transform nutrition WEST AFRICA

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Adolescent nutrition in West Africa: A rapid review of the research evidence

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Summary

Transform Nutrition West Africa is a regional initiative to support effective policy and programmatic action on nutrition through evidence generation, synthesis, and mobilization.

This technical note provides methodological detail on the rapid review of literature on adolescent nutrition in the West Africa region. Results are presented in the evidence brief, a poster, a presentation, and a blog, and can also be accessed through an Excel spreadsheet.

Objective

The aim of this rapid review was to identify and catalogue the available research evidence (from 1999–2019) on adolescent nutrition (10–19 years old) in West Africa. The review aimed to inform the West African Health Organization and other decision-makers so as to support policy and program development for adolescents in West Africa.

Methodology

1. Research question and PICOS framework

Research question

What is the available research evidence over the past 20 years (1999–2019) on adolescent nutrition (10–19 years old) in West Africa?

PICOS framework

We used the Population, Intervention/exposure, Comparison, Outcome, Setting (PICOS) framework to translate the research question and build the search syntax.

Definition of adolescence

The World Health Organization definition for adolescence was applied, i.e. the period between ages 10 and 19 (https://www.who.int/maternal_child_adolescent/adolescence/en/), throughout this review

Box 1: Definitions of adolescence and young adulthood

Child: Defined by the Convention on the Rights of the Child (1989) as a person younger than 18 years, unless majority (ie, the legal threshold of adulthood) is attained at a younger age in a particular country.

Adolescence: Historically defined by WHO as the period between ages 10 and 19 years.16 It is derived from the Latin adolescere—the present participle adolescens means growing up, whereas the past participle adultus means grown up.

Youth: The UN defines youth as people aged between 15 years and 24 years, a definition made in the lead up to the International Youth Year of 1985.

Teenager: Refers to people aged 13–19 years. The term was fi rst used in the USA in the 1920s, and became widely used within popular culture after World War 2.

Young people: A less formally defined term that generally refers to people aged 10–24 years, as does the composite term adolescents and young adults. When data are reported, the 10–24 year age range is increasingly being divided into three categories: 10–14 years (early adolescence); 15–19 years (late adolescence); and 20–24 years (young adulthood) to appropriately examine the extent of changes in health that take place during these years.17–19

Adulthood: The age that children and adolescents gain legal rights and accountabilities varies.18 years is the legal age of majority in many countries, although not universally. Even inlaw, no unified definition of adulthood exists—instead, laws define adulthood at different ages depending on the activity in question.

Source: *Sawyer SM, Afi fi RA, Bearinger LH, Blakemore SJ, Dick B, Ezeh AC, Patton GC. Adolescence: a foundation for future health. Lancet, 2012;379: 1630–40*

Table 1: PICOS Framework

PICOS	Details
Population	Adolescent population (10–19 years)
Intervention/Exposure	Studies reporting on prevalence, drivers, programs, and policies
Comparison	N/A
Outcomes	Any nutrition outcome (e.g., undernutrition, overnutrition, diet-related noncommunicable diseases (DR-NCDs), micronutrient deficiency)
Setting	West Africa (region and individual countries)
Time frame	Studies published 1999–2019
Study type	Any study design (peer-reviewed)
Language	English, French

2. Search strategy and screening

To conduct this rapid review of the literature, we used a systematic search strategy in the bibliographic database MEDLINE (https://pubmed.ncbi.nlm.nih.gov/) only. The search syntax can be found in Table 2. In brief, we used a combination of terms relating to the Population (adolescents), Outcomes (any nutritional outcome), and Setting (West Africa). The search was carried out on August 13, 2019. The title and abstract were screened against predetermined eligibility criteria (Table 3). For studies to be included in this rapid review, they had to: report on primary research in West Africa, report on a nutritional outcome in an adolescent population, be published in peer-reviewed journals, and be written in English or French. The search resulted in 2,728 studies, of which 154 qualified for inclusion. Reasons for exclusion included not reporting on adolescent age group, not reporting on nutrition outcomes, not reporting on the West Africa region, reporting on animal populations, or disease specific studies (more details in Figure 1).

Table 2: MEDLINE search results - August 13, 2019

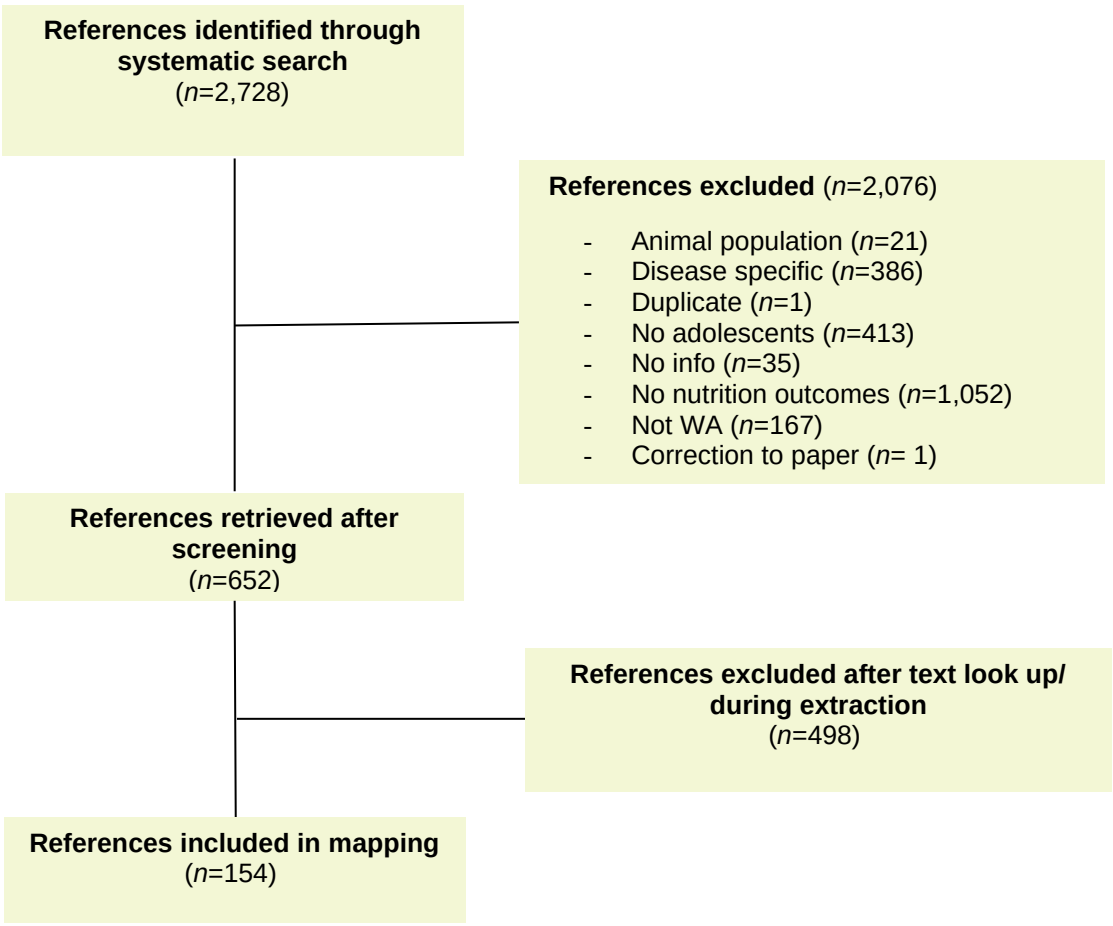
Search n°	*Syntax*	*Hits*	*Notes*
#1	adolescents OR “adolescence**”** OR youth OR “young person” OR “young people” OR “young adult” OR teenager OR pupils OR school-aged OR “young women” OR “young man” OR “young woman” OR “young men” OR “school girl*” OR “school boy*”	2479895	Adolescent terms (Population)
#2	"Africa, Western"[Mesh]	61395	
#3	“West Africa*” OR Benin OR Beninese OR Beninois OR “Burkina Faso” OR Burkinabé OR “Cape Verde” OR “Cabo Verde” OR “Cabo Verdean” OR “Cote d’Ivoire” OR “Ivory Coast” OR Ivorian OR Gambia OR Gambian OR Ghana OR Ghanaian OR Guinea OR Guinée OR Guinean OR “Guinea-Bissau” OR “Guinée-Bissau” OR Liberia OR Liberian OR	277572	West Africa MESH and free text terms

	Mali OR Malian OR Niger OR Nigerien OR Nigeria OR Nigerian OR Senegal OR Senegalese OR “Sierra Leone” OR “Sierra Leonean” OR Togo OR Togolese		
#4	#2 OR #3	279572	WA terms (Setting)
#5	nutrition OR dietary OR obese OR malnutrition OR “nutrition disorders” OR anthropometry OR underweight OR "body mass index" OR BMI OR “non-communicable” OR “noncommunicable” OR NCD OR hypertension OR “high blood pressure” OR "cardiovascular disease"	2171907	
#6	“Diet, food and nutrition” [MeSH]	1035929	
#7	#5 OR #6	2644715	All nutrition terms (Outcome)
#8	#1 AND #4 AND #7	4005	
#9	+ filter language English and French	3961	
#10	+ filter year 1999/01/01-2019/08/13	2728	Final number to screen

Table 3: Eligibility criteria

PICOS	Include	Exclude
Population	Adolescent population (10–19 years) *Studies that include a broader age category if information on the adolescent population could be extracted.*	Child populations; adult populations; studies focusing on nutrition outcomes of babies born to adolescent mothers; disease specific populations (e.g., HIV-positive adolescents only with no comparison group)
Intervention/Exposure	Studies reporting on prevalence, drivers, programs, and policies	N/A
Comparison	N/A	N/A
Outcomes	Any nutrition outcome (e.g., undernutrition, overnutrition, diet-related noncommunicable diseases [DR-NCDs], micronutrient deficiency)	Reproductive health outcomes; physical activity only with no relation to nutrition outcomes
Setting	West Africa (region and individual countries)	Migrants from West Africa living outside of the region; any other country
Time frame	Studies published between 1999–2019	Studies published before 1999
Study type	Any study design (peer-reviewed)	Gray literature
Language	English, French	All other languages

Figure 1: Flowchart of search results



3. Data extraction

Five reviewers performed data extraction at the abstract level in Excel. For each eligible study, the following information was extracted: language, country, focus of research, outcome, broad nutrition categories, study design, setting, adolescent age range, subset of adult/child data set, number of participants, drivers, intervention and/or policy description. Further details are provided in Table 4.

Table 4. Extraction template

Extraction category	Guiding question	Examples
Language	What language is the paper published in?	English, French
Country	What West African country/ countries are being studied?	Nigeria, West Africa region
Focus of research	What is the focus of the study?	Problem (prevalence) problem (drivers) problem (prevalence and drivers), programs, policy, people, data gaps

Outcome	What nutrition outcome is being studied?	Stunting, wasting, underweight, overweight/obesity, hypertension, anaemia, micronutrient deficiency, diabetes, dietary diversity
Broad nutrition categories	Which broad nutrition category/ categories does this study relate to?	Undernutrition (underweight, stunting, wasting) Overweight and obesity DR-NCDs (diabetes, CVD, hypertension) Micronutrient deficiency (vitamin A) Anaemia
Study design	What is the study design?	Cross-sectional, cohort, longitudinal, case control, case study, randomized controlled trial, quasi-experimental, other program design, qualitative, mixed-methods, policy analysis
Setting	What was the setting in which the study took place?	Home, village, community, city, health facility, hospital, school, district, not described
Adolescent age range	What is the age of the adolescents included in study?	Example 10, 11, 12 years old
Subset of adult/child data set?	Is the included adolescent population a subset of an adult- or child-focused study population?	Yes – adult population Yes – child population No
Participants (n)	How many participants are included in the study?	500
Drivers	For studies exploring drivers of nutrition outcomes, what drivers are reported?	Poverty, food security, food preferences, etc
Intervention and/or policy description	For studies exploring interventions and/or policy, what are the details of the intervention and/or policy?	Impact of physical exercise on BMI

4. Synthesis and quality assessment

The extracted information was analyzed in Excel to identify trends and gaps in the information retrieved. This was then summarized using narrative synthesis. Within this rapid review we did not conduct a full quality appraisal of these studies but included only peer-reviewed studies as a quality control. For a synthesis of the results please see the Evidence Note.

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