

Third Africa Food Environment Research Network Meeting

#FERN2023



THEME: Facilitating the identification, collation, and valorisation of food environment research, policy, and practice in Africa.

ABSTRACTS BOOKLET





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BARRIERS AND FACILITATORS TO POLICY IMPLEMENTATION IN THE FOOD ENVIRONMENT IN UGANDA

Nakitende, P., Guloba, M, Atwine, B

Research Associate- Economic Policy Research Centre

BACKGROUND

There is an increasing burden of nutrition related Noncommunicable diseases (NCDs) in lower middle-income countries (LMICs) including Uganda, largely driven by unhealthy diets / unsafe food environments. For example, Hypertension increased by 42% (2012-2016), annual cancer cases rapidly rose to at least 32,000, diabetes case increase to 7% (2012-2016) and a rapid increase in cases of obesity. To create a healthy and safe food environment to reduce the NCD burden, fiscal policies and regulatory measures to restrict unhealthy food environment (e.g., unsafe food) yield substantial and cost-effective health gains are needed. Further evidence is needed for comprehensive actions by government to foster food safety. Therefore, this paper aimed at identifying the barriers and enablers in the policy and regulatory food environment.

OBJECTIVE

To determine the critical barriers and facilitators to policy implementation in the food environment in Uganda.

METHODS

A thorough literature research and a qualitative data analysis were conducted for the study. Key informant interviews were conducted at the local (Mbale City) and national levels to get the qualitative data. In total 8 key informant interviews were carried out with 4 at national and 4 at local level. Participants included representatives from Uganda's government, civic society, and private sector who developed and implemented policies. These were specifically chosen due to their significant contribution to the creation and execution of the policies.

RESULTS

The findings show that the barriers and facilitators to policy implementation include; individuals politicians, individual researchers, individual civil servants, community groups, organization (trade associations), organizational (media), situational factors such as dominant discourse, political structure, structural (climate change), international and exogenous factors like international forces, budget in terms of financial resources, communication in terms of access to information, consultation (interest group), consultation (scientific basis and research), policy adoption, policy monitoring and evaluation.

CONCLUSION

These findings underline the significance of research, political influence, and funding in influencing policy implementation. Stakeholders interested in or involved in the creation and implementation of healthy food policies will greatly benefit from understanding the barriers to and enablers of successful policy implementation.

keywords Barriers, Facilitators, Policy implementation, food environment, Uganda

EVALUATION OF INSTITUTIONAL CAPACITIES OF THE GAMBIA INDIGENOUS LIVESTOCK MULTIPLIERS' ASSOCIATIONS IN ENSURING A SUSTAINABLE FOOD SYSTEM

O.F. Olaniran¹, N.N. Fall-Diop², B. Faye², Momodou Jeng¹, A. Secka¹ and M. Kebbeh²

¹ *International Trypanotolerance Centre, PMB 14, Banjul, The Gambia;*

² *West African Rural Foundation, Sacré Coeur 3 VDN – Villa 10075 Dakar, Sénégal*

BACKGROUND AND OBJECTIVES

Comprehensive understanding of food system actors are increasingly becoming important but there are however very limited study in this aspect. This study aims to improve analysis of typical associations involved in the food system by assessing how they are organized, what their challenges are, how they can be strengthened and made more sustainable concerning their roles and institutional mandates.

METHODS

With content analysis, the constitution, by-laws, registration certificate, banking practices and partners' report of the Gambia Indigenous Livestock Multipliers' Associations (GILMAs) were assessed. Using participatory institutional diagnosis, focus group discussions, and key-informant interviews, collective actions on making the associations more efficient and effective were formulated. There was also a validation workshop to disseminate the findings to the stakeholders' groups and receive feedback on the designed action plan.

RESULTS

Functioning of the GILMAs was disproportionately linked to the operations of their technical partners. This resulted to associations which clearly lack defined vision and mission. Gender disparity in the membership composition and leadership skewed toward older people with low financial literacy and little or no formal education impacted negatively on the growth, operation and continuity of the associations. Main issues identified to address effectiveness and meeting organizational goals in food system environment include capacity development in terms of institutional management, group facilitation, participatory planning, effective strategies for partnership and ownership.

CONCLUSIONS

Some typical challenges of actors in food systems can be addressed by participatory institutional diagnosis and by organizing them into resilient and self-sustaining associations that can effectively carry out specific roles and responsibilities.

keywords Associations; Institutions; Actors; Diagnosis; Food System

IDENTIFYING PRIORITY ACTIONS FOR THE CREATION OF HEALTHY FOOD ENVIRONMENTS THROUGH PUBLIC POLICIES IN BENIN

Santos R³, Sossa C¹, Azandjeme C¹, Metonnou C¹, Manga J², Moubarac JC², Vandevijvere S³, Diouf A⁴

¹ *Health Promotion Department, Regional Institute of Public Health (IRSP), University of Abomey-Calavi (UAC), 01 BP 384 Ouidah, Benin*

² *Department of Nutrition, TRANSNUT (WHO Collaborating Center) and CRESA (Public Health Research Center), University of Montreal, 2405 Chemin de la Côte-Sainte-Catherine, Montréal H3T 1A8, Canada*

³ *Sciensano, Service of Lifestyle and Chronic Diseases, Brussels, Belgium*

⁴ *Laboratoire de Recherche en Nutrition et Alimentation Humaine, Université Cheikh Anta Diop of Dakar, Senegal.*

BACKGROUND

Despite national policies and food-related interventions, Benin still faces a number of nutritional problems. The food environment, which is crucial to health, receives little attention in food policies. Monitoring food environments is essential to combat the double burden of malnutrition (DBM).

OBJECTIVE

Identify priority actions to address the double burden of malnutrition in Benin.

METHODS

Actions were identified using the INFORMAS Food-EPI module. Initially, the module contained 47 indicators relating to the prevention of obesity and diet-related non-communicable diseases. This tool was initially adapted to the Benin context. Following its implementation in sub-Saharan Africa (Ghana, Kenya and Senegal), 12 new indicators were added to make the Food-EPI tool more sensitive to the DBM. A group of independent experts (n=22) and government experts (n=21) assessed the level of the implementation of public policies using a Likert scale and identified the priority actions.

RESULTS

Of the 59 indicators compiled from 61 policy documents, the implementation level of public policies was assessed as "very low" for 27 indicators, "low" for 24 indicators and "medium" for 8 indicators. The inter-

rater reliability index was estimated at 0.94 (CI: 0.92-0.97) and considered good. The experts identified 116 actions, 10 of which were prioritized in terms of importance, achievability and effect on the DBM, and recommended to the Beninese government. In the "Policy" component, priority actions focused mainly on food promotion, supply, pricing and retailing. In the "Infrastructure Support" component, priority actions focused on governance, leadership, monitoring and evaluation.

CONCLUSION

This study proposes a list of priority actions to the government to transform the food environments towards reducing the DBM in Benin.

keywords: Public policy, Evaluation, Food environments, Benin

RECOMMENDATIONS FOR AND BEST PRACTICES BY THE FORMAL FOOD INDUSTRY TO ADDRESS UNDERNUTRITION AND THE DOUBLE BURDEN OF MALNUTRITION: A SCOPING REVIEW

^{1,2}C Klinger, ^{1,2}EC Okanmelu, ^{1,2}N Holliday, ^{1,2}A Leibinger, ^{3,4}O Alaba, ^{5,6}P Delobelle, ⁴EV Lambert, ^{1,2}EA Rehfuess, ^{1,2}P von Philipsborn

¹Chair of Public Health and Health Services Research; Institute for Medical Information Processing, Biometry and Epidemiology; Ludwig-Maximilians-Universität (LMU Munich), Munich, Germany

²Pettenkofer School of Public Health, Munich, Germany

³Health Economics Unit; School of Public Health; University of Cape Town, Cape Town, South Africa

⁴Health through Physical Activity, Lifestyle and Sport Research Centre (HPALS); Department of Human Biology; University of Cape Town, Cape Town, South Africa

⁵Chronic Disease Initiative for Africa; University of Cape Town, Cape Town, South Africa ⁶Department of Public Health; Vrije Universiteit Brussels, Brussels, Belgium

BACKGROUND

The food industry has important impacts on population nutrition. An existing framework (BIA-Obesity) supports the assessment and benchmarking of formal food industry policies and commitments to address obesity and unhealthy diets, and the development of evidence-informed recommendations. Currently, the framework does not consider undernutrition and the double burden of malnutrition (DBM), i.e. the co-existence and interaction of various forms of malnutrition within an individual over the life course, at the household level, or in communities or entire populations.

OBJECTIVE

The aim of this study was to comprehensively identify and map recommendations for and best practices by the formal food industry to address undernutrition (including underweight, stunting, wasting, and micronutrient deficiencies) and food insecurity, considered in isolation or as part of broader strategies to address the DBM.

METHODS

We followed the scoping review methodology recommended by the Joanna Briggs Institute. To identify relevant academic and grey literature, we searched bibliographic and grey literature databases, institutional websites, and Google/Google Scholar. The population of interest consisted of individuals of any age with undernutrition, with or without other forms of malnutrition. Documents discussing recommendations and/or best practices and/or lived experiences were eligible for inclusion. We considered any context where formal food industry actors operate and where a relevant burden of undernutrition exists. Identified themes were mapped according to the BIA-Obesity framework, and additional domains identified during data extraction.

RESULTS

Based on the mapping, we compiled a list of recommendations and best practices on how wholesalers, food and nonalcoholic beverage manufacturers, food retailers, caterers and quick-service-restaurants can address undernutrition and the DBM, e.g., through evidence-informed food fortification.

CONCLUSION

Formal food industry actors can implement several strategies to address undernutrition and the DBM. The findings of this scoping review will support the adaptation of the BIA-Obesity framework to these circumstances.

keywords: undernutrition, formal food industry, best practice, commitment, voluntary action

FOOD INDUSTRY EXPENDITURE ON TELEVISION MARKETING: A CROSS-COUNTRY COMPARISON IN SUB-SAHARAN AFRICA

¹T Frank, ¹L Deyce, ¹AS Khan, ¹EC Swart

¹School of Public Health, Faculty of Community and Health Sciences, University of the Western Cape, South Africa

²Department of Dietetics and Nutrition, University of the Western Cape, South Africa

BACKGROUND

Television marketing is a great way for companies selling unhealthy foodstuff to advertise their products to target audiences. There is a link between the advertising of these products, its increase in consumption, and the increase in obesity rates. In Sub-Saharan Africa, overweight and obesity rates have increased from 28.4% in 2000, to 41.7% in 2016.

OBJECTIVE

The objective of this study was to explore the extent of television food marketing in Sub-Saharan Africa.

METHODS

Secondary data on televised food and beverage advertisements from the biggest broadcaster on the continent and local free-to-air equivalents were analysed for nine countries (Angola, Ethiopia, Ghana, Kenya, Namibia, Nigeria, Tanzania, Zambia and Zimbabwe) in SSA over a four-year period (2019-2022). The number of adverts, advertising spend, type of adverts and companies were assessed.

RESULTS

Over a four-year period, the overall food and beverage marketing spend for all nine countries was USD 358.73mil. The total marketing spend was USD 29.56mil for alcoholic beverages, USD 184.86mil for non-alcoholic beverages, USD 142.30mil for food items and USD 2.01mil for food services. The countries with the largest marketing spend were Kenya (USD 186.14mil), Ghana (USD 54.08mil), and Zambia (USD 45.77mil). The advertiser who accounted for the largest share of non-alcoholic beverage adverts was Tradekings group (19.23% of non-alcoholic beverage adverts), followed by Coca-Cola (18.2%), and Nestle (10.35%). The advertiser who accounted for the largest share of alcoholic beverage adverts was Diageo (28.34%), followed by Adonko Bitters (9.91%), and AB InBev (9.29%). Tradekings Group was the advertiser who accounted for the largest share of food item adverts (7.54%), followed by Unilever (5.76%), and Dufil (5.12%).

CONCLUSION

The food industry invest heavily and use television marketing extensively in Sub-Saharan Africa. Countries need to urgently implement policies to protect people from pervasive marketing techniques employed by these companies.

keywords: Food and beverage industry, television, marketing, Sub-Saharan Africa

TRACK B: FOOD ENVIRONMENT MONITORING & INNOVATIVE APPROACHES

CAPTURING THE MOMENT: A SNAPSHOT REVIEW OF CONTEMPORARY FOOD ENVIRONMENT RESEARCH FEATURING PARTICIPATORY PHOTOGRAPHY METHODS

¹Turner, C., ¹Salm, L., ²Spires, M., ³Laar, A., ⁴Holdsworth, M.

¹Natural Resources Institute, University of Greenwich, Food and Markets Department, Chatham Maritime, United Kingdom

²Centre for Food Policy, School of Health & Psychological Sciences, City, University of London, London, United Kingdom

³Department of Population, Family, and Reproductive Health, School of Public Health, University of Ghana, Legon, Accra, Ghana

⁴UMR MoISA (Montpellier Interdisciplinary Center on Sustainable Agri-food Systems), University of Montpellier, CIRAD, CIHEAM-IAMM, INRAE, Institut Agro, French National Research Institute for Sustainable Development (IRD), Montpellier, France

BACKGROUND

Participatory photography is becoming an increasingly popular method within food environment research, providing a novel approach to capture and explore contextualised lived experiences of food acquisition and consumption practices. Grounded in participatory action research, participatory photography provides a methodological and analytical lens to explore food environments *with* participants.

OBJECTIVE

In this review, we aim to capture current advances in the use of participatory photography methods within food environment research. In line with the remit of the Current Opinion journals, we provide a timely and concise systematic review and commentary on the contemporary literature, focusing on peer-reviewed articles published from 2020 to 2022. This is the first review to explicitly address this rapidly emerging body of global literature.

METHODS

A systematic search was conducted in the databases PubMed and Scopus for records published from 1st January 2020 to 1st November 2022 featuring 'food environment' and 'photo' in either the title or abstract. Peer-reviewed published articles were considered for inclusion if they: 1) included both search terms; and 2) included a participatory photography method whereby participants were actively involved in the photography and qualitative follow-up process. Articles were excluded if: 1) they did not include both search concepts; 2) they did not feature primary data collection (i.e. featured secondary photographic datasets); 3) participants were not actively involved in the photography process (e.g. automated cameras were used); 4) they did not include follow-up qualitative dialogue with participants. Two authors screened all records independently. Descriptive analysis synthesised key themes.

RESULTS

In total, 28 articles were included in the review. Studies featured high-income (64%) and low- and middle-income countries (36%) – of which the majority were from Africa (n = 8). Local and school food environments were common focal sites. Findings demonstrate how participatory photography enables people to voice and visualise their lived experience of diverse food sources – and further reveal how tacit forms of contextualised knowledge and understanding drive food acquisition practices. Photovoice was the dominant methodological framing (71%), although we found substantial variation in study designs. Participatory photography was found to be the primary method of data collection in most studies (n = 20). Most studies provided participants with digital cameras (n = 14), whilst others provided smartphones (n = 5) or disposable cameras (n = 3).

CONCLUSION

This snapshot review demonstrates the increasing popularity of participatory photography as a method of capturing lived experiences of food environments. Consumers have been the focal point within the literature to date, whilst the potential to widen the aperture to cast light on other food environment actors remains untapped. Going forward, we recommend that researchers and practitioners revisit the roots of participatory photography as a participatory action research strategy, so

that future studies may engage participants as agents of change in their food environment in support of the sustainable transformation of food systems and improved diets, nutrition and health.

keywords: Food environment, Participatory photography, Photovoice, Participatory action research, Qualitative methods

CHARACTERIZATION AND CHALLENGES OF FOOD ENVIRONMENTS OF CHILDREN UNDER-FIVE IN NORTH BENIN DRYLANDS

A Dogo^a, F Hongbete^a, H Edja^b, W Amoussa Houkpatin^c

^a Department of Nutrition and Foods Sciences, Faculty of Agronomy, University of Parakou, Benin

^b Department of Rural Sociology and Economy, Faculty of Agronomy, University of Parakou, Benin

^c School of Nutrition and Food Science and Technology, Faculty of Agronomic Sciences, University of Abomey-Calavi, Benin

BACKGROUND

Food environments play a crucial role in children's diets by influencing households' supply and access to nutritious foods. By gaining insight into the food environments, there is a potential to design better interventions to reduce the burden of children's malnutrition. However, in the African drylands, data on food environments are limited

OBJECTIVE

This study aims to characterize the current food environments of children-under-five in north Benin drylands.

METHODS

To achieve this, we conducted individual interviews with key informants (n=11) to identify relevant actors and villages for data collection. Focus group discussions (n=12) were then conducted to capture information on the existing foods. Furthermore, we examined markets, shops, and domestic stalls (n=17) to obtain information on the prices of food sold, their properties, and promotional activities related to their sale. Descriptive statistics and multiple correspondence analysis were performed to describe the dimensions and clusters of the food environments, as well as the types of food environments present and the challenges associated with accessing nutritious foods.

RESULTS

The study identified a total of 94 foods, which were categorized into four clusters. Clusters 1 and 2 relate to seasonal foods, foods obtained from agriculture, livestock, or forests, and foods available year-round in local markets. In contrast, Clusters 3 and 4 relate to packaged and imported foods that are available year-round in shops and pharmacies. These findings indicate that the food environment in the study area is in transition, featuring both natural and informal market types. The challenges related to accessing nutritious foods include the affordability of processed nutritious foods from the informal market type, as well as the continuous supply of nutritious food from the natural food environment type.

CONCLUSION

Addressing these challenges will require the development of food policies and new interventions and study aimed at improving the external dimensions of the food environment.

keywords: Food environment; Nutritious foods supply; Child malnutrition; Drylands areas; Benin

ASSESSMENT OF RETAIL FOOD ENVIRONMENT AND DIETARY DIVERSITY AMONG UNDERGRADUATE STUDENTS IN MICHAEL OKPARA UNIVERSITY OF AGRICULTURE UMUDIKE

¹E. M. Okonkwo^{*}, ¹E. E Anaka, ¹G. O Iheme.

¹Department of Human Nutrition and Dietetics, Michael Okpara University of Agriculture Umudike, Umudike Abia State Nigeria

BACKGROUND

The healthiness, availability and affordability of retail food stores may influence positively the consumption of healthy foods and diversify diets.

OBJECTIVES

The study assessed campus retail food stores determined the relationship between shopping in retail food stores and the dietary diversity scores of the students.

METHODS

The study was a descriptive cross-sectional design carried out in Michael Okpara University of Agriculture, Umudike among 300 students selected using multi-stage sampling. Thirty (30) retail food stores were selected randomly and assessed using a Nutrition Environment Measures Survey in Stores for Mediterranean urban contexts (NEMS-S-MED) an observational tool which assessed the healthiness, availability and affordability of foods. A semi-structured questionnaire that includes socio-demographic characteristics, shopping pattern questions and 24-hour recall Data were analyzed using descriptive statistics and Analysis of Variance.

RESULTS

Results showed that retail food environment comprised more of convenience stores (63.3%), small grocery stores (26.6%) and the least was specialty stores (10%). Grocery stores were seen to offer healthier food products at better prices. Majority (82.3%) of the respondents shopped in more than two stores. The prices of fruits and vegetables were perceived to be high. The mean dietary diversity score was 3, while 90% of respondents did not meet dietary diversity. A weak but positive significant relationship ($r=0.147$, $p=0.011$) existed between those who shopped in convenience stores and their Individual Dietary Diversity Score (IDDS).

CONCLUSION

The retail food environment did not reflect much significant effect on the students' dietary diversity and consumption of fruits and vegetables. Prices of food, quality of food and mobility influenced food shopping decisions. A nutrition environment survey tool adapted to the Low-and medium-income settings should be made available in order to assess the food environment appropriately.

keywords: Food environments, Dietary diversity, food stores, undergraduates, Convenience stores

DRIVERS AND LEVERS OF THE DOUBLE BURDEN OF MALNUTRITION IN SOUTH AFRICA: PROTOCOL FOR A COMPLEX SYSTEMS MAPPING EXERCISE

^{1,2}N. Holliday, ^{1,2}C. Klinger, ³S. Pitt, ^{1,2}K. Geffert, ⁴M. Lembani, ^{5,6}F. Kroll, ^{1,2}P. von Philipsborn, ^{1,2}E.A. Rehfuess, & ^{7,8}P. Delobelle

¹Chair of Public Health and Health Services Research, IBE, Medical Faculty, Ludwig-Maximilians-Universität München (LMU Munich), Munich, Germany

²Pettenkofer School of Public Health, Munich, Germany

³Unit of Cardiovascular and Nutritional Epidemiology, Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden

⁴School of Public Health, University of the Western Cape, Cape Town, South Africa

⁵Institute for Poverty, Land and Agrarian Studies, University of the Western Cape, Cape Town, South Africa

⁶DSI-NRF Centre of Excellence, University of the Western Cape, Cape Town, South Africa

⁷Chronic Disease Initiative for Africa, University of Cape Town, Cape Town, South Africa

⁸Department of Public Health, Vrije Universiteit Brussels, Brussels, Belgium

BACKGROUND

South Africa is facing a persistent double burden of malnutrition (DBM) — the coexistence of undernutrition, overnutrition, and micronutrient deficiencies in the same population. The DBM encompasses interactions between different forms of malnutrition and is conditioned by interactions between social and physical environments and across life phases. The DBM can therefore be considered an outcome of a complex adaptive system.

Accordingly, interventions to address the DBM should be developed using a systems approach.

OBJECTIVE

The objective of this work is to construct complex systems maps of the drivers and outcomes of the DBM in South Africa across household and community levels in order to improve our understanding of the dynamics of the DBM, identify levers for interventions at the household and community level, generate buy-in for action among diverse stakeholders, and support capacity building in systems thinking.

METHODS

We will conduct semi-structured interviews with a range of stakeholders in South Africa as well as facilitate group model building (GMB) workshops. We will recruit participants via snowball and purposive sampling and the initial interviews will be transcribed and condensed into themes, which will act as seed variables. These seed variables will be used in GMB workshops of 15-20 participants each to develop complex systems maps using causal loop diagrams.

RESULTS

We will identify leverage points for intervention from these maps. This GMB process is expected to facilitate coalition-building, and shared narratives supporting action among the involved stakeholders to implement the proposed interventions.

CONCLUSION

It is expected that this study will contribute to a more comprehensive understanding of the dynamics of the DBM in South Africa and will strengthen the capacity of diverse stakeholders to advocate for interventions at different levels of the food system.

keywords: systems science; group model building; double burden of malnutrition; South Africa; unhealthy diets

FOOD SYSTEMS MAPPING: A SCOPING REVIEW OF CHALLENGES AND INNOVATIONS IN GHANA'S COASTAL AREAS

Bour Helen¹, Sandra Boatemaa Kushitor², Karina Benessaiah³, Elena Bennett⁴

^{1,2}Department of Community Health, Ensign Global College

³University of Guelph, Canada

⁴McGill University, Canada

BACKGROUND

Food systems are sophisticated human-made structures that have evolved through social, cultural, economic, and technological changes. Food systems on the African continent are diversified. However, this diversity is quickly disappearing, primarily because of agriculture and urbanization. This study seeks to map out all the challenges our food systems currently face through an overview of available evidence and the interventions designed to address them.

OBJECTIVE

This study seeks to identify and map out challenges within Ghana's coastal food systems and bottom-up interventions designed by citizens to address them.

METHODS

This study employed a qualitative research approach and a desk review of sixteen published literature on challenges in the food system space in Ghana, reviewing the evidence available from 2000 – 2022. Data was accessed from field notes and the Seeds of Good Anthropocene Project database, documenting interventions designed to address challenges faced in the food systems. A thematic approach was employed in analyzing the data.

RESULTS

The challenges identified from studies were categorized into seven main sub-themes: food value chain challenges, marine system challenges, lack of resources, COVID-19, Climate Change, Urban Development and policies, and Economic Challenges. Eighty seeds were identified from the seeds

database that addressed challenges across the food system. Findings show that measures were implemented to address coastal food system challenges, but some were not sustainable.

CONCLUSION

This study underscores the complexity of challenges within coastal food systems, highlights the promising interventions designed to address these challenges, and emphasizes the need for comprehensive, inclusive, and strategic approaches. By acknowledging the gaps in existing interventions and forging a collaborative path forward, stakeholders can work towards a more resilient, sustainable, and equitable coastal food system landscape in Ghana.

Keywords: Food System, Agriculture

SCOPING REVIEW: FOOD ENVIRONMENT IN TANZANIA

Mrignyani Sehgal¹, Neha Kumar², Rebeckah Namara³, Quinn Marshall²

¹University of Illinois Urbana Champaign

²International Food Policy Research Institute

³Consultant

BACKGROUND

The landscape of global health is undergoing a transformation where double burden of malnutrition converges with increasing incidence of non-communicable diseases. The food environment plays a pivotal role in shaping dietary behaviors and subsequently influencing health outcomes.

OBJECTIVE

This scoping review aims to assess the evidence base for Tanzania's food environment according to the types of food environments, food environment dimensions, and individual-level factors studied, as well as the types of methods employed. Lastly, it assesses food environment-related interventions, highlighting key findings, barriers, and enablers.

METHODS

Systematic searches were conducted in December 2022 in Web of Science and Scopus databases using search terms guided by a comprehensive food environment framework. Out of all articles retrieved, 179 met the eligibility criteria for full-text review.

RESULTS

There is a notable urge in articles published per year 2017 onwards. 50% of the studies focused on rural areas, while research on the urban food environment is relatively limited. 22% and 32% studies look at Wild and Cultivated Food Environment respectively, however, a void persists in documenting indigenous species and their roles in diets. 61% of studies used quantitative methods, while 16% and 22% used qualitative and mixed methods respectively. Several studies addressed multiple dimensions of the food environment. External domain covered Availability (42% studies), Prices (21%), Vendor and product properties (23%) and Market and regulations (4%). Personal domain covered Accessibility (23%), Affordability (15%) and desirability (20%). Only 7% of articles addressed convenience aspects, potentially an important gap given the influence of time on food choice. The review summarizes methods used to measure food environments. Amidst constrained secondary data, geospatial and cost of diet studies highlight access and affordability as key barriers. Measures from high-income contexts remain unadapted such as Nutrition Environment Measures Survey and Healthy eating index.

CONCLUSION

The review identifies current and future research needs in the African food environment, particularly, research priorities on food environments in Tanzania. Further research is essential to address gaps in understanding consumer preferences and how individuals interact and make choices within their surroundings. By identifying barriers and enablers to healthy food access, the review may also inform potential directions for policy interventions.

Keywords: Food Environment, Scoping Review, Nutrition, Non-communicable Diseases

Track C: Food Choice & Diet Quality

A SCOPING REVIEW ON THE RELATIONSHIP BETWEEN ADULT FOOD CHOICES, LOCAL RETAIL FOOD ENVIRONMENTS AND FOOD ACCESS IN RESOURCE-POOR COMMUNITIES

Samukelisiwe S. Madlala^{1,2}, Jillian Hill¹, Ernesta Kunneke³, Tatum Lopes^{1,4}, Mieke Faber^{1,3,5}

¹Non-Communicable Diseases Research Unit, South African Medical Research Council, Cape Town, South Africa.

²School of Public Health, Faculty of Community and Health Sciences, University of the

Western Cape, Cape Town, South Africa. ³Department of Dietetics and Nutrition, University of the Western Cape, Cape Town, South Africa. ⁴

Division of Chemical Pathology, Department of Pathology, Faculty of Medicine and Health Sciences, University of Stellenbosch, Tygerberg Hospital, Cape Town, South Africa. ⁵Centre of Excellence for Nutrition, North-West University, Potchefstroom, South Africa.

BACKGROUND

Local retail food environments influence individual food choices. There is currently little research being conducted on adult food choices, local retail environments, and healthy food access in resource-poor communities in both rural and urban settings.

OBJECTIVE

This scoping review aimed to provide an overview of evidence related to adult food choices in resource-poor communities in relation to local retail food environments and food access.

METHODS A methodological framework by Arksey and O'Malley was utilized. Nine databases were searched for studies published from July 2005 to March 2022. Article titles, abstracts and full text were screened by two reviewers using eligibility criteria. Data on the characteristics and findings of the studies, along with relevant themes for qualitative and mixed methods studies, were extracted and summarized.

RESULTS

Of the 2426 records identified in database search, 47 studies met the inclusion criteria. Studies were mostly cross-sectional (93.6%) and conducted in the United States of America (70%). Healthy food retail environments were positively associated with healthy food choices in 11 studies and unhealthy food choices in three studies. Associations between unhealthy foods and unhealthy retail food environments were positive in one study, and negative association between healthy foods and unhealthy retail food environments were reported in three studies. Retail food environment exposures were not associated with some food choice outcomes in nine studies. Studies identified cost and transportation as major barriers to healthy food access and healthy food stores and lower food prices as facilitators to access healthy food in resource-poor communities.

CONCLUSION

This review found inconclusive evidence on the relationship between adult food choices and local retail food environments. More research is needed to understand the relationship between food choices, local retail food environments, and access to healthy food in resource-poor communities, particularly in low- and middle-income countries.

Keywords: adults, food access, food choice, food environment, resource-poor.

MENUS AND MEALS SERVED TO SCHOOL PUPILS IN GHANA'S GREATER ACCRA REGION: A SECONDARY ANALYSIS

¹J. Liguori¹, ²G.S. Amevinya¹, ¹M. Savy¹, ¹M. Holdsworth¹, ²A. Laar

¹UMR MoISA (Montpellier Interdisciplinary centre on Sustainable Agri-food systems), Univ Montpellier, CIRAD, CIHEAM-IAMM, INRAE, Institut Agro Montpellier, IRD, Montpellier, France

²University of Ghana, Department of Population, Family & Reproductive Health, School of Public Health, Accra, Ghana

BACKGROUND

School food environments can provide and encourage healthy food consumption. Since 2005, the Ghana School Feeding Programme (GSFP) serves primary school pupils a free, daily meal. Each administrative district develops and distributes a 5-day menu, set to meet 30% of recommended daily energy allowance (RDA) for children (6-12y). Despite national guidelines, evidence of nutritional quality in school meals is limited.

OBJECTIVE

This study aims to explore compliance and nutritional quality of GSFP menus alongside school caterers' everyday experiences of food procurement (i.e., purchasing, cooking, serving food) in Greater Accra.

METHODS

Six districts of the Greater Accra region were purposely selected. 129 schools with GSFP caterers were included from 200 randomly sampled schools. Individual interviews with school caterers were conducted in March-April 2021 on: current school menu, dishes served that week, nutritional guidelines, food preparation methods and meal cost. Dishes served were categorised by energy density (low<125kcal/100g; medium=125-225kcal/100g; high>225kcal/100g) and nutrient density (low<5%; medium=5-10%; high>10%) based on nutrient profiling methods. Interviews were analysed in SPSS.

RESULTS

All districts have menus composed of five traditional, minimally processed dishes: Banku, Beans and Gari, Jollof Rice, Rice and Stew and Waakye. Nutrient densities (medium=1; high=4) were mixed throughout the week, with more varied energy density across meals (low=1; medium=3; high=1). Despite official menus, only one district reported serving all five meals that week. Caterers deviated from menus due to food item cost, price inflation for meat and vegetables and delayed GSFP payments. Most caterers reported that 1 cedi (0.086 USD, allocated per pupil) was neither adequate to meet nutritional quality (n=98;75%) nor sufficient to provide adequate quantity (n=100;78%) for children at lunchtime.

CONCLUSION

National GSFP guidelines are not universally followed. Programme evaluation should be reinforced, alongside criteria/indicators for nutritional composition and measurable portion sizes to guarantee nutritional quality and quantity in school meals.

keywords: School meal programmes; Food procurement; Nutritional quality; Ghana

ALIGNMENT BETWEEN FOOD-SAFETY POLICIES AND PERSPECTIVES OF CONSUMERS IN THREE AFRICAN COUNTRIES

¹S. Isanovic, ¹E. Kenney, ¹S. Samin, ¹S. Bhandari, ¹C.E. Blake, & ¹E.A. Frongillo

¹Department of Health Promotion, Education, and Behavior, Arnold School of Public Health, University of South Carolina, Columbia, SC, USA

BACKGROUND

Frequent foodborne disease in low-and middle-income countries highlights the limitations of food safety policies in reducing exposure to hazardous foods. Limited policy effectiveness reflects neglect of consumers' perspectives of food safety, which emerge from their past and current interactions with food value chains and their food environments. Policies must align with consumers' perspectives to address food safety issues effectively.

OBJECTIVE

This study aimed to evaluate whether and how policies align with consumers' perspectives about food safety, drawing on the elucidation of the intents and instruments of food policies.

METHODS

Consumers' concerns and assurances about food safety were identified through thematic analysis of transcripts from three Drivers of Food Choice projects in Ghana, Kenya, and Tanzania. Policies with information about food safety were identified through thematic content analysis of 131 policy documents (Ghana=38, Kenya=52, Tanzania=41). Policy intents and

instruments were compared to consumers' food-safety-related concerns and assurances to determine whether and how policies and consumers' perspectives aligned and whether policies addressing food safety used communication of information as an instrument to provide consumers with assurance about the safety of their foods.

RESULTS

Policies with stated intents to ensure better health, safe environments, and food and water security were broadly aligned with consumers' food safety assurances. Evidence of misalignment between food safety policies and consumers' perspectives of food safety occurred when policies failed to consider mechanisms needed to effectively implement policy. For example, false assumptions over the capacity of policy implementors (e.g., local government's commitment to enforcing food safety regulations) increased consumers' concerns about food safety after experiencing inconsistencies in regulation enforcement.

CONCLUSION

Understanding the interactions between policies addressing food safety and consumers' perspectives about food safety is important for designing policies that account for and can effectively influence and shape consumers' food choice behaviors to reduce risks of food-borne disease.

keywords: Food safety; policy alignment; consumer perspectives; low- and middle-income countries; Africa

AN ANALYSIS OF FOOD PROVISIONING POLICIES AND PROGRAMMES IN GOVERNMENT BASIC SCHOOLS IN GHANA

¹Wilhemina Quarpong, ²Matilda Laar, ²Richmond Aryeetey, ³Faith Agbodza, ²Gideon Amevinya, ²Francis Zotor ²Amos Laar

¹Nutrition and Health Sciences, Laney Graduate School, Emory University, Atlanta, Georgia, USA; ²Department of Population, Family & Reproductive Health, School of Public Health, University of Ghana, Accra, Ghana; ³Department of Family and Community Health, Fred Newton Binka School of Public Health, University of Health and Allied Sciences, Ho, Ghana

BACKGROUND

School food policies and programmes can promote environments that are supportive of healthy dietary behaviours. In Ghana and other low- and middle-income countries, little is known about the "nutritional" quality of such programmes.

OBJECTIVE

This paper identifies, describes, and evaluates the "nutritional" quality of a food provision programme implemented in government basic schools in Ghana.

METHODS

We conducted a literature review and in-depth interviews with key stakeholders to identify existing policies and programmes. Two independent reviewers evaluated identified policies and programmes against a list of quality indicators under 5 domains: Standards for Provided Foods/Beverages (SFP); Standards for Competitive Foods/Beverages (SCF); Wellness Promotion and Food/Beverage Marketing (WPFM); Water, Sanitation, and Hygiene (WASH); and Implementation, Accountability, Monitoring and Evaluation, and Communication (IAMEC). Reviewers assigned a score of 0 if the indicator was absent, 1 if it was present but described using vague words that limit enforcement, and 2 if it was described using strong language that strengthens enforcement. We determined average comprehensiveness (percentage of indicators present) and strength (percentage of indicators assigned a score of "2") scores for each domain and across all domains.

RESULTS

The relevant food provisioning interventions included in this study were the national school feeding policy and its associated programme. The characteristics of these included their application to provided foods, availability of implementation support and monitoring framework, and lack of clear nutrition standards. Together - the policy and programme average scores (comprehensiveness, strength) were (SFP: 24%, 10%), (SCF: 0%, 0%), (WPFM: 0%, 0%), (WASH: 50%, 0%), and (IAMEC: 50%, 17%). Overall comprehensiveness and strength scores were 21% and 7% respectively.

CONCLUSION

Our findings highlight key areas for improving food policies/programmes in Ghana – specifically applying appropriate nutrition standards, including standards for competitive foods/beverages and marketing within the school environment, wellness promotion, and strengthening oversight actions to ensure effective implementation.

keywords: School food policy, school food programme, school food environment, nutrition standards, Ghana

ANIMAL SOURCE FOOD CONSUMPTION AND ALLOCATION IN LOW-INCOME HOUSEHOLDS IN NAIROBI COUNTY, KENYA

^{1,2}M. Boncyk, ³A. Lepine, ⁴S. A. Bukachi, ⁵S. Kadiyala, ⁶D. Prieto-Merino, ⁴M. Ngutu, ¹C.E. Blake, ^{7,8}P. Dominguez-Salas

¹Department of Health Promotion, Education, and Behavior, University of South Carolina;

²Department of Public Health, Purdue University;

³Health Economics, University College London; ⁴Institute of Anthropology, Gender and African Studies (IAGAS), University of Nairobi;

⁵Department of Population Health, London School of Hygiene & Tropical Medicine; ⁶Faculty of Medicine, University of Alcalá; ⁷Food and Markets Department, University of Greenwich; ⁸International Livestock Research Institute, Nairobi

BACKGROUND

Animal-sourced foods (ASF) contain essential nutrients for human growth, maintenance, and repair, but consumption remains low among urban poor adults and children.

OBJECTIVE

This study aims to determine if intrahousehold ASF prioritization and allocation can predict ASF consumption and dietary diversity.

METHODS

Intrahousehold ASF prioritization in low-income settings was assessed through a cross-sectional survey with 300 mothers of children 6-59 months in informal settlements of Nairobi (Kenya) from September to October 2019. Mothers used clay/water to assess meat/milk allocation to mothers, fathers, and children. Proportions allocated adjusted for energy requirements based on age, gender, and breastfeeding. Regression analyses predicted ASF consumption (yes/no) and dietary diversity (24-hour recalls) using prioritization and allocation independent variables.

RESULTS

Average households of 4.3 members spent 38% of monthly income (16,870 KSH) on food. Mothers consumed 4.6±1.2 food groups, children 4.2±1.0. Households consumed ASF 1.8±0.80 times/day. The previous day, 88% of mothers and 92% of children consumed ASF, milk contributed to >90%. Mothers (97%) allocated food, prioritizing children for dairy (92%), eggs (89%), liver (76%), fish (72%), and meat (60%). ASF prioritization did not predict ASF consumption, except egg prioritization predicted dietary diversity of mothers ($\beta=0.78$, $p=0.001$ and children ($\beta=-0.23$, $p=0.03$). In allocation tasks, children received 43% of meat (27% mothers, 31% fathers) and 54% of milk (21%, 23%). Intrahousehold allocation varied based on individual and household-level characteristics (e.g., age, household size). When allocated more meat, children had increased dietary diversity ($\beta=0.62$, $p=0.001$). When allocated more milk, children had increased dietary diversity ($\beta=0.40$, $p=0.01$) and ASF consumption the previous day ($\beta=0.20$, $p<0.001$).

CONCLUSION

Children are prioritized in ASF allocation, in low-income settings; however, prioritization did not predict diets. Meat and milk allocation predicted ASF consumption and dietary diversity in children. Accurate assessment of intrahousehold ASF prioritization and allocation is essential for understanding individual access to healthy diets.

keywords: Animal source foods, Intrahousehold allocation, Food prioritization, Consumption, Kenya

TRACK D: NUTRITION AND HEALTH

MULTIMEDIA ENTERTAINMENT NUTRITION HEALTH INTERVENTION: LESSONS FROM A PILOT PROJECT IN SOUTH AFRICA

¹M Lembani, ¹MK Muhali, ¹H Nokonenza, ¹T Puoane, ^{1,2}ZJ Mchiza
¹School of Public Health, University of the Western Cape, Cape Town, South Africa

²Non-Communicable Disease Research Unit, South African Medical Research Council, Cape Town, South Africa.

BACKGROUND

Multimedia entertainment education programs have become a popular channel for providing health literacy in this digital era. The wide access to mobile phones to both rural and urban populations has created opportunities to deliver such interventions through SMS, WhatsApp messages, Facebook, YouTube, and TikTok. While these channels have shown some good success in delivering messages effectively, challenges still need attention to enhance the effectiveness of these programs in some sections of society.

OBJECTIVE

The objective of this paper is to assess the effectiveness of multimedia entertainment education (MM-EE) in nutritional literacy among Community Health Workers (CHWs).

METHODS

This was a pilot study undertaken in three townships in Cape Town. Participants were CHWs who were purposely selected from the pilot study. Data was collected through focus group discussion (FGD) using a semi-structured focus group discussion guide. The FGDs were conducted in the local language isi-Xhosa and English and facilitated by a person who is fluent in the language. One focus group discussion was conducted in each area with ten participants in each group. Data was summarized using key points from the questions.

RESULTS

Overall, CHWs found the MM-EE material user-friendly, easy to understand, and acceptable. Challenges highlighted included not having a smartphone, poor connectivity, high crime rate leading to losing their belongings.

CONCLUSION

While the MM-EE materials were positively perceived and deemed effective by CHWs, addressing the challenges related to smartphone accessibility and data limitations is crucial for maximizing the impact of the program.

Keywords: Multimedia-entertainment education, nutrition literacy, Community Health Workers.

Increasing Resilience to The Sars-Cov-2 Virus and Other Health Threats In Food Insecure Communities

^aK Morris and ^bT Puoane

^aNaturopath, Private Practice, Cape Town, South Africa

^bSchool of Public Health, University of the Western Cape, Cape Town, South Africa

BACKGROUND

Since Covid, food insecurity has significantly worsened and likely, too, micronutrient deficiencies. In developing countries micronutrient deficiency is largely because of lower bioavailability of micronutrients in starchy staples in comparison to that of meat, fish and chicken foods. This is due to anti-nutritional factors (ANFs) in plants, particularly pulse and wholegrain staples. However, ANFs also confer benefits, such as immune support. Traditional household food processing moderates ANFs' adverse effects, while reaping their benefits and thus optimises nutrition for the food insecure.

OBJECTIVE

To share knowledge regarding traditional food processing practices, their benefits and underlying biochemical processes for optimising nutrition and health, in affordable, accessible ways.

METHODS

Review of literature to determine how nutrition of affordable starchy staples is optimised in traditional diets.

RESULTS

Soaking, boiling and fermenting of food such as grains and pulses employs various mechanisms (e.g., simple diffusion, activation of endogenous and microbial enzymes) whereby micronutrient and macronutrient bioavailability is increased, together with food safety. Such practices are still an intrinsic part of food culture among indigenous communities in Africa and the developing world for their conferment of preferred characteristics. Their economic and social feasibility and sustainability, can, in part, alleviate malnutrition. Understanding these benefits makes community uptake by food insecure households more likely. In indigenous communities, it is particularly women who carry this knowledge. A strategy for transferring knowledge of these practices and benefits, could be to co-opt community mobilisers who, ideally, are women cognisant of these indigenous knowledge systems. Thus, reclamation of these traditional practices may be facilitated in food insecure households where they are no longer used.

CONCLUSION

Food environment policy should include programs utilising community mobilisers to transfer relevant traditional food processing knowledge to those who procure and prepare food in food insecure communities so that their health and resilience may be optimised.

Keywords: Indigenous knowledge systems, Resilient communities, Micronutrient bioavailability, Food Security, Traditional food processing, Anti-nutrient factors

SCOPING REVIEW PROTOCOL EXPLORING THE RELATIONSHIP BETWEEN FOOD INSECURITY, MENTAL HEALTH, AND DIET INTAKE AMONG ADOLESCENTS ACROSS THE GLOBE.

¹A. Nkwanyana, ¹M. A. Florence, ¹E.C. Swart

¹University of the Western Cape

BACKGROUND

With the onset and progression of the COVID-19 pandemic, global hunger rates have increased. Adult focused literature exploring the relationship between food insecurity and mental health has shown that lower self-reports of physical and mental health are associated with food insecurity. Currently, there are several studies that further explore the relationship between food insecurity and mental health. However, there is limited evidence that explores this relationship amongst adolescents, and more so between food insecurity, diet intake and mental health.

OBJECTIVE

The study's objective is to systematically scope the literature exploring the relationship between mental health, food (in) security and/or diet intake of adolescents across the globe.

METHODS

The review will be conducted following the extended Arksey and O'Malley framework.

RESULTS

There are no results to report yet. However, we anticipate the results of the review showing mixed results on the relationships between the subject areas among adolescents, as well as most of the literature being published in high income countries, and thus a gap in an exploration of the relationship in lower and middle-income countries, such as those in Africa.

CONCLUSION

This review will enable a synthesis of the three subject areas. It will determine the extent of published research on the relationship between the three items being explored globally, to garner a broad outline of the

trends and/or extent of the exploration. Furthermore, the outline will likely inform policy development/ amendment, and development of new (integrated) intervention methods to curb nutrition deficiencies and mental health problem progression into adulthood. In addition, the study will identify gaps to be addressed in future research and produce a resource to justify the need for further studies.

Keywords: Mental health, Food insecurity, Diet intake, Adolescents, Relationship.

CHILD NUTRITION AND HEALTH INDICATORS AS PREDICTORS OF ACADEMIC PERFORMANCE AMONG PRIMARY SCHOOL CHILDREN IN BINDURI DISTRICT, GHANA

¹Alfred Apubuos Azure, ²Prof. Francis Bruno Zotor, ²Dr. Faith Aku Agbozo

¹Student, University of Health and Allied Sciences, Ho, Ghana

²Department of Family and Community Health, University of Health and Allied Sciences, Ho, Ghana

BACKGROUND

Child nutrition and health indicators are critical factors in forecasting academic performance. Poor health in early childhood can have adverse impacts on cognitive abilities and academic achievement, while inadequate nutritional status has been linked to lower academic performance in children.

OBJECTIVE

This study aims to assess child nutrition and health indicators as predictors of academic performance among primary school children in Binduri District, Ghana.

METHODS

A total of 460 children from 63 schools participated in the study. Data were collected through questionnaires, data extraction sheets, and measurements of weight and height. Chi-squared tests and binary regression were employed to establish associations, with a 95% confidence level and 5% precision.

RESULTS

The findings indicate that stunting (COR=2.44, 95% CI: 1.17-5.11, p=0.018), thinness (AOR=11.75, 95% CI: 3.99-34.60, p<0.0001), attending public schools (AOR=6.58, 95% CI: 2.13-20.32, p=0.001), children with separated or divorced parents (AOR=7.22, 95% CI: 2.85-18.31, p<0.0001), residing in rural areas (AOR=2.54, 95% CI: 1.33-4.87, p<0.005), and students who have repeated a class (AOR=2.73, 95% CI: 1.56-4.79, p<0.0001) are negatively associated with academic performance. Conversely, a mother's completion of at least senior high school (AOR=0.05, 95% CI: 0.01-0.23, p<0.0001) and the father's employment as a civil servant (AOR=0.20, 95% CI: 0.09-0.43, p<0.0001) are positively associated with academic performance.

CONCLUSION

This study underscores the connection between child nutrition, health indicators, and academic performance in primary school children in Binduri District, Ghana. It recommends prioritizing interventions to reduce stunting and thinness while enhancing parental education access. Additionally, school policies should consider demographic factors influencing academic performance to offer targeted support to at-risk students.

Keywords: Child nutrition, Health indicators, Academic performance, Primary school children

THE EFFECT OF NUTRITION EDUCATION ON OVERWEIGHT AND OBESITY KNOWLEDGE IN A RURAL AREA IN GHANA

Jane Barnes, Sandra Boatemaa Kushitor, Millicent Ofori Boateng, Edward Sutherland, Steve Manortey, James Avoka and Esi Colecraft.

BACKGROUND

The prevalence of overweight and obesity is rising globally, including in low- and middle-income countries like Ghana. Overweight and obesity are rising in rural areas faster than anticipated. This study aims to assess the effectiveness of a nutrition education intervention in enhancing knowledge and promoting positive behaviors related to overweight and obesity in a rural area of the Eastern Region of Ghana.

OBJECTIVE

The study aims to examine the effect of a 4-week nutrition education on overweight and obesity knowledge in a rural setting in Ghana.

METHODS

A community-based intervention was conducted, involving nutrition education sessions, songs, food demonstrations, and community engagement led by local officers from the Ghana Health Service. The study employed a mixed-method approach to gather data at baseline and end-line. Baseline and end-line surveys (n=50) were conducted on socio-demographic characteristics and assessment of participants' knowledge, attitudes, and behaviors regarding overweight and obesity using the ORK-10. The intervention's impact on participants' knowledge and behaviors was analyzed using descriptive statistics. The qualitative data of 20 interviews were thematically analyzed using Dedoose software.

RESULTS

At endline the study revealed that participants' awareness and knowledge about overweight and obesity varied, with some misconceptions present. The nutrition education intervention significantly improved participants' knowledge of obesity (ORK-10 mean change = 1.39, p=0.001). Positive behavioral changes were observed, including increased engagement in exercises after meals, incorporating diverse foods into diets, and reduced late-night eating. The intervention also had a positive influence on family behaviors. The participants remembered the songs, the risk factors and management behaviour for overweight and obesity.

CONCLUSION

The nutrition education intervention effectively enhanced participants' knowledge and promoted positive behaviors related to overweight and obesity. The incorporation of culturally sensitive approaches and the involvement of families and community resources contributed to the success of the intervention. The findings emphasize the importance of comprehensive health education programs in addressing the challenges posed by the increasing prevalence of overweight and obesity in rural settings.

keywords: Nutrition education intervention, Community engagement, Overweight, Obesity, Four-Star diet

THE POTENTIAL OF SCHOOL MEAL PROGRAMS TO TACKLE RISING OVERWEIGHT AND OBESITY RATES AMONG SCHOOLCHILDREN IN AFRICA

Moses Collins Ekwueme^{a,b}, Liliane Bigayimpunzi^a, Ayala Wineman^{a,c}, Heidi Kessler^a, Arlene Mitchell^a

^a Global Child Nutrition Foundation P.O. Box 99435 Seattle, WA 98139-0435

^b Hubert Department of Global Health; Emory University, Atlanta, GA 30322

^c Department of Agricultural, Food, and Resource Economics, Michigan State University, East Lansing, MI, USA

Background and objectives

The prevalence of overweight and obesity among school children in Africa is rising alarmingly, necessitating effective strategies to address this public health crisis. School meal programs (SMPs) present a unique opportunity to combat this problem.

Methods

We draw insights from the 2019 and 2021 Global Survey of SMPs implemented by the Global Child Nutrition Foundation (GCNF). For each survey period, a country-level representative comprehensively reported on the coverage and activities of each large-scale SMP in the country.¹

Results

47 out of 54 African countries participated in at least one survey round. Although 80% of SMPs in all African sub-regions reported having an objective to meet nutrition goals in 2021, the percentage of programs with an objective to reduce obesity was 0% in Central and Eastern Africa, 13% in Southern and Western Africa, and 33% in Northern Africa. The most common approaches utilized to mitigate overweight/obesity included nutrition/health/physical education, diversity of food basket, and school food environment regulation. In the 37 countries that participated in 2019 and 2021, SMPs are increasingly incorporating complementary education programs oriented towards healthy eating. In 2021, 7 countries reported new food/nutrition/agriculture education programs, 15 countries reported having new school gardens, 8 countries reported offering health education for the first time, and 9 countries reported providing physical education, all of which were not present in their respective programs as of 2019. In each of these cases, we see more movement in the positive direction, indicating an overall trend toward recognizing the importance of these complementary components of school meal programs.

Conclusions

This study underscores the potential of SMPs to address the rising overweight/obesity problem among schoolchildren in Africa. Increasing support for these programs will provide implementors with more resources to incorporate an objective to reduce overweight/obesity and strengthen the approaches utilized to achieve this goal.

Keywords: Overweight, obesity, school meal programs, Africa, GCNF

ORGANIZING TEAM

University of Ghana

Amos Laar
Akua Tandoh
Silver Nanema
Annabel Yeboah-Nkrumah
Gideon Amevinya
Ibrahim Baki
Selina Tobil

FoodSAMSA team

Peter Delobelle
Mulenga Mukanu
Carmen Klinger
Peter von Philipsborn
Zandile June-Rose Mchiza
Karin Geffert

Africa Population and Health Research Center

Milka Wanjohi
Gershim Asiki

Amsterdam UMC

Charles Agyemang

ANH academy

Joe Yates
Ana Sousa
Chau Yo
Claudia Offner
Babatunde Makanjuola
Claire Dooley

Cheikh Anta Diop University of Dakar

Adama Diouf

City, University of London

Mark Spires

FAO

Mphumuzi Sukati

INFORMAS Team

Stefanie Vandevijvere
Kelly Garton
Chelsea Riddell

IRD- French National Research Institute for Sustainable Development

Michelle Holdsworth

Rockefeller Foundation

Peiman Milani

Tufts University

William A. Masters

UNESCO Chair

Nicolas Bricas
Damien Conaré

University of Health and Allied Sciences

Francis Zotor

University of South Carolina

Christine Blake

University of the Western Cape

Rina Swart

University of Toronto

Dan Sellen

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of the United Nations