A Systematic Review of the Relationship Between Family Structure and Health Risk Behaviours Amongst Young People: An African Perspective

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Abstract: *Objective*: The aim of this study was to review the published literature on the relationship between family structure and engagement in health risk behaviour amongst youth in African countries.

Methods: A systematic review was conducted between 2000 and 2014. Suitable titles were identified from database searches. Thereafter, abstracts were evaluated along specific inclusion criteria. Eleven full text articles were evaluated for methodological quality using a modified critical appraisal tool and six studies were included in the final review that satisfied the threshold criterion of 70%. A narrative synthesis was completed for all included records to provide a textual answer to the research question.

Results: Findings indicated that there was a relationship between family structure and engagement in health risk behaviour, specifically risky sexual behaviour. The importance of family structure was evident, and the active involvement of parents in the activities of youth is cardinal. The review further underscores that there is lack of methodologically rigorous research that can provide empirical support for and insight into the relationship between family structure and engagement in health risk behaviour.

Discussion: Risky sexual behaviour was the most prevalent outcome assessed across studies. Family structure impacted positively on delaying or reducing engagement in risky sexual behaviour. Diverse family structures were identified and orphans living with caregivers were identified as a particular structure that might be more prevalent in the African context. Parental involvement and investment in adolescent activities were more strongly identified as an important factor. There is a lack of and need for more methodologically rigorous research to gain empirical support for and insight into the relationship between family structure and health risk behaviours.

Keywords: Africa, family structure, health risk behaviour, Systematic review, youth.

INTRODUCTION

The increased engagement in health risk behaviours among youth has been well documented [1, 2]. Policymakers and researchers have looked more seriously at prevention as a potentially cost-effective approach to reduce the prevalence and sequelae of these behaviours e.g. crime, teenage pregnancies, school drop-out, risky sexual behaviour and substance abuse [3]. Models for prevention of adolescent health-risk behaviours focused on the risk and protective factors predictive of these behaviours in an attempt to understand the aetiology of engagement in health risk behaviours amongst youth [4, 5]. Research indicates that many of the same factors predict these different outcomes including, but not limited to family structure and function [6, 7]. Engagement in health-risk behavior by adolescents takes place within the sociocultural context of families and their neighborhoods as they are socialised or shaped in part by the values and beliefs of their parents and society [8]. Childhood family environments represent vital links for understanding mental and physical health across the life span [9].

Literature has evaluated the impact of family on adolescent behavior in different ways. Studies explored parental involvement [10, 11], parental communication [12] parental monitoring [13], family processes [14], family health and dysfunction [15] family function [16] family interventions [17] and family structure [18]. For the purposes of this article the focus will be on family structure and the authors recognise that family structure is not static [19]. Family structure is an important aspect of the family context that has been linked with many child development outcomes. In order to understand family structure, we realise that it may change over the lifespan of a child and may vary from, two parents at home to one parent of either sex or to a relative. More importantly, it is necessary to understand that family structure in the African context and globally have changed over the years for various reasons such as economic conditions, education and disease [20, 21]. With the increase in women joining the labour force in Africa, single female-headed households have become a popular phenomenon [22]. In addition, this phenomenon has also led to an increase

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in grandparents rearing their grandchildren to allow mothers to be breadwinners [23-25]. For example, multi-generational co-residence has been a culturally entrenched norm historically for nine-tenths of South African society [26, 27] and co-residence with family remains a norm and a widely preferred option for the majority of the South African population [28-30]. Thus the concept of multi-generational households is increased and reinforced. Literature highlights that the extended family ethos in Africa thus remains intact [31, 32]. All of this has been compounded by the effects of HIV/AIDS that has affected entire family units consisting of women, children and the extended family [29]. HIV/AIDS has contributed to the change of family structures and function with the main consequence of HIV/AIDS yielding an increase in the number of orphans and thus child-headed homes [30]. These families often live below the family threshold and the well-being of these families is thus threatened [33-35].

As this shift of family structure is occurring, it is presumed that family processes and the well-being of children will be influenced. Research on the relationship between family structure and health risk behaviours by children is evident, but has produced inconsistent results. Recent research has shown that bonding to school and family protects against a broad range of health-risk behaviours in adolescence [7]. Characteristics of the family and household such as parents' type of marriage, family structure, family stability, and living away from home are also important factors associated with adolescent behaviors [36, 37]. In general, research on family structure and adolescent well-being has indicated that children in homes with married couples have a better well-being than those in single parent homes or cohabitating homes [31, 32, 34]. Studies have also reported that adolescents from nuclear families are less likely to engage in risky behaviours such as drinking [33] or smoking [34]. Factors such as divorce have also been reported to be related to risky adolescent sexual behaviour [35]. In addition, it was found that single parent homes tend to have fewer financial resources and thus the socio-economic status of the family may contribute to various aspects of the life of adolescents [36]. It is thus evident that the role of family structure has been highlighted as being vital in helping youth be resilient to most risk factors associated with adolescent substance use, violent behavior and sexual behavior and for promoting healthy adolescent behaviors [37].

There has been evidence specifically that family function and family structure are predictors of participation in risky behavior such as adolescent sexual initiation and alcohol uses include [38, 39]. Adolescents who perceive their relationships with their parents to be poor are reportedly more pessimistic, have lower self-esteem, and have more depressive symptoms than adolescents who have good relationships with their parents thus predisposing the former to engaging in risky behavior [40, 41]. Literature has indicated that family processes fully accounted for the higher levels of delinquency exhibited by adolescents from single-father versus single-mother families [41]. It has been reported that dysfunctional families had significantly more sexually active respondents [17]. We note that dysfunctional families are not necessarily linked to family structure, but to the family processes where roles and responsibilities become unclear and thwarted. Research has demonstrated that parental involvement affects adolescent behavior and this can be positively influenced through careful monitoring of children on the part of parents [41]. This is a demanding role and in single parent homes and extended family homes, it becomes difficult to decide whose responsibility the monitoring becomes. Children of disrupted families are thus at a higher risk of initiating the use of controlled substances and engaging in sexual intercourse [42]. A firmer understanding of the mechanisms that underlies the association between family structure and engagement in health risk behaviour among youth is needed in order to design effective intervention strategies.

Functioning of children and families is dependent on both internal and external factors [43]. In Africa and some other countries, families living in poverty and crime-ridden societies are at increased risk, as unhealthy behaviors are more likely to emerge with a specific challenge for youth. There have been reports that as the family structure disintegrates and more single parent homes emerge, there are associated challenges. It has been postulated that children raised in female-headed homes are more likely to live in poverty than those from married-couple homes [44]. Having said this, literature acknowledges that family structures are increasingly becoming more diverse and complex (i.e. divorce, re-marriage, single-parent household, common- law relationship) [44]. The lack of contextual findings specific to African countries may result in an underestimation of the effect of family structure on the promotion of positive health behaviors amongst youth. Authors have cautioned that statistically significant findings often came from models that did not adequately control for other measures of family connectedness resulting in -reliance on overly unsophisticated empirical techniques to control for confounders [15]. Thus, there is a need for two processes in future research a) more intentional attempts at sophisticated modeling and hypothesis testing and b) a more systematic evaluation of primary studies reporting on the impact of family structure on adolescent behavior e.g. engagement in health risk behaviors whilst acknowledging that family means different things to different people. Families may span several generations, several households; and may change in response to life events such as divorce, remarriage, and children leaving the parental home, especially in African countries. This article reports on a systematic review of quantitative studies reporting on the relationship between family structure and engagement in health risk behaviour among youth from an African perspective between 2000 and 2014.

RESEARCH QUESTION

The study evaluated published findings related to the relationship between family structure and the engagement of youth in health risk behaviors in Africa. The review question was formulated to specifically identify youth or adolescents in Africa as the target population, and their engagement in health risk behavior as the outcome. The review evaluated family structure in the families of origin as the issue impacting participation or non-participation in health risk behavior.

Theoretical definitions: family structure was defined as the combination of relatives that comprise the adults in the family. In the African context, African family structures

being practiced in different parts of the continent include (a) nuclear family, (b) extended family, (c) single parental family, (d) step family, (e) matrilineal family structure and (f) patrilineal family structure [45]. Health risk behaviour was defined as any activity undertaken by people with a frequency or intensity that increases risk of disease or injury [46] and included behaviours such as, substance abuse, sexual activity, physical inactivity, alcohol use, or smoking. For the purposes of this study, youth or adolescence was not defined as the researchers wanted to determine if there are differences in the age ranges provided in respective studies for adolescence. Furthermore a delineation of an age range from the researchers could adversely impact the eligibility of studies where youth is delineated differently due to cultural considerations.

MATERIALS AND METHODOLOGY

This study was a systematic review that evaluated published studies on the relationship between family structure and engagement in health risk behaviour among youth in African countries. The inclusion criteria for this review were publications between 2000 and 2014, and were written in or translated into English. This period was chosen as a previous review [44] cited literature from 1999 that indicated that there had been transformation in the African family. Thus the period as from 2000 was considered relevant as changes in family structures were reportedly due to a response to social, economic and political changes. The review was limited geographically to the African continent as the researchers believed that there may be intercontinental differences in engagement in risk behaviours. Similarly family structure was thought to differ in African countries given the more collectivist approach to family life and culture [44]. Eligible studies had to use quantitative methods to examine and report on the relationship/ association between family structure and engagement of youth in health risk behaviour.

Search Strategy

A search was conducted between June and July 2014 using databases and journals from Science Direct, Ebscohost (Psychinfo, Medline, Academic Search Complete), BioMed Central, PubMed, Directory of Open Access Journal (DOAJ) and SAGE Journals. Search terms included family structure (single parent, single father, etc), health risk behaviours, youth and adolescent. Subject headings and MeSH terms included "parents", "family," "family structure (single parents, extended family, nuclear family)" "family context" "parent -child relations" and "health risk behavior *vs* health risk behavior" From the results that the searches yielded, the titles and abstracts were reviewed and examined using the inclusion criteria as described above. In order to determine study eligibility, two reviewers (JF and ZS) independently conducted the data base search for suitable titles and reviewed abstracts for eligibility. Full text articles were retrieved and two reviewers independently assessed the articles to determine whether the article adequately met the criteria for inclusion in the review.

Methods of the Review

One of the researchers (JM) conducted an initial search to determine if there was evidence for this area using the identified key terms. Once this was determined a search of various data bases indicated was conducted by the second author (ZS) and the titles and abstracts was reviewed for eligibility using the PIO (population, issue and outcome) as a guide as mentioned before. Full text articles were retrieved from the identified databases and where necessary obtained *via* inter-library loans in order to evaluate the methodological quality using a critical appraisal tool.

Methodological Quality Appraisal

The methodological quality for the studies was assessed using an instrument (Table **1**) adapted from previous systematic reviews that focussed on reviewing prevalence studies [47-49]. The tool was adapted because it only focused on one variable whereas we included the assessment of another variable for this review. Thus the variables assessed included family structure and health risk behaviour.

As presented in Table **2**, the methodological tool focused on the method of sampling. Studies were classified as bad (<33%), satisfactory (34-66%) or good (67-100%) based on the total score they obtained. Threshold scores for inclusion were set at 70% i.e. articles with a score greater than 5/7 (71%) was included in the review.

Search Results: The initial search that was conducted for the review yielded 2366 hits using the keywords *family structure and adolescent health risk behaviour.* The searches using filters and combinations of terms then yielded 556 hits. Following these searches, the titles and abstracts were reviewed for eligibility and a sample of 130 articles were retrieved by consensus of the reviewers. Eleven articles were evaluated for methodological rigour and quality. Five were excluded based on a poor score according to the methodological quality appraisal tool. The main areas where the articles lacked in methodological rigour and quality were the method of sampling, secondary data and that the relationship between family structure and health risk behaviour was not assessed or reported on. Table **2** summarizes the outcome of the methodological appraisal and illustrates that six articles were included in the final review. In addition, Fig. (**1**) below outlines the process involved in the systematic review and the search results at every step.

Data Extraction

Two independent reviewers extracted the data using a standard data extraction form. Before the form was finalized for use in this study, it was pilot-tested by the review authors on similar studies not included in this review and minor adjustments were made after discussion. The extracted information was summarised and presented in a tabular form (Table **3**) along the following factors: population, risk behaviour measured, effect of family structure on engaging in the risky behaviour. Data was extracted from the narrative information, as well as the figures and tables.

Table 1. Methodological quality appraisal tool.

1	***Sampling method: Was it representative of the population intended in the study?***	
	A. Non-probability sampling (including: purposive, quota, convenience and snowball sampling)	0
	B. Probability sampling (including: simple random, systematic, stratified g, cluster, two-stage and multi-stage sampling)	1
2	***Was a response rate mentioned within the study? (Respond no if response rate is below 60)***	
	A. No	0
	B. Yes	1
3	***Was the measurement tool used valid and reliable?***	
	A. No	0
	B. Yes	1
4	***Was it a primary or secondary data source?***	
	A. Primary data source	1
	B. Secondary data source (survey, not designed for the purpose)	0
5	***Was health risk behaviour looked at within the study?***	
	A. No	0
	B. Yes	1
6	***Was family structure a variable in this study?***	
	No	0
	Yes	1
7	***Was the relationship/association between family structure and health risk behaviour explored?***	
	A. No	0
	B. Yes	1
Scoring: Total score divided by total number of items multiplied by 100		
Methodological Appraisal Score		

Bad	*Satisfactory*	*Good*
0 - 33 %	34 - 66 %	67 - 100 %

Table 2. Methodological appraisal.

Author(s)	Q1	Q2	Q3	Q4	Q5	Q6	Q7	%	Outcome
Negeri (2014) [44]	1	1	1	1	1	1	1	100%	Include
Pilgrim *et al.* (2013) [45]	0	0	1	0	1	1	1	57%	Exclude
Marchand & Smolkowski (2013) [46]	0	0	1	0	1	0	0	16%	Exclude
Sidze & Defo (2013) [47]	1	0	1	0	1	1	1	71%	Include
Ismayilova *et al.* (2012) [48]	1	1	1	0	1	1	1	85.7%	Include
Defo & Dimbuene (2012) [49]	1	0	1	1	1	1	1	85.7%	Include
Ntaganira *et al.* (2012) [56]	0	1	1	1	1	0	0	57%	Exclude
Dimbuene & Defo (2011) [57]	1	0	1	0	1	0	0	42.8%	Exclude
Camlin & Snow (2008) [52]	1	0	1	0	1	1	1	71%	Include
Adu-Mireku (2003) [53]	1	0	1	1	0	0	0	42.8%	Exclude
Magnani *et al.* (2002) [54]	1	0	1	1	1	1	1	85.7%	Include

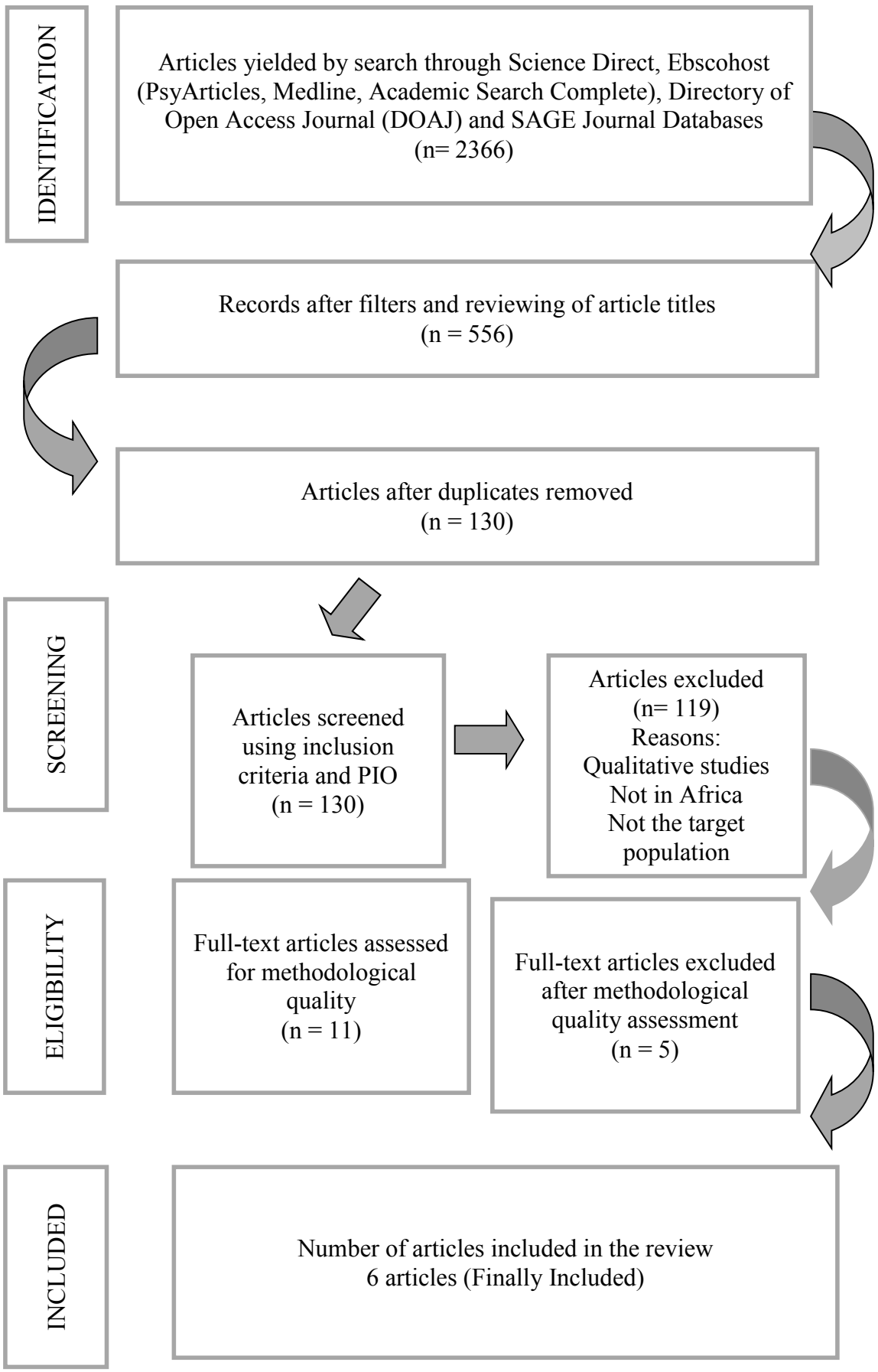

Fig. (1). Flow chart of study screening.

Data Synthesis

In this review a narrative synthesis of the findings from the primary studies was completed to deliver a textual answer to the review question. Characteristics of the studies to be included were summarised and presented in a narrative form. The types of family structure was unpacked as well as the behavioural risk factors investigated. In addition, the associations between family structure and engagement in risky behaviour was analysed and presented in a narrative form.

RESULTS

Description of Studies

Six articles were included in the final review. The studies were geographically located in Ethiopia [50], Cameroon [51, 55], Zambia [60], South Africa [58] and Uganda [54]. Survey designs were the most frequently used, as well as secondary studies or data analysis obtained from family and health surveys.

The number of participants ranged from 283 participants to 4800 participants and the studies were conducted in setting such as households, primary schools, high schools and communities. The age range of the populations used in the studies ranged from 10 to 24 year old unmarried youth. The target populations for the respective studies included orphans and youth in family groups. Study populations further distinguished between in- and out of school youth.

Family Structure

In the various studies, family structure differed. In some, family structure was classified under living arrangement and this included living alone, with both parents, a single parent or relatives [50]. In another study, family structure included biological parents, biological mother only, biological father only, other relatives and uncorrelated residents [53]. Other studies included grandparents and other relatives as part of the family structure such as an aunt or uncle [48]. Another article refers to the family structure in terms of one nuclear or two nuclear; or one extended and two extended [55]. It is thus evident that within the African context the definition for family structure varies and researchers in this field should be aware of this diverse definition for family structure. The definition for family structure for this review is supported by the various studies as it includes varied family structures such as a nuclear family, an extended family and a single parent family.

Health Risk Behaviour and Family Structure

Traditionally, parents have been viewed as having a primary influence on the health risk behaviour of young people [56]. Sexual behaviour was the main health risk behaviour addressed in the respective studies. The association between family structure and engagement in sexual activities was assessed in all the articles. Although living with both parents served as a protective factor against engagement in sexual behaviour, connections with parents did not emerge as strong determinants of adolescent behaviour [60]. This was supported by another study which indicated that if both parents were in the home then youth were more likely to use a condom at first sexual experience [58]. However, there was no relationship between abstinence (no sexual engagement) and family structure. In addition, research highlighted that a caring and supportive family environment could result in a less approving attitude towards sexual risk taking behaviours amongst youth [54, 57]. This was evident in the study with orphans [54] where, the traditional extended African family network provided care for the orphaned adolescents and the supportive environment that encouraged them to make wise choices with regards to sexual behaviours. Thus, the role of the extended family should not be underestimated when considering reports that youth living with both parents were less likely to engage in risky sexual behaviours compared to those living with the biological father only where there is a high risk of having multiple partners [53]. This is supported by another study indicating that youth were less likely to engage in premarital sex when living with parents who monitored their activities and friends compared to those living with one biological parent or with friends [50]. The emphasis should be on the monitoring role rather than the family structure e.g. both or one parent. The extended family can also augment the parental capacity by playing a monitoring role.

DISCUSSION

The increased engagement in health risk behaviors amongst youth is a worldwide, concern and has served as the impetus for sustained research, particularly prevalence studies [1]. Attempts to intervene in this problem are dependent on an informed understanding of the factors associated with engagement in health risk behaviors. The impacts of these factors are thought to be gendered, racialized and culturally determined. Family structure has been identified as such a factor that needs to be explored from an African perspective to gain systematic and empirical insights into inter-country and continental patterns in the association between family structure and engagement of youth in health risk behaviour [39].

This systematic review aimed to examine the relationship between family structure and the engagement of youth in health risk behaviour in Africa. The results of the current study show that sexual behaviour was the most commonly health risk behavior of concern amongst youth cited in literature. The countries identified in the review included Cameroon, South Africa, Uganda, Zambia and Ethiopia. More studies were expected from South Africa as South Africa has the world's largest HIV-positive population [61].

The review revealed that the definition of youth ranged from 10 to 24 year old unmarried youth that would have implications for the nature and quality of relationships with family relations, care givers or guardians in the home environment. The review also identified that there are different family structures that may vary significantly from traditional western conceptualizations of nuclear family structure as well as blended families. One of the striking observations is the identification of orphans living with caregivers. This is an important finding given the high incidence of HIV-related deaths and HIV- orphans in Africa [62].

Table 3. Data extraction from articles.

No.	Author	Study Design	Population and Sample Size	Country	Aim	Outcome	Health Risk Behaviours	Family Structure
1	Negeri (2014) [50]	Mixed methods: questionnaire and interviews	1200 (600 in-school and 600 out-of-school)	Ethiopia	Assessing the influence of parents and peers on the sexual risky behaviour and to determine unsafe sexual practices among in and out-of-school youths in western Ethiopia.	More of out-of-school youths engage in risky sexual behaviours than in-school youths. Parental monitoring and high parental connectedness are related to better sexual health	Sexual behaviour, HIV/AIDS	Both parents, single parent, relatives.
2	Sidze & Defo (2013) [53]	Survey	447 sexually active unmarried individuals, aged between 15-24 years.	Cameroon	To investigate the associations between parenting practices and sexual risk taking.	Good parent-child relationships are protective against multiple partnerships amongst males and females	Sexual behaviour	Both parents, father or mother only and other relatives or guardian.
3	Ismayilova *et al.* (2012) [54]	Cluster-randomized experiment	283 orphaned adolescents from 15 Schools	Uganda	Effect of Suubi intervention on family support variables and their role in mediating the change in adolescents' attitude toward sexual risk taking.	Because of the Suubi intervention, adolescents were less positive about engaging in sexual risk behaviours because they felt more connected and supported by their caregivers.	Sexual Behaviour	Orphans (with Caregivers)
4	Defo & Dimbuene (2012) [55]	Population based survey	1815 adolescents and young adults aged 12-24 years	Cameroon	To determine the influence of family structure dynamics on the timing of first sexual experience	Family transitions during childhood was significantly associated with premature sexual initiation for females but not males	Sexual behaviour	
5	Camlin & Snow (2008) [58]	Survey	4800 youths ages 14-22 years	South Africa	Examines whether parental investment and membership in social clubs are associated with safer sexual behaviours among youth.	Participation in clubs and community groups is associated with safer behaviours.	Sexual behaviour, HIV/AIDS	Mother and father
6	Magnani *et al.* (2002) [59]	Survey	2338 youth aged 10-24 years.	Zambia	To identify risk and protective factors for behaviours that expose youth to risk of HIV/AIDS infection and assess whether research findings from US concerning protective factors in high risk environments might apply to other settings.	No association was found between the quality of parent-child relationships and the number of sexual partners	HIV/AIDS, tobacco, drug use.	

From the review the focus on sexually risky behaviour becomes evident and relates back to the HIV/ AIDS threat in African countries. The lack of methodologically rigorous research into the relationship between family structure and engagement in health risk behaviours was underscored and its impact on successful intervention is concerning. This contributes to the challenge that we have in clearly defining research related to family structure as cautioned in the literature [15].

Findings from the review indicate that there is a relationship or association between family structure and engagement in health risk behavior, specifically sexual activity. Two-parent families were reported to produce positive outcomes such as the delay or reduction of engagement in sexual activity. Similarly, positive attitudes to abstinence were reported in two-parent family structures. The findings underscore the positive influence of parental involvement (especially both parents) and investment, as well as the stability of the family structure on reducing or delaying risky sexual behaviour.

From the review, a clear distinction could not be made between the engagement in sexual behaviour of youth living in one-parent households and those living in two-parent households. In addition, the quality of child-family relationships produced mixed results. One study found that good parent-child relationships (defined as the amount of communication, warmth, love and closeness between mother and child) are protective against multiple partnerships amongst males and females [53] compared to other studies who reported no relationship between parent-child relationships and the number of sexual partners [54]. This finding implies that although family structure is important in reducing the engagement of youth in at-risk behavior, the involvement of parents in the activities of youth and monitoring of these activities are more important.

CONCLUSION

The findings of this review confirm that the definition of youth might be more inclusive from an African perspective extending the upper age limit to the twenties that is typically associated with individuation and independence. Similarly, family structures appear to have additional dimensions such as orphans living with guardians or caregivers. The findings support the theorized relationship between family structure and engagement in and attitude towards risky sexual behaviour. The importance of family structure was evident, and the active involvement of parents in the activities of youth is cardinal. The review further underscores that there is a lack of methodologically rigorous research that can provide empirical support for and insight into the relationship between family structure and engagement in health risk behaviour.

LIMITATIONS OF THE STUDY

This study only considered studies that were published in the English language and that the researchers had access to through the university library websites and interlibrary loans. In this way, the retrieval strategy resulted in a reduced frame of potential studies.

CONFLICT OF INTEREST

The authors confirm that this article content has no conflict of interest.

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