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| **Study characteristics and extracted data for studies investigating dietary behaviors** |
| **Study****Author**  | **Title** | **Journal** | **country/city** | **Design** | **sample size** | **sampling/recruitment** | **Age of participants** | **socio economic status** | **Dietary behavior component studied** | **Mediators** | **How mediators were measured** |
| Aryeetey, et al. (1) | Food retail assessment and family food purchase behaviour | African Journal of Food, Agriculture, Nutrition and Development  | Ghana, Accra | Case study | Retailers (19)75 households (person who mainly purchases food interviewed- female) | Households in community mapped using google Maps satellite image, Households assigned to clusters and then systematic random, sampling technique used to select out those to include in study |  | mixed (urban poor & middle class) | Food purchasing behaviour | * Price - mainly choose traditional markets because food is cheaper but also increasingly going for processed foods from convenience stores/supermarkets
* Sources of household purchases; preference for traditional markets compared to super market & convenience stores
* Commodity diversity (greater variety of foods) - preference for traditional markets but traditional markets are far limiting accessibility (closest was 10KM from study area)
* Proximity to food sources; preference for traditional markets as mainly are composed of farmers (especially on weekly market days)
* Weekly food purchases; in line with the community weekly traditional markets days (fresh produce more abundant, and sold at relatively lower prices)
* Increasing supermarkets but with less offer of fresh produce - usage still low compared top traditional markets & convenience stores but above average (for processed foods mainly)
* Convenience retail shops (less offer of fresh produce) ubiquitously distributed through out community thus high community dependence - higher purchases of processed foods
* Education and vehicle ownership - main purchase point is supermarket
 | A structured questionnaire with common items for consumer face to face in-depth interviews |
| Boatemaa, et al. (2) | Food beliefs and practices in urban poor communities in Accra: Implications for health interventions | BMC Public Health | Ghana, Accra | Qualitative | 30 (17 female) | Part of a broader longitudinal study of population, environment and health in Accra by the Regional Institute for Population Studies (RIPS). | 15 to 67 years  | urban poor  | Food Choice/Healthy eating | * Definition of healthy eating (portion sizes, must be socially acceptable, cooking method, food hygiene, time of eating) - diversity but no mention of F&V
* Cooking method and mode of consumption make food healthy/unhealthy
* Unhealthy food causes diseases and body disturbances (perceived severity)
* Tradition - culture (traditionally recognised foods) e.g. palm oil regarded as healthy in Ghana
* Finances - forces one to make choice which is not their preferences; make hard choices to leave out F&V
* Satiety filling foods chosen - reason for avoiding F&V as are not filling
* Perception that eating healthy is expensive - especially F&V

Planning - usually readapt recipes according to available ingredients**Psychological factors** * Emotions (what mind tells them)
* Satiety is the first factor to inform selection
* Embodied nutritional needs (body needs energy after strenuous work - thus select for foods perceived to have these)
* Dislike for some fruits
* Food preference for fatty and sugary foods

**Community Factors*** Availability - food deserts; F&V vendors are inconsistent- no salads by street vendors, convenience retail stores sell mainly processed foods
* sources of foods; traditional markets have cheaper offers of healthy foods
* Accessibility; transportation to traditional markets difficult
* Religion

**Significant others (interpersonal)*** Influence by mothers, grandmothers, aunts and friends - mainly socialisation with mothers;
	+ Cooking methods, type & content - influence from mothers; peers - food recommendations especially unhealthy processed foods
* Household size; those living alone don’t cook- b’se no one to share meals with; bigger households -prioritise filling carbohydrates over F&V and protein
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| Charlton, et al. (3) | Sources and credibility of nutrition information among black urban | Public Health Nutr | South Africa, Cape Town and Pretoria | Cross sectional qualitative & quantitative descriptive study | 394 women quantitative study39 women for qualitative study | Conveniently sampled according to age and socioeconomic status,(based on the Living Standards Measure (LSM) category of 5 or 6) entry criteria.LSM is an index that classiﬁes people according to their living standards | 17 to 49 years | Not specified  | Major sources of nutrition info & perceived credibilityExisting level of nutrition knowledge | * Definition of healthy diet; related to mainly body building food & foods in micro nutrients, not many mention diversity & fruits and vegetables
* Trusted information sources; media (TV & radio), family & friends and church groups
* Nutrition knowledge; obesity related to fat & sugar but not many relate it to portion sizes
* Knowledge misconception; weight gain perceived positively while low weight related to HIV - likely to influence choices for weight gaining foods, starchy foods are regarded as ‘fattening’ food
* Price, perception that health diet is expensive
* Organoleptic attributes, particularly taste
* Preferences of the rest of family
* Health considerations; aiming for a healthy diet but misconceptions of healthy diet limit many
* Habit/routine
* Quality/freshness of food
* Quick /easy to prepare foods
* presentation/packaging
 | Focus Group Discussions semi structured questionnaireStructured questionnaire based on themes and ideas from qualitative study |
| Phillips, et al. (4) | Perceptions of diet, physical activity, and obesity-related health among black daughter-mother pairs in Soweto, South Africa | BMC Public Health | South Africa, Johannesburg | Qualitative | 32 (daughters and mothers)  | Participants were sampled from ongoing Birth to Twenty Plus (Bt20) longitudinal study. Young adult female members of the birth cohort and their mothers were purposefully sampled. | Daughters (24 yearsMothers (53 years) |  Not specified | Healthy food behaviors | * Definition of healthy eating; F&V, and cereal consumption, boiling rather than using fats and oils, and not taking fast foods (good knowledge but many don’t practise it, esp. young adults)
* Age (young adults go for unhealthy trend options compared older adults)
* Adverse health experiences either to you or a loved one - more cautious/motivation to eat healthy, healthy lifestyle seen as a treatment mechanism
* Not priority to eat health now - young adults; prioritise more of emotion satisfying foods - tasty
* Motivation to live longer - mainly an aspect considered by mothers but not young adults
* Perception that repercussions of unhealthy eating are only dealt with in old age (mindset that health problems are long term)
* Habit to take small food portion size - young adults don't like to eat bigger portion sizes especially at night
* knowledge of broad range of consequences of unhealthy eating
* Personal health concerns (treatment mechanism) but only in mothers, not in young adults
* Information exposure from social networks (friends, family-grandmothers, mothers), mothers are always recommending to daughters what they should eat
* Information exposure from internet and television - media
* Body image prestige - weight gain means good life
* Personal motivation to be health rather than stressing about living a healthy lifestyle
* Desire to give family better upbringing- an opportunity mothers missed - usually desire translates in to specific dietary patterns
* Diet according to personal health concerns (mainly mothers) or needs of family members with health issues
* Exposure to nutrition/healthy information at school (primary and secondary)
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| Stern, et al. (5) | An exploration into the determinants of noncommunicable diseases among rural-to-urban migrants in peri urban South Africa | Prev Chronic Dis | South Africa, Cape Town | cross sectional mixed qualitativeand quantitative study | 55 (45 women and 10 men) | Purposive sampling, from ongoing community programs | Not reported  | Urban poor |  General dietary behavior (food choice) | * Less time for food preparation
* Budget constraints
* Environment of cheap unhealthy foods (high in fat & sugar)
* Social status food - fast street foods seen as progress from rural options
* Ability to get food on credit from street vendors
* Food deserts
* Weight gain symbolic to success - thus unhealthy options not a concern
* Family members obstacle to change
* Role models
* Desire to eat street vended unhealthy foods; tasty
* Emotional and social support gained through group organisational meetings; helps them to address barriers impeding them to overcome unhealthy options
 | In-depth interviewsParticipatory reflectionAction and reflection groups |
| Cockx, et al. (6) | From corn to popcorn? Urbanization and dietary change: Evidence from rural-urban migrants in Tanzania  | World Development | Urban Tanzania, Dar salaam | Cross sectional, national panelsurvey | 238 individuals (56.7% Females) | National panel survey for 2008/09 and 2013/14 used to track households who migratedduring this time period | Average age 21 years | Not specified  | Dietary pattern changes in urban immigrantsand reasons for changes  | * Switch to traditional staples to conveniently prepared out of home foods and highly sweetened diets (refined and processed foods)
* Increased snacking
* New preferences; desirability for quick to prepare foods
* Food environment; mainly sweetened processed foods & food deserts
* Cost; e.g. refined cereals are cheaper compared to traditional staples rural to urban migration
 | Expenditure and consumption recall questionnaire  |
| Dake, et al. (7) | The local food environment and body mass index among theurban poor in Accra, Ghana | Journal of Urban Health | Ghana, Accra  | Cross sectional | 40 households, Females & maleswithin households recruited | A household listing exercise was conducted in the 28-selected community administrative divisions. 40 households were then systematically sampled from the list. Females and males aged 15– 49 years and 15–59 years in the selected households were recruited as participants. | 15 to 49 years15 to 59 years(average age - 31 years)  | urban poor | Ccharacteristics of local food environment | * Food deserts (lack of affordable fruits & vegetables) Abundance of out of home cooked foods (variety of options; high energy dense unhealthy options and traditional staples mainly prepaid from whole grains- healthy)
* Abundance of convenience food stores (mainly processed foods - polished rice, canned & energy dense products)
* Migration (rural to urban)
 | Community level; Geographical positioning system technology (GPS technology) to map out characteristics of food environmentIndividual level, survey for socio demographic & lifestyle behaviour & semi structured questionnaire for face to face interviews |
| Everett-Murphy, et al. (8) | Using formative research to develop a nutrition education resource aimed at assisting low-income households in South Africa adopt a healthier diet. | Health Educ Res | South Africa (6 cities) | Qualitative  | 167 individuals (97% females) | Stratiﬁed purposive sampling was used to recruit a sample of adults from diverse backgrounds in terms of language, ethnicity and cultural tradition. Recruitment was through public health services and community-based organizations. | Average age (44 years)  | urban poor  | Healthy eating beliefsFood choice determinant  | **Definition of healthy diet**; * practical knowledge of balanced healthy diet is poor
* understand that healthy diet plays a role in management of NCD but don’t understand its prevention role

**Beliefs about healthy diet*** Perception that its tasteless, dry and bland
* only boiled food is healthy, avoid fried foods
* Healthy diet is expensive - especially fruits and vegetables
* Requires too much preparation time
* Its not filling - satiety
* Only necessary when your sick - if doctor recommends it
* Olive oil is the only healthy oil

**Food habits*** Sweet treats part of social ritual especially over the weekends (since childhood)
* deep frying is culturally rooted
* Dislike for high fiber diets (minimally refined maize flour and most legumes like beans)
* Desire for Unhealthy foods (high fat take away, processed foods & refined grains are cheap, tasty and convenient)
* Local availability - food deserts - so you only eat what you can find in the shops

**Low self efficacy** * Cost- can’t afford to eat healthy,
* Family perception to diet changes, rejected if healthy food is not tasty
* don’t know how to cook healthy,
* difficulty to break habits; difficult for family to accept changes
 | Focus group discussion using semi -structured questionnaire  |
| Holdsworth, et al. (9) | Knowledge of dietary and behaviour-related determinants of non-communicable disease in urban Senegalese women | Public Health Nutr | Senegal, Dakar | cross sectional quantitative  | 301 individuals, all women | The sampling frame was the district of Pikine ancient district (population of about 100000 inhabitants) chosen for its socio demographic diversity. Using a recent map, 310 households were randomly selected using random number tables. One woman was then selected from household | 20 to 49 years  | Not specified  | Knowledge of dietary and behavioral related determinants of NCDs | **Healthy eating knowledge*** Clear understanding between fat & NCD
* Low link between sugar & salt to NCD
* No clear link between low intake of F&V to NCD

Low relation between dietary risk factors & NCD than non-dietary risk factors with NCD | Questionnaire with clearly unequivocally true or false itemsQuestions chosen on areas of knowledge with high scientific consensus about the causality of NCD  |
| Kiawi, et al. (10) | Knowledge, attitudes, and behavior relating to diabetes and its main risk  factors among urban residents in Cameroon: A qualitative survey | Ethnicity & Disease, | Cameroon; Yaoundé ´, Bamenda, Douala, Garoua | Exploratory and descriptive Qualitative  | 62 individuals,27 women, 35 men  | Participants were purposely recruited from communities covered by the sampled health districtsand selected through a cascade procedure. To avoid an over- or under-sampling of some subpopulations and to capture a broad cross-section of people from each community, participants were selected to achieve a mix of sexes, age groups, educational levels, and socioeconomic positions. | 15 to 50 years  | Mixed | Knowledge, attitudes and behaviors relatingto risk factors of diabetes (diet) | * Obesity seen as a positive sign of good living & health - thus likely to influence selection of weight giving foods
* Healthy diet definition; fruits and vegetables mentioned by few (older adults) to be a component of healthy diet, generally unawareness of composition of healthy diet
* Perception that a balanced diet is difficulty to sustain due to practical difficulties - only older adults mention that they try to eat fruits & vegetables
* Unhealthy food environment;
* Limited fruit and vegetable consumption; seasonal scarcities and high cost of imported exotic fruits
* Financial difficulties a barrier to healthy eating - perception that healthy eating is expensive
* Food habits deeply ingrained; people stick to traditional staple diets
 | Face to face in-depth interviews with semi - structured interview guide  |
| Van 'T Riet, et al. (11) | The role of street foods in the dietary pattern, of two low-income groups in Nairobi.  | Eur J Clin Nutr  | Kenya, Nairobi | Mixed study; cross sectional quantitative descriptive & qualitative | 1011 households, quantitative73 households for qualitativemajority of respondent’s females | **Quantitative**; a cluster of streets from both study areas where households with manydifferent ethnic backgrounds live was selected. In principle, all households in these streets were included in the study population and approached on a door-to-door basis.**qualitative;** a stratified sample was taken from the five largest ethnic groups represented in the cross-sectional study. Half of the selected households had reported consuming street foods daily and half had reported never consuming street foods at all. | Not specified  | Low income areas  | Role of street foods in dietary patternReasons for consumption or non-consumption Non-consumption issues  | * Cost; are cheap/affordable, saves fuel
* Convenience; already prepared and available at all times
* Organoleptically nice - good taste
* Limited time to prepare foods
* Possibility of getting credit
* Household size; large household size consumes more of street foods
* Economic status; regular employment - limited consumption; irregular employment- high consumption
* Household composition; presence of a woman with a domestic role - lower consumption
* Food variation consideration; a range of prepared foods to choose from, thus some people aim to add variety to their diet
* Food safety concerns - microbial/hygienic issues unhealthy - but majority still consume despite knowing this - mainly described in terms of unhygienic issues
 | Cross sectional - short structured questionnaire focused on street food consumptionand social-demographic- economic situationqualitative - an in-depth interview guide with a structured and open-ended questions |
| Becquey, et al. (12) | Dietary patterns of adults living in Ouagadougou and their association with overweight | Nutr J  | Burkina Faso, Ouagadougou | cross sectional survey | 1072 individuals, 557 womenand 515 men  | Recruitment was through a population monitored by the Demographic Monitoring System carried out by the Higher Institute of Population Sciences]. Two districts were purposively selected. Wemtenga (a structured and located near city center with amenities; electricity and water supply)and Taabtenga (a non-structured, located at periphery of the city with no amenities). Random selection of participants within districts | 15 to 65 years  | Mixed socio economicgroups | Describe dietary patterns & their relationshipwith anthropometric outcomes  | * Food habits - mainly high snacking
* Economic status; higher economic status - higher snacking levels and modern diet (mainly westernised diet)
* Occupation; formal sector - higher snacking levels - less time available and organisation of day outside home
* Age; young adults - higher snacking - less organised life to plan meals
* Marital status; singles - higher snacking - less organised life to plan meals
* Low dietary diversity; probably knowledge gaps
* Culture; traditional diet based on cereals and vegetables
* Environment; area of residence - snacking with mainly traditional foods majorly occurs in non-structured district while snacking with modern snacks in structured districts
* Religion; Muslims usually have traditional diets compared to other religions
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| Hiamey, et al. (13) | Are we indeed what we eat? Street food consumption in the Market Circle area of Takoradi, Ghana  | Nutrition and Health  | Ghana, Takoradi  | cross sectional survey  | 220 street food consumers(54% females)  | Accidental sampling technique. The respondents were contacted at the point of the food vendors.The respondents were people who had either already purchased or finished eating their foods.  | 61% of participantsbelow 35 years  | Not specified  | Street foods consumption and reasons for consumer choices  | * Food availability - environment; low options for fruits and vegetables among the available street foods, mainly carbohydrates (traditionally people oriented to carbohydrates)
* Formal education; members with low education level consume more compared to higher education levels, thus low consumption levels maybe related to food safety awareness
* Economic status; consumption equally the same among low earners (driven by cost saving) and middle class (driven by convenience)
* Occupation; mainly traders due to their nature of work
* Convenience; availability and accessibility over space and time (within reach & available 24/7) - as well saves time and difficulties associated with home food preparation
* Sensory appeal; good taste and nice aroma
* Nutritional reasons; opportunity to select from varied local dishes, opportunity to obtain a balanced diet from the available variety (only mentioned by 26%)
* Cost savings
* Opportunity to eat on credit
* Social benefits; ability to network with others while purchasing and eating food
* Trend; fashionable to eat out
 | Face to face interviews using questionnaire  |
| Van Den Berg, et al. (14) | Body weight, eating practices and nutritional knowledge amongstuniversity nursing students, Eastern Cape, South Africa.  | African Journal of Primary HealthCare and Family Medicine  | South Africa, Cape Town  | A cross -sectional descriptive Survey  | 161 undergraduate nursing students (68% female)  | All 200 nursing students enrolled at the institution, were contacted & voluntarily asked to participate in the study. Their names were obtained from the admissions list of the institution.  | 18 to 42 years  | Mixed social economic Classes  | Eating practices and nutritional knowledge  | * Eating pattern; Majority, 97;5 % do not meet USDA- FDA recommendations for vegetables while 42% do not consume minimum requirement for fruits., mainly high consumption
* carbohydrates, intake levels of added sugar and saturated fat above recommendation
* Nutrition Knowledge - low
* Majority knew that starch is supposed to be eaten the most, but knew that fat and sugar had to be taken in moderation
* Low knowledge of fruit and vegetable recommendations
 | Eating practices; three 24-hour recalls (for Tuesdays, Thursdays and Saturdays) Nutritional knowledge; structured interviews using a questionnaire based on therecommendations of the USDA-FGP, the Dietary Guidelines for Americans 2010and the South Africa Food based Dietary Guidelines. |
| Savy, et al. (15) | Are dietary diversity scores related to the socio-economic and anthropometric status of women living in an urban area in Burkina Faso | Public Health Nutr  | Burkina Faso, Ouagadougou  | A cross sectional qualitative dietary recall  | 557 women  | Randomly select 300 women from each of the two districts of Taabtenga, (mainly occupied  by urban poor) and Wemtenga, (mainly occupied by high social economic class)  | Average age -37 years  | Mixed socio economic Classes  | Dietary Diversity and relationship betweendietary diversity and socio economic  | * Higher dietary diversity, increased consumption of energy dense foods, double edge (both energy dense & micronutrient rich)
* Portion size, more important than dietary diversity in this setting
* Higher DDS-22Education - those who had attended schoolEconomic situation - higher income
* Age - younger
* Eating out of home - higher dietary diversity
* Occupation; no relationship
* Religion; no relationship
 | 24-hour recall and questionnaire  |
| Van Zyl, et al. (16) | Characteristics and factors influencing fast food intake of young adultconsumers in Johannesburg, South Africa | South African Journal of Clinical  | South Africa, Johannesburg  | Descriptive cross sectional  | 341 (53% females)  | Convenience sampling was used to identify shopping malls in three different socio-economic areas in Johannesburg. The shopping malls were selected on the basis of a previous marketresearch study that determined the consumer profile at key shopping malls in the City ofJohannesburg Metropole, according to the Living Standards Measurement (LSM) classification system. Data was collected on Fridays and over weekends in an endeavor to reach a more varied group of potential participants. Two field workers were located at the entrance to each large grocery store within the shopping mall. The random sampling method was used by selecting every second woman and man passing the researchers. | 19 to 30 years  | Mixed socio economic Classes  | Fast food consumption patterns and factors influencing fast food intake  | * Socio-economic status - lower consumption
* Socio-economic status - higher consumption
* Time limitations
* Convenience
* Organoleptic properties - taste and appearance (unhealthy fast foods), majority would not choose a healthy option even when available - reason perceived bad taste
* Perceived severity; health concerns (fear for getting fat) but no choice
* Environment; health options not available on menus, participants would have chosen healthy options if they would be available on fast food menu
* Media - TV commercials majorly influences their food choice, this was more common among the low- and middle-income socio-economic status compared to high class, flyers less
* Family and friends - influence participants to buy fast foods
* Availability of unhealthy fast food and no healthy options at this outlet - environment
* Education; highly educated (tertiary) have health concerns, and would choose a healthy option if available
* Mood - majority go for unhealthy fast food because at those moments they feel like eating that
 | Validated questionnaire  |

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