to purchasing certain food items to supplement the children's meals during their hospital stay.

5. Conclusion

The results indicated that patients receiving local dishes combined with nutritional education experienced a numerically greater long-term weight gain compared to those on RUTF. Although the duration of the treatment was longer and there was higher rate of relapses in the intervention group, the differences were not statistically significant. The use of local dishes, coupled with nutritional education, demonstrates comparable efficacy to conventional RUTF treatment for SAM in the rehabilitation phase. In the absence of standard RUTF, local dishes

present a viable alternative. Further research encompassing all phases of SAM management is recommended to establish a comprehensive therapeutic program using local foods for malnutrition treatment.

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Contributor Statement

KSH, FA, SDG, SS have made substantial contributions to the conception and design of the work; the acquisition, analysis, and interpretation of data; AND have drafted the work or substantively revised it; to have approved the submitted version (and any substantially modified version that involves the author's contribution to the study); to have agreed both to be personally accountable for the author's own contributions and to ensure that questions related to the accuracy or integrity of any part of the work, even ones in which the author was not personally involved, are appropriately investigated, resolved, and the resolution documented in the literature.

AHP, BLA have drafted the work or substantively revised it and to have approved the submitted version (and any substantially modified version that involves the author's contribution to the study); to have agreed both to be personally accountable for the author's own contributions and to ensure that questions related to the accuracy or integrity of any part of the work, even ones in which the author was not personally involved, are appropriately investigated, resolved, and the resolution documented in the literature.

Data Availability Statement

The data is provided in supplementary information files upon request.

Declaration

The manuscript underwent grammatical correction and clarity refinement using an artificial intelligence tool, specifically Gemini (Google). The authors remain fully responsible for the content and final version of the article.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

[1] Bocquet, A., Brancato, S., Turck, D., Briend, A., Chalumeau, M., Darmaun, D., *et al.* (2023) "Child-Led Dietary Diversification" (CDD): Progress in Infant Feeding or Risky Practice? *Perfect En Pédiatrie*, **6**, 40-55.

[2] Chiabi, A., Kago Tague, D.A., Nguefack, F.D., Laksira, A., Nguefack, S., Mah, E., *et al.* (2020) Dietary Diversification in Infants Aged 6 to 24 Months at Garoua Regional Hospital, Cameroon. *Journal de Pédiatrie et de Puériculture*, **33**, 77-82. https://doi.org/10.1016/j.jpp.2019.07.006

[3] National de la Statistique (INS) and ICF (2020) Enquete Démographique et de la Santé Institut du Cameroun 2018. INS and ICF.

[4] Dama, U., Tchoffo, D., Onana Akoa, F.A., Abanda, J.N., Dzeuta, M.F., Asobochia, A.T., *et al.* (2024) Prevalence of Malnutrition in Children under 5 Years of Age in the Departments of Mayo-Tsanaga and Logone et Chari, Far North, Cameroon. *PAMJ Clinical Medicine*, **14**, Article 3. https://doi.org/10.11604/pamj-cm.2024.14.3.41534

[5] Golden, M. and Grellety, Y. (2006) Guidelines for the Management of the Severely Malnourished. ACF International.

[6] Irena, A.H., Bahwere, P., Owino, V.O., Diop, E.I., Bachmann, M.O., Mbwili-Muleya, C., *et al.* (2015) Comparison of the Effectiveness of a Milk-Free Soy-Maize-Sorghum-based Ready-to-Use Therapeutic Food to Standard Ready-to-Use Therapeutic Food with 25% Milk in Nutrition Management of Severely Acutely Malnourished Zambian Children: An Equivalence Non-Blinded Cluster Randomised Controlled Trial. *Maternal & Child Nutrition*, **11**, 105-119. https://doi.org/10.1111/mcn.12054

[7] Kohlmann, K., Callaghan-Gillespie, M., Gauglitz, J.M., Steiner-Asiedu, M., Saalia, K., Edwards, C., *et al.* (2019) Alternative Ready-to-Use Therapeutic Food Yields Less Recovery than the Standard for Treating Acute Malnutrition in Children from Ghana. *Global Health*: *Science and Practice*, **7**, 203-214. https://doi.org/10.9745/ghsp-d-19-00004

[8] Koum, D., Dissongo, J., Penda, C., Njankou, Y., Ngalle, J., Ngwa, V., Guifo, O. and Ndombo, P. (2014) Malnutrition aiguë sévère chez les enfants de 6 à 59 mois hospitalisés à Douala Cameroun. *Revue de Médecine et de Pharmacie*, **3**, No. 2. https://www.ajol.info/index.php/rmp/article/view/102351

[9] Chrisman, M. and Diaz Rios, L.K. (2019) Evaluating Myplate after 8 Years: A Perspective. *Journal of Nutrition Education and Behavior*, **51**, 899-903. https://doi.org/10.1016/j.jneb.2019.02.006

[10] World Health Organization and United Nations Children's Fund (2009) WHO Child Growth Standards and the Identification of Severe Acute Malnutrition in Infants and Children. WHO Press.

[11] Nguefack, F., Adjahoung, C.A., Keugoung, B., Kamgaing, N. and Dongmo, R. (2015) Hospital Management of Severe Acute Malnutrition in Children with F-75 and F-100 Alternative Local Preparations: Results and Challenges. *Pan African Medical Journal*, **21**, Article 329. https://doi.org/10.11604/pamj.2015.21.329.6632

[12] Noel, A., Morel, F.B. and Marion-Letellier, R. (2024) Severe Acute Malnutrition: From Pathophysiology to Management. *Nutrition Clinique et Métabolisme*, **38**, 2-10. https://doi.org/10.1016/j.nupar.2023.11.003

[13] Sackou Kouakou, J.G., Aka, B.S., Hounsa, A.E., Attia, R., Wilson, R., Ake, O., *et al.* (2016) Malnutrition: Prevalence and Risk Factors among the Children Younger than Five Years in a Semi-Urban Area of Abidjan. *Médecine et Santé Tropicales*, **26**, 312-317. https://doi.org/10.1684/mst.2016.0591

[14] Savadogo, L., Zoetaba, I., Donnen, P., Hennart, P., Sondo, B.K. and Dramaix, M. (2007) Prise en charge de la malnutrition aiguë sévère dans un centre de réhabilitation et d'éducation nutritionnelle urbain au Burkina Faso. *Revue d'Épidémiologie et de Santé Publique*, **55**, 265-274. https://doi.org/10.1016/j.respe.2007.05.006

[15] Tchagbele, O.-B., Segbedji, K.A.R., Talboussouma, S.M., Toï, A., Agoro, S., Djadou, K.E., *et al.* (2023) Evaluation of Feeding Practices among Infants Aged 6 to 23 Months in the City of Kara. *Journal de Pédiatrie et de Puériculture*, **36**, 223-230. https://doi.org/10.1016/j.jpp.2023.06.007

[16] Tougri, H., Yaya Bocoum, F., Compaore, R., Ouedraogo, A.M., Congo, B., Pietra, V. and Kouanda, S. (2021) Evaluation de la mise en oeuvre du dépistage de la malnutrition aiguë sévère chez les enfants de moins de cinq ans par les mères dans la région du Centre-Ouest au Burkina Faso: Assessment of the Implementation of Screening for Severe Acute Malnutrition in under 5 Children by the Mothers in the Central West Region of Burkina Faso. *Sciences de la Santé*, **42**, No. 2. https://revuesciences-techniquesburkina.org/index.php/sciences_de_la_sante/article/view/148

[17] Tournier, C. and Nicklaus, S. (2024) Introduction des aliments de différentes textures lors de la diversification alimentaire: Enjeux, connaissances et recommandations françaises. *Cahiers de Nutrition et de Diététique*, **59**, 82-91. https://doi.org/10.1016/j.cnd.2023.12.007

[18] Traore, F., Maiga, B., Diall, H., Sissoko, S., Sacko, K., Konate, D., *et al.* (2020) Management of Acute Malnutrition in Children in a Sahelian Secondary Hospital. *Mali Médical*, **35**, 32-37.

[19] World Health Organization (2024) Management of Severe Acute Malnutrition. WHO Regional Office for Africa. https://www.afro.who.int/fr/news/prise-en-charge-de-la-malnutrition-aigue-severe

[20] World Health Organization and United Nations Children's Fund (UNICEF) (2009) WHO Growth Standards and Identification of Severe Acute Malnutrition in Children: Joint Statement by the World Health Organization and the United Nations Children's Fund.

[21] World Health Organization, United Nations Children's Fund (UNICEF) and World Bank (2021) Levels and Trends in Child Malnutrition: UNICEF/WHO/The World Bank Group Joint Child Malnutrition Estimates: Key Findings of the 2021 Edition. World Health Organization. https://iris.who.int/handle/10665/341135

[22] Bailey, J., Opondo, C., Lelijveld, N., Marron, B., Onyo, P., Musyoki, E.N., *et al.* (2020) A Simplified, Combined Protocol versus Standard Treatment for Acute Malnutrition in Children 6-59 Months (ComPAS Trial): A Cluster-Randomized Controlled Non-Inferiority Trial in Kenya and South Sudan. *PLOS Medicine*, **17**, e1003192. https://doi.org/10.1371/journal.pmed.1003192