EXPLORING SUICIDAL BEHAVIOURS AMONG ADOLESCENTS IN ORPHANAGES IN GHANA

BY

JOSELINE ADWOA ADIBROSU

(10521612)

DEPARTMENT OF PSYCHOLOGY, UNIVERSITY OF GHANA

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DECLARATION

This is to certify that this thesis is the outcome of research conducted by JOSELINE ADWOA ADIBROSU for the MPhil Psychology Degree at the University of Ghana, which she completed under supervision. No one has ever submitted this work for an award to any other institution.

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Joseline Adwoa Adibrosu

(10521612)

Date: 29th April, 2022.

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Dr. Johnny Andoh-Arthur Dr. Mabel Oti-Boadi

(Principal Supervisor) (Co-Supervisor)

Date: April, 2022.

DEDICATION

This thesis is dedicated to God, my family, and my supervisors.

ACKNOWLEDGEMENT

I am grateful to God for the grace, favour and strength to complete this thesis.

To my parents, Mr. and Mrs. Adibrosu, I am very thankful for their support in every aspect of this thesis and my MPhil programme in general.

Finally to the directors of all orphanages who consented to having their children participate in this study, I express my sincerest gratitude.

God bless you all.

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ABSTRACT

Prevalence studies among adolescents have shown that in sub-Saharan Africa suicide is a common phenomenon and a growing concern. However, no study in Ghana has focused on suicidal behaviours among adolescents in orphanages given their vulnerability and the stressful psychological outcomes of residential care placement identified by some researchers. This study therefore explored the presence of suicidal behaviours (that is, the 12-month prevalence rate of suicidal behaviour), the factors associated with suicidal behaviours in the target population, and the significant predictors of suicidal behaviours in the sample. Using a quantitative approach, two hundred and fifty-six adolescents from orphanages within the Greater Accra, Central and Eastern Regions were purposively sampled to complete measures on a general psychosocial functioning questionnaire. Findings showed that the 12—month prevalence estimates of suicide ideation, suicide planning and suicide attempt were 29.2%, 11.3%, and 5.1%, respectively. Furthermore, factors associated with suicidal behaviour were found to be multi-contextual: psychological (depression, anxiety and stress), psychosocial (sense of belonging, quality of life), health risk behaviours (smoking status), and social (media reportage of suicide). What is more, the significant predictors of suicidal behaviour identified by the present study were narrowed down to two main factors: psychosocial (sense of belonging) and demographic characteristics (sex: male). The Ideation-to-Action Framework and the Interpersonal Psychological Theory of suicidal behaviour are used to explain prevalence estimates. Again, the multi-contextual nature of the correlates of suicidal behaviour is explained with the Ecological Theory of suicidal behaviour. Suicide prevention and clinical practice implications are also highlighted.

CHAPTER ONE

INTRODUCTION

Background of the study

Suicide is defined as a deliberately killing oneself (WHO, 2014). Suicidal behaviour is defined as a pattern of behaviour that progresses from thinking about ending one's life (suicide ideation), to making a plan (suicide plan), to nonfatal suicidal behaviour (suicide attempt and self-harm) and to finally terminating one's life (suicide) (Silverman, 2006). Each year, more than 703,000 people die by suicide around the world, according to the World Health Organization (WHO, 2021). Suicide is the world's 15th leading cause of death, accounting for 1.3 percent of all deaths (WHO, 2021). These figures, however, are an underestimation of the actual suicide cases due to the sensitive and tabooed nature of suicide in most countries (WHO, 2021). In addition, the complicated nature of registering a suicide case in some countries, coupled with the complexity of diagnosing suicide by determining the component of intent, make it difficult to get the actual suicide statistic (De Leo et al., 2004). According to WHO (2021), suicide mortality rate (per 100,000 population) in Ghana was reported at 6.6% in 2019.

Prevalence of Suicide among Adolescents

Suicide affects people of all ages. However, death by suicide is at a higher rate among persons aged 60 and older as compared to younger populations (Värnik, 2012). Despite the comparably lower suicide rates in younger age groups, suicide is the fourth leading cause of death among young persons aged 15-29 years; for females and males, suicide is the third and fourth leading cause of death respectively in this age group (WHO, 2021). There has been evidence of an increase in suicide related internet searches among young people in recent years (Ayers et al., 2017). In Ghana, prevalence estimates of adolescent suicide ideation and attempt from 2012 to 2021 stands at an

average of 20.9% and 19.1% respectively (Quarshie et al., 2015, 2021a; Quarshie & Andoh-Arthur, 2022a; Quarshie & Odame, 2021)

Adolescents in Orphanages

According to the United Nations International Children's Emergency Fund (UNICEF), an orphan is defined as a person below age 18 who has lost either one or both parents (UNICEF, 1999). However, this definition has been reviewed over time based on findings by Skinner et al. (2006). Participants in their study expanded the concept of parental loss to include parental desertion and parental unwillingness or incapacity to provide care to children. This was further supported by findings from research within the African context. In the African context, it was argued that the need to include other factors aside age and parental status of a child in defining orphanhood is warranted (Foster, 2010; Morantz et al., 2013; Salifu Yendork & Somhlaba, 2014). In 2017, UNICEF reviewed its definition of orphanhood by identifying three groups of orphans; being single orphans (individuals who have lost one parent), double orphans (individuals who have lost both parents) and social orphans (individuals who face parental desertion or displacement due to circumstances such as, poverty, substance abuse, physical and psychological health problems, global conflict, unwillingness to provide care). This has led to the establishment of orphanages worldwide (UNICEF, 2021).

According to the national standards for residential homes in Ghana, orphanages are meant to serve as temporary alternative care solution (UNICEF, 2021). It is a temporary residential care for children in emergency situations with no other means of support, with the goal of reuniting all children with their families or placing them in foster care or in another permanent family arrangement such as adoption within the shortest possible time in the best interest of the child (Department of Social Welfare & United Nations Children's Fund, 2021). Residential care homes

within the Ghanaian setting are mostly referred to as orphanages due to the group of children mostly found in these homes.

Orphans, compared to non-orphans, are more depressed, anxious, and pessimistic, and are more likely to express angry feelings and disruptive behaviours, according to studies (Atwine et al., 2005; Nyamukapa et al., 2010). Depression in orphans and vulnerable children affect all parts of their lives, and eventually suicidal or death thoughts (Foster, 2010; Salifu Yendork & Somhlaba, 2014) . The existence of mental health issues (such as depression, anxiety and stress) among adolescents in orphanages have been emphasized in numerous investigations (Fawzy & Fouad, 2010; Hermenau et al., 2011). This is a growing problem in Ghanaian orphanages (Salifu Yendork & Somhlaba, 2014).

The reasons for setting up orphanages are good, for example, previous studies have reported resilience, coping (through religiosity), and peer support among orphans in institutional care in Ghana (Salifu Yendork & Somhlaba, 2015; Yendork & Somhlaba, 2017). However, researchers have expressed concerns about such institutions throughout time. In Ghanaian orphanages, several unfavourable mental health conditions associated to emotional deprivation have been discovered. (Department of Social Welfare & United Nations Children's Fund, 2021). Again, the wellbeing of adolescents in these orphanages have been found to be poor due to poor stimulating environment and poor caregiving (Salifu Yendork & Somhlaba, 2014). These factors point to African orphans' heightened vulnerability to poor mental health as a result of a lack of nurturing, and an emotional milieu conducive to their socio-emotional development (Morantz et al., 2013). A study in Ghana revealed that orphaned children showed more anxiety symptoms more than their non-orphaned counterparts (Salifu Yendork & Somhlaba, 2014).

Salifu Yendork & Somhlaba (2015) again suggested that the associated consequences of poor mental health among children in orphanages are as a result of lack of support and basic needs, poor problem-solving skills, and poor social skills among the children in orphanages. This is especially

true in urban orphanages which house a lot of children as a result of growing parental displacement in such areas (Aboud et al., 1991; Emond, 2009; Whetten et al., 2009; Zimmerman, 2005).

The majority of orphanage studies have found that orphans experience more psychological and psychosocial issues than their non-orphan counterparts (Atwine et al., 2005). Orphans, in particular, had a heightened susceptibility to behavioural and emotional problems (Baarøy & Webb, 2008). They were also more likely to be abused and have an inability to form trusting relationships (Atwine et al., 2005). Furthermore, (Cluver et al., 2012) found that orphans are more prone than non-orphans to have behavioural or conduct difficulties and to have suicide thoughts. Following some of the early childhood trauma faced and the negative mental health outcomes which have been associated with orphanages, the developing adolescent within such settings may have additive risks for suicide behaviours.

Problem Statement

Suicide is a growing problem in Ghana with frequent reportage in the media. Despite this, there appears not to be a spirited national attention towards its prevention due to problems associated with taboos against suicide, and criminalization of suicide attempt (Quarshie & Andoh-Arthur, 2022a). The situation encourages nondisclosure, which impedes preventative efforts. WHO, on the other hand, encourages countries to develop suicide prevention plans that are evidence-based, culturally relevant, and multi-stakeholder in nature. Ghana does not have any suicide prevention plan or policy in line with WHO's advice. To address this, research efforts have focused on highlighting the meanings, prevalence, and nature of suicides among men, adolescents and older persons (Oppong Asante et al., 2017; Quarshie et al., 2020a, 2021a; Quarshie & Andoh-Arthur, 2022a; Quarshie & Odame, 2021). While these efforts have yielded some good insights and promoted some tailored intervention for such persons, other demographic groups, such as the adolescents in orphanages have not yet been studied. Placement in orphanages impacts the emotional health, mental health physical

health and cognitive functioning of adolescents in such facilities (Dozier et al., 2012; Salifu Yendork & Somhlaba, 2015). Furthermore, previous studies involving orphans in institutional care in Ghana have reported important behavioural, emotional, and mental health outcomes (e.g., depression, helplessness, loneliness, anxiety, neglect, abuse) known to be risk factors for suicide in young people. Although these previous studies were not specifically about suicide in this young population of orphans (Boadu et al., 2020; Doku & Minnis, 2016a; Salifu Yendork & Somhlaba, 2014, 2015) the evidence of these suicide risk factors among this young people warrants a study examining the prevalence and correlates of suicidal behaviours among orphans placed in institutional care in Ghana. Thus, the present study's main aim was to contribute toward filling these research and knowledge gaps among adolescents in orphanages.

Aim and objectives

This study seeks to explore the prevalence of suicidal behaviours and the associated factors among adolescent orphans in the study settings.

The specific objectives of this study are:

1. To estimate the 12-month prevalence of suicidal behaviours (suicide ideation, planning and attempt).
2. To examine the factors associated with suicidal behaviours; specifically, socio-demographic factors, psychological factors, psychosocial factors, interpersonal level factors, orphanage environment factors, and general community level factors.
3. To identify the significant predictors among the established factors of suicidal behaviours among adolescents in orphanages.

Relevance of Study

This study seeks to increase understanding of some determinants and correlates of suicidal behaviours among adolescents in orphanages. Again, considering the fact that Goal 3.4. of the Sustainable Development Goals (SDGs) seeks to reduce by one-third premature mortality from non-communicable diseases through prevention and treatment and to promote mental health and well-being by 2030 as one of its priorities, this study contributes to meeting this target by providing evidence informed knowledge about suicidal risk for this special population towards formulation of tailored interventions to improve their wellbeing. Findings can further help inform the Department of Social Welfare (DSW) on key reforms within orphanages.

CHAPTER TWO

LITERATURE REVIEW

This chapter presents selected theories that explain the problem of adolescent suicide. Each theory has its own strengths and limitations with regard to the above subject area. A review of related studies with critiques and implications are further presented in this chapter.

Theoretical Framework

Thwarted Belongingness (Interpersonal Psychological Theory of Suicide and Belongingness Theory) Joiner (2005)

The Interpersonal Psychological Theory of suicide was propounded by Joiner (2005) and expanded by (Van Orden et al., 2010a). This theory of suicide posits that suicidal desire develops as a result of intense uncontrollable feelings of burdensomeness and thwarted belongingness, and this lethal suicidal desire has a strong capability of progressing to suicide (Chu et al., 2017).It proposes that the interaction of three elements creates a suicide risk: the individual's feelings of loneliness or isolation (failed belongingness), their perception of being a burden on others (perceived burdensomeness), and their self-harming behaviour (acquired capability) as a result of non-suicidal self-injury, suicidal behaviour, or other risk behaviours in the past (Van Orden et al., 2010a). According to some tenets of the interpersonal psychological theory of suicide, suicidal desire is triggered by a combination of perceived unfulfilled belongingness (the fundamental need to belong is unsatisfied) and burdensomeness (being a burden to others), while acquired suicide capability facilitates the progression from suicidal desire to potentially lethal suicide attempts (Joiner Jr et al., 2009; Van Orden et al., 2010a). According to this theory, the need to belong is a fundamental one for humans, and when this need is unmet or hampered at any point in life, the consequences include negative mental health outcomes such as suicide ideation, attempt and fatalities (S. Cacioppo et al., 2005; Holt-Lunstad et al., 2010a)

The Interpersonal Psychological Theory of suicide has growing evidence proving its validity in explaining how risk factors translate to suicidal behaviour (Joiner Jr et al., 2009; T. E. Joiner & Silva, 2012; Van Orden et al., 2010a), however, arguments that this theory may not be equally applied to adolescents have raised concerns about this theory among some researchers (Nock et al., 2013; Parellada et al., 2008). It is argued that the theory's central constructs were formulated on empirical data from adult samples which makes it limited in its applicability. Further evidence from systematic review of literature have shown that the association between sense of belonging and suicidality among adolescents is generally a weak one (Hatcher & Stubbersfield, 2013). This present study however, presents evidence on the salience of belonging; a key construct of the Interpersonal Psychological Theory of suicide and a major developmental task in adolescence. Results from the study shows that thwarted belongingness among adolescents in orphanages is a key risk factor to suicidal behaviour contrary to views that the key constructs in this theory are applicable only to adults(S. M. Stewart et al., 2017).

Ideation-to-Action Framework (Klonsky & May, 2015)

The ideation-to-action framework by (Klonsky & May, 2015) views suicidal behaviour from a two-step perspective: first, the emergence of suicidal ideation and second, the passage from ideation to attempt. The theory proposes that suicidal ideation is triggered by a mix of suffering (typically psychological pain) and hopelessness. The theory describes how distinct processes (such as a combination of perceived burdensomeness and thwarted belongingness, access to lethal means, impulsivity; individual characteristics such as a person's suicidal belief system, physiological-affective symptoms, and a confluence of dispositional, acquired, and practical variables) facilitate the progression from ideation to attempt (Klonsky & May, 2015; Marie et al., 2020; Rudd et al., 2006). As a result, not everyone who has suicidal thoughts will actually end their lives by suicide, instead, the presence of conditions and processes mentioned above, some of which may be present in orphan

adolescents (eg. Impulsivity, thwarted belongingness) are necessary to contribute to the progression from suicide ideation to suicide attempt (Bilsen, 2018).

Ecological Theory (Bronfenbrenner, 1979)

The ecological theory propounds that an individual (in this case the adolescent) is at the centre of complex systems including ontogenic factors (factors focused on the adolescent's psychological, historical, lifestyle, medical characteristics, and development), microsystem factors (factors in the immediate environment of the adolescent), exosystem factors (social structures that are not directly related to the adolescent but exert some influence on the adolescent), and macrosystem factors (cultural and religious believes which exert some influence on ontogenic, micro, macro, and exosystems to affect the adolescent's suicidal behaviour). This theory is used to explain adolescent suicide by going beyond individualistic explanations. It involves the use of complex relationships between personal, interpersonal, and sociocultural factors coming together to play significant roles in influencing adolescent suicidal behaviour. The intersecting roles of factors at different ecological levels on suicidal behaviour become more apparent when the ecological model is used to explain adolescent suicidal behaviour. Thus, the ecological model integrates the correlates of adolescent suicide and major predictors or determinants of suicidal behaviour as aimed by the present study in an interactive and additive nature which thereby eschews the tendency to understand, intervene, and prevent adolescent suicidal behaviours at the individual level of analysis.

Review of Related Studies

Prevalence of suicidal behaviours among orphans

The prevalence of suicidal behaviour among adolescents in orphanages is a serious issue that has been detected but has not been researched and mentioned in the literature. This is a significant problem because empirical data has linked adverse childhood experiences to a lifetime increase in the risk of suicide (Angelakis et al., 2019).

Evans et al. (2017) sighted that young people who have been in the care of welfare systems may be at an elevated risk for suicide. Thus, to examine this, they sought to compare the prevalence of suicide ideation, suicide attempt and suicide in children and young people placed in care and non-care populations using a systematic review and meta-analysis. Their findings revealed that children and young people in care (i.e. residential, foster and kinship care or child living with birth family but in receipt of legal order involving supervision by a social worker) attempt suicide more than three times as frequently as groups who are not in care.

Other fatal behaviour outcomes associated to suicidal behaviour are prevalent in care populations. For instance, Gabrielli et al. (2015) in examining self- harm talk among youth in foster care and residential homes revealed that 21% of youth participants reported a desire to die or hurt themselves. These findings are in line with the objective of this study in such a way that it makes clear a prevalence of suicide attempt and other behavioural outcomes in orphan populations, hence the need to examine prevalence estimates in the Ghanaian context as well.

Again, Hukkanen et al. (2003) in a study aimed to assess self-destructive and suicidal behaviour of 98 children and adolescents in child welfare institutions. A cross-sectional study design including 98 children and adolescents purposively sampled from welfare institutions in South-Western Finland was adopted. The Child Behaviour Checklist, Children's Global Assessment Scale and questionnaires about suicidal and violent behaviour were used in collecting data. It was revealed that 32% of study participants presented suicidal thoughts, threats or suicide attempts during the previous six months. A major limitation observed in this study was the use of a small sample size, however, the method of assessing suicidal behaviour in the study is consistent with the present study's aim to utilize a cross-sectional design to assess prevalence estimate of a broader spectrum of suicidal behaviour among adolescents in orphanages in Ghana with the use of a larger sample size to help establish generalisability of findings.

These prevalence estimates observed have been replicated in Ghana. Notably, a study byQuarshie & Andoh-Arthur (2022b) sought to estimate the 12-month prevalence of suicidal ideation and attempt and the associated factors among Junior High School adolescents in Ghana. Using a cross-sectional self-report survey from data collected data from the 2012 Ghana Global School-Based Student Health Survey, 1,437 adolescents aged 12-17 years were sampled for the study. The findings revealed that 12-month prevalence of suicide attempt was 27.6% with gender comparable estimates standing at 26.4% and 28.8% for males and females respectively. Associated factors included gender (male), being sexually active, and anxiety.

Similarly, this study was replicated among deaf school-going adolescent. Quarshie et al., (2022) sought to estimate the 12-month prevalence of suicidal ideation and attempt and the associated factors among deaf adolescents in Ghana. Using a cross-sectional self-report survey they collected data from 450 school-going deaf adolescents in Ghana using a random sampling technique to involve a nationally representative sample. The findings suggested an overall 12-month prevalence of suicide ideation to be 19.3% and suicide attempt estimate stood at 15.6%. Factors described to be associated with suicidal behaviour included alcohol use, parental divorce, parental absence and gender. From the findings it could be deduced that prevalence estimates of suicidal behaviour among persons with disability, a group considered vulnerable, fall within comparable estimates of in-school and non-deaf adolescents. While much is not heard or observed from such groups as compared to the general populace of adolescents, it is apparent that suicidal behaviour is prevalent. Based on this premise, the current study aims to replicate the aforementioned investigations in the context of adolescents living in orphanages in Ghana, a population that is thought to be sensitive and predisposed to suicidal behaviour and its associated risk.

The study by Quarshie & Andoh-Arthur, (2022b) however used data obtained from the 2012 Ghana Global School-Based Student Health Survey (GSHS), this may not exactly represent the present state

of suicidal behaviour estimates, the current study therefore utilizes data collected in the present year to objectively estimate recent 12-month prevalence of suicidal behaviour in the sample.

Correlates and determinants of adolescent suicidal behaviour

Several research studies have revealed that the interactions between emotional changes and the difficulties associated with its regulation that come with adolescence may yield fatal behavioural consequences (Lyon et al., 2013). Negative psychological health factors such as depression, anxiety and stress have been frequently reported to correlate with suicidal behaviour among adolescents (Dessauvagie et al., 2020; Massing-Schaffer et al., 2022).

For instance, Thornton et al. (2019)study identified South Africa and Guyana on a high rank in the global suicide rates. They therefore aimed to understand and prevent suicide among the youth in South Africa and Guyana by investigating youth at high risk for suicide and establish contextual and representative clinical risk factors for suicide. One hundred and ninety youth aged 11-21 separated from their biological parents at the time of assessment were sampled for the study. Participants were asked to respond to self-report measures assessing depression, social stress, somatization, anxiety, ADHD, current suicide ideation and previous attempt of suicide. Using binary logistic analysis to predict suicidal behaviours, it was revealed that social stress as a significant predictor of suicide ideation and attempt. Relatedly, the present study seeks to identify significant risk factors established by literature using prediction analysis to discover significant determinants of suicidal behaviour among adolescents in orphanages.

The findings of Thornton et al. (2019) were interpreted in light of participants' disadvantaged economic and social settings, and separation from parent. Consistently, in a Ghanaian study, researchers looked into attachment dysfunction in orphans and vulnerable children impacted by HIV/AIDS (Doku & Minnis, 2016b). It was discovered that these orphans and vulnerable children were much more likely to have conduct disorder, hyperactivity, emotional disorders (depression and anxiety), and peer relations issues (Doku & Minnis, 2016b) as a result of parental absence in their

lives. These findings just as suggested by the present study, seek to clearly demonstrate the interactive nature of orphanhood, parental absence with other social, emotional and psychological factors have on suicidal behaviour among adolescents in orphanages.

Studies have revealed that suicidal behaviour is more likely to occur as a result of comorbidity of substance abuse and depression, stress and anxiety increases the likelihood of occurrence of suicidal behaviour (Dawes et al., 2008). This is due to the fact that using substances, for example alcohol to relieve depression, stress, and anxiety heightens psychological distress (Giancola et al., 2011). Alcohol is known to impair judgment, change mood, suppress problem solving ability and limit hope for the future or create a "myopic phenomenon" which consequently leads feelings of hopelessness, an element established by the psych ache theory linked to suicidal behaviour(Giancola et al., 2011).

Further evidence of suicide behaviour risk factors is provided by Quarshie et al. (2022). In their study among 468 deaf adolescents in Ghana, just as established from the aforementioned, the factors associated with suicidal behaviour among these adolescents included alcohol use, parental divorce, parental absence and gender. Once again, alcohol use and parental absence are shown to be associated with adolescent suicidal behaviour.

As has been documented, factors associated with suicidal behaviour are multi-contextual, revealing the interactive nature of factors in predicting suicide behaviour. These factors may interact, putting adolescents at a higher risk of attempting suicide. As demonstrated by Quarshie & Andoh-Arthur (2022b)three out of every ten adolescents aged 12 to 17 years reported attempting suicide in the past 12 months in a study of 1,437 adolescents. The researchers of the study discovered associations between suicidal attempts and alcohol intake, truancy, bullying, sexual activity, anxiety, and a lack of close relationships. These findings in the study were consistent with those in an earlier study reviewed among deaf adolescents in Ghana. It was discovered that personal, family and school related factors predicted suicidal behaviours. These factors included alcohol use and parental divorce,

for example, were associated with increased odds of suicide thoughts and attempt in a multivariable model (Quarshie et al., 2022). In that same study, not living with parents and being postnatally deaf showed strong association with suicidal ideation.

Furthermore, to address the issue of suicide among young people, Lindert et al. (2018) sought to obtain a good insight into the risk factors contributing to suicidal behavior in youth. They identify the most significant risk factors for late-school-age children and adolescents, as determined by scientific research, in his review. Major risk factors identified were; mental disorders, previous suicide attempts, specific personality characteristics, genetic loading and familial dynamics in combination with triggering psychosocial stresses, exposure to inspiring models and availability of methods of committing suicide. They recommend a study to understand the importance of the interaction of these factors in contributing suicidal behaviour, which is in line with the present study. The ecological theory identified and used to guide this study aim to provide evidence suggesting that adolescent suicidal behaviour is not a standalone phenomenon but one which acknowledges the value of different factors and how these factors impinge on suicidal behaviour among adolescents in orphanages.

Again, it has been established that adolescents' immediate contact such as family have an additive influence on adolescent suicidal behaviours (Ayyash-Abdo, 2002a). Being disconnected from family and peers has been linked to previous adolescent suicide attempt(Fleischmann et al., 2005). Consistently, Kidd et al. (2006) explored the interactions among social factors: parent, peer, school, and social relations to influence adolescent suicide attempts. The study using hierarchical logistic regression analysis found that parent relations were the most consistent protective factor against suicidal behaviour. This clearly establishes the correlation between parental presence and adolescent suicidal behaviour.

What is more, studies in Low-and Middle-Income Countries have confirmed that poor social relations are associated with suicidal behaviours in adolescents. In a Ugandan study, for example, the absence of deep social bonds with family or a peer, predicted youth suicidal behaviour (Kinyanda et

al., 2012). In the same study, it was revealed that separation from biological parents was associated with 4.2 greater odds of suicide ideation and attempt (Kinyanda et al., 2012). Similarly, in Guyana, studies have revealed that the strongest predictors of suicidal behaviour in adolescents is the lack of social support from parents or peers (Rudatsikira et al., 2007).

Relatedly, a study in Ghana that looked into first-hand experiences of adolescent self-harm found that some adolescents who experienced strained family relationships engaged in self-harm and used it as a cry for help in the poor family environment they found themselves (Quarshie et al., 2020c).

The present study aims to establish the significance of belongingness, specifically sense of belonging of adolescents in their various orphanage homes among peers and other inmates, in adolescent suicidal behaviour in a manner that is related to and compatible with the review of studies above regarding belongingness.

Implicated in the role poor social relations has on adolescent suicidal behaviour, is the context in which adolescents grow and develop. For instance, a study involving 202 Canadian children and 212 adolescents revealed association between particular dimensions of parenting and attachment difficulties (Karavasilis et al., 2003). In this study, participants were asked to rate warm involvement, psychological autonomy granting and behavioural monitoring of parents. Findings showed that the absence of one or more of these factors caused severe attachment difficulties which had negative behavioural influences especially in adolescent participants. Researchers however, have noted that attachment difficulties are worse and affect children and adolescents living in problematic environments such as orphanages, where dietary, physical, and emotional care are insufficient (Gleeson et al., 2021; Zeanah & Gleason, 2015).

Moreover, a study by Demuth & Brown (2004) concluded that the quality of the home or context in which an adolescent develops prepares the growing adolescent to become either resilient or more vulnerable to the behavioural and poor mental health consequences of adolescence. This was supported by a Kenyan study on adolescents which also found that the context in which the adolescent

develops has an influence on the development of poor behavioural and mental health outcomes (Wambua et al., 2018). Accordingly, signs of loneliness, low feelings of belongingness and high perceived burdensomeness have been found in adolescents that have less secure forms of attachment relationship with caregivers, a prevailing issue in most orphanages in Ghana (Wambua et al., 2018). Furthermore, Timmons et al. (2011a) in their study exploring the role of low sense of belonging in parental displacement and adolescent suicidality among adolescents between ages 16 and 23 found that, adolescents aged 19, who felt both a low sense of belonging and a sense of being isolated, had the highest risk of suicide. The relationship between parental displacement and adolescent suicide attempts was mediated by low levels of belonging, according to their findings. Consequently, in orphans, it has been proven that the impact of parental loss has significant associations with suicidal ideation among adolescents (Asgari & Naghavi, 2020).

Other factors (such as the media) that impinge on the overall development and wellbeing of the adolescent have been shown to have some relations with suicidal behaviour (Ayyash-Abdo, 2002a). It has been discovered that media coverage of suicide attempts and suicides has an impact on adolescent suicidal behaviour, since it may push them to end their lives in a similar manner. (Armstrong et al., 2021; Niederkrotenthaler et al., 2009). Content analyses of newspaper reports on suicide from six different countries with varying suicide rates (The United States, Japan, Finland, Hungary, Austria and Germany) revealed that on one hand, suicide rates were higher in countries (Japan and Hungary) where explicit media reportage of suicide was tolerated (Prevention et al., 2013). Similarly, Abdullai (2020) in studying the trends of media reports of suicides in Ghana found that over the years, there has been an increase in media reportage of suicides, with 2017 recording the highest report of suicide cases (30 suicides). While the increase in media reports on suicide cases in the year 2017 may not have a causal relationship with the actual number of persons who took their lives in that particular year, the explicit descriptions of suicide and identifying information of victims given in those media reports on the suicides may have some influence. This phenomenon is usually

referred to as “copycatting”, “contagion”, or the “Werther effects” to suggest the potential role irresponsible media reports on suicide can play in actual suicides at a particular time in a particular place(Gould et al., 2014). In Ghana, a study that analysed the local media’s adherence to the WHO guidelines for reporting suicidal behaviour in the media found sharp deviation from internationally recognized best practice (Quarshie et al., 2020).

Although numerous research have established an association between suicide coverage in the media and an increase in suicide rates, other studies have not found such a link. (Sisask & Värnik, 2012). It is however important to note that the impact of media reportage of suicide on subsequent suicides is not a direct one, certain characteristics play a key role in the relationship, examples include; the nature of reported suicide, the manner in which it is reported, and the features of the media audience (Niederkrotenthaler et al., 2020; Tephanie et al., 2014). It has been found that frequent explicit media report of suicide cases is more likely to push individuals with severe depression diagnosis or those with a recent history of suicide attempt, to attempt or re-attempt suicide(Cheng et al., 2007). In line with the above, this study seeks to explore the extent to which prior exposure to suicide media content shapes suicidal behaviour in adolescents in orphanages.

Research Questions

Following the review of the studies above, this explorative study is guided by the following research questions:

1. What is the 12-month prevalence estimate of suicidal behaviour (ideation, planning and attempt) among adolescents in orphanages?
2. What socio-demographic factors, lifestyle, psychological, psychosocial, social, environmental, and community related factors will be significantly correlated with suicidal behaviour (ideation, planning and attempt) among adolescents in orphanages?

3. Among the associated factors of suicidal behaviour which of these will be associated with increased odds of predicting suicidal behaviour (ideation, planning and attempt) among adolescents in orphanages?

Operational Definition of Terms

1. Suicidal Behaviour- It is described as a behaviour on a continuum beginning from thinking about ending one's life (suicide ideation or thoughts), developing a plan (suicide plan), nonfatal suicidal behaviour (suicide attempt and self-harm), to ending one's life (suicide) (Castle & Kreipe, 2007). Suicidal behaviour as used in the study focuses on ideation, planning and attempt.

2. Adolescence- Based on Erick Erickson's psychosocial stages of development, adolescence is defined in this study as the period spanning between ages 12 and 19.

CHAPTER THREE

METHODOLOGY

This chapter outlines the methods and procedures the present study followed to achieve its objectives. It presents the research design, the main outcome variables and also how the variables were measured, the population and the sampling technique, description of instruments and the procedure for data collection and ethical considerations.

Research Design

This study sought to explore the prevalence of suicidal behaviours and the associated factors among adolescent orphans. Based on the main aim, the study followed a positivist paradigm. Positivism uses quantitative methods such as surveys to gather observable data from respondents (Quinton & Smallbone, 2006).

The present study specifically adopted a cross-sectional survey design. Cross-sectional survey design "captures an individual's own attitudes, behaviours and experiences as reported by themselves" (Setia, 2016). In light of the above, the most efficient technique of data collecting for the study was a cross-sectional survey. It presents a group of participants similar questions in the same or comparable ways, and the responses are recorded in an ordered and systematic manner to make data analysis easier (Setia, 2016). Specifically, this design allowed the researcher to measure the outcome variable (suicidal behaviour) among the present study's participants of varying age groups at the same time. Following the aim of the study a cross-sectional survey design was most appropriate. Cross-sectional designs have been noted to be the best approach in prevalence studies (Setia, 2016). Although cross-sectional survey designs are onetime measurement designs which make it difficult to derive causal relationship between variables it sets the pace for planning towards intervention-based research and further longitudinal or cohort studies (Setia, 2016)

Population and Setting

Choosing a study's population is critical to obtaining trustworthy and meaningful results. According to Setia (2016) the population is considered as "a set of people who are the focus of the research and about whom the researcher wants to investigate certain constructs or features" (p. 19). The target population for this research consisted of adolescents in orphanages in Ghana. As of 2019, the national census and enumeration by the Ghana Statistical Service revealed that there are 139 residential homes with 3,530 children mostly from ages 11-20, majority of which are boys (57%) (Department of Social Welfare & United Nations Children's Fund, 2021). The Greater Accra, Eastern and Central Regions were the areas chosen for the study. The reason for this choice is two-fold. Firstly, the geographical spread of orphanages is uneven across Ghana (Ghana Department of Social Welfare, 2018). However, the Greater Accra, Central and Eastern Regions have largely most of these homes across the nation.

Secondly, the proximity of orphanages in the above mentioned regions to the researcher make the recruitment of adolescents in the orphanages within these settings convenient. Therefore, orphanages in the Greater Accra, Central and Eastern Regions of Ghana visited included; Osu Children's Home (33 participants), Potter's Village (53 participants), Chance for Children Home (44 participants), Hour of Grace Orphanage (30 participants), Great Commission orphanage (16 participants), Village of Hope (67 participants) and 21st Century Mom's Care Foundation (13 participants).

Sampling

A sample is a subset of the overall population that has been chosen for the study. Because of economic and ethical considerations, sample size determination is critical in research. According to Russell & Shaw (2009), an under-sized sample exposes participant to potentially harmful treatments without contributing to scientific knowledge. As a result, it is critical to make sure the sample is not too small. Numerous methods for obtaining sample size for a study have been proposed. According to (Tabachnick & Fidell, 2019) a sample size determination formula $N \geq 50+8m$ (where N represents

sample size and m refers to the number of predictors in a multivariate model) gives an idea of the minimum number of participants required for a study. Thus, the minimum sample size for the present study would be 50 + 8(6) = 98. These rules of thumb, according to Tabachnick & Fidell (2019), assume a medium-sized association between the independent variables and the dependent variable. A minimum of 98 participants were to be used for the study however, a large sample size was deemed appropriate to cater for potential issues such as missing values and uncompleted questionnaires. The researcher therefore acquired a sample of 256 adolescents for the study.

Sampling Technique

The participants were selected using convenience sampling and snowballing sampling techniques (Setia, 2016). This is because the orphanages used for the study were selected based on availability, convenience and mostly willingness of the orphanage authorities to allow their adolescents participate in the study. The present study's research procedure was made simpler and easier with this type of sampling technique. It also allowed for data gathering within a short time and was less expensive than other sampling approaches. However, owing to the difficulty of accessing orphanages, snowballing technique was also used where the researcher received referrals to more orphanages from those that had already participated in the study.

Inclusion and Exclusion Criteria

Inclusion criteria

Inclusion criteria were; (1) adolescents between the ages 12 and 19 years, (2) adolescents fully placed/residing in the orphanage who were able and willing to participate in the study.

Exclusion criteria

Exclusion criteria were; (1) individuals outside the age bracket of 12 to 19, (2) individuals who had spent less than 6 months in orphanages. These characteristics may confound findings.

Procedure

The researcher briefed orphanage authorities about the study and provided all supporting documents including evidence of ethical clearance, a cover letter from the department of psychology, a copy of the research proposal and informed consent documents. Data collection then commenced. The questionnaires were administered to participants, some in their classrooms and others in an open hall. This was done after school such that it did not interfere with school and home activities. The researcher first briefed the adolescents about the study, sought their consent and then administered questionnaires to the respondents in batches of five. This was because the respondents required the researcher to explain some items on the questionnaire. This was particularly the case because according to the UNICEF (2019) report on children living in orphanages in Ghana, only one-third of children in these orphanages have foundational reading skills. The questionnaires, informed consent process and clarifications were done in English language. On the average, each questionnaire was completed within 30-45 minutes. Data collected was then entered into SPSS version 20 for analysis.

Measures

The main instrument used to gather data for the study comprised standardized questionnaires and other literature driven questions. The instrument was categorized into two section and 6 sub-sections. The first section, which represented the first category was a demographic questionnaire. This sought to collect information concerning participants' demographic characteristics. Information acquired included; age, sex, religious affiliation, level of education, absenteeism, relationship status, having a confidante, mobile phone and the use of other devices, alcohol intake, drug intake. The second category used standardized questionnaires including; Depression Anxiety Stress Scale (DASS-21) to measure mental health issues (depression, anxiety and stress), the Suicide Behaviour Questionnaire-revised to measure suicide ideation, attempt and future likelihood of attempting suicide, Sense of belonging Instrument Psychological Experience (SOBI-

P) to measure perceived sense of belonging, and the WHO Quality of Life Questionnaire-BREF to measure quality of life.

Depression Anxiety Stress Scale (DASS; Lovibond & Lovibond, 1995)

The DASS-21 is a 21-item self-report instrument for mental health assessment consisting of three 7-item subscales: depression (items 3, 5, 10, 13, 16, 17, and 21), anxiety (items 2, 4, 7, 9, 15, 19, and 20), and stress (1, 6, 8, 11, 12, 14, and 18). On a 4-point Likert scale ranging from 0 to 4: 0 (Never), 1 (sometimes), 2 (Often) to 3 (Almost always) participants rated the severity of a symptom based on how long it had been present in them in the previous week. The item responses were put together to calculate the subscale scores (Lovibond & Lovibond, 1995; Zanon et al., 2021). The interpretation for the subscales are as follow: depression scores ranging from 0 to 9 is normal, scores ranging from 10 to 12 represent the presence of mild depression, scores of 13 to 20 represent the presence of moderate depression, severe depression scores range from 21 to 27, and scores from 28 to 42 represent the presence of extremely severe depression. Anxiety ratings vary from normal (0 to 6) to mild (7–9), moderate (10–14), severe (15–19), and extremely severe (20 to 42). And then, for stress, scores ranging from 0 to 10 is normal, scores from 11 to18 represent mild stress level, moderate stress is marked by scores from 19 to 26, severe stress has scores ranging 27 to 34, and scores from 35 to 42 represent extremely severe stress levels. DASS-21 has strong psychometric properties across cultures with reliability scores of 0.93 on the depression subscale, 0.84 on the anxiety subscale and 0.88 on the stress subscale (Zanon et al., 2021). In the Ghanaian sample, reliability scores for each subscale stood at .88, .83 and .86 respectively in a recent study by (Oti-Boadi et al., 2022).

Suicide Behaviour Questionnaire-revised (SBQ-R; Osman et al., 2001)

The Suicide Behaviour Questionnaire-revised is a self-report measure containing four items on a 7-point likert scale designed to assess individuals at risk of suicide and specific risk behaviours. This measure stands out of other suicidality assessment tools due to its measure of future anticipation of suicide thoughts and behaviours, in addition to past and present suicidal behaviours. Respondents

are asked to rate how much each statement applies to them on the SBQ-R. These include; "Have you ever thought about or attempted to kill yourself?"; **"**How often have you thought about killing yourself in the past year?" ; "Have you ever told someone that you were going to "commit" suicide, or that you might do it? " ; "How likely is it that you will attempt suicide someday?"). The SBQ-R is scored using a summed-items score method. The maximum score on the questionnaire is 18. Scores of 7 and higher in the general population indicates significant risk. The SBQ-r has recently been validated in Ghana among non-clinical adolescents, and it demonstrated acceptable reliability with a Cronbach's alpha of 0.78. It also showed good construct validity for boys and girls by correlating strongly although marginally with measures of depression, anxiety, and mental wellness. (Adjorlolo et al., 2020). For this study, the Suicide Behaviour Questionnaire-Revised was used as a parametric tool to measure suicide behaviour risk score among the sample. It was used for correlating suicide behaviour risk score with other parametric instruments used for the present study.

World Health Organization Quality of Life scale (WHOQL-BREF, WHO, 1996)

The WHO Quality of Life Scale is a 26-item scale developed by the World Health Organization. This measure uses a 5-point Likert scale to assess perception of one's overall quality of life in four domains; physical (with items such as "do you have enough energy for everyday life?";"how well are you able to get around?"; "How satisfied are you with your sleep?"), psychological (with items such as "how much do you enjoy life?"; "to what extent do you feel your life to be meaningful?"; "how well are you able to concentrate?"), social environment (with items such as "how satisfied are you with your personal relationships?; "how satisfied are you with the support you get from your friends?"), and a global estimate (with items such as "how safe do you feel in your daily life?"; "how healthy is your physical environment?"; "have you enough money to meet your needs?"). The WHOQOL-bref is scored by summing items on the various domains.

Scores on each domain range from 1 to 5, with 1 being the least (low) and 5 being the highest (high) response to each item. High scores demonstrate high quality of life and low scores, low quality of life. With internal consistency values ranging from .66 to .86, test-retest reliability values of .66 to .87 and good construct and discriminant validity, this measure has proven to have good psychometric properties.

Sense of Belonging Instrument-Psychological Experience (SOBI-PE; Hagerty & Patusky, 1995)

The Sense of Belonging Instrument is an 18-item self-report measure developed by (Hagerty & Patusky, 1995) to assess how valued, needed, and accepted one feels by significant others in one's social circle or surroundings. This measure is on a 4-point Likert scale rating the degree to which an individual experiences a sense of belonging within given situations in their social environment with items such as "I often wonder if there is any place on earth where I really fit in", "In general, I don't feel a part of the mainstream of society"," I feel like an outsider in most situations". Scores range from 18 to 72 and is scored by summing the total of individual scores on each item. Higher scores indicate a low sense of belonging whereas low scores indicate higher sense of belonging. This is due to the negatively worded nature of items on the scale. Good internal consistency and test-retest reliability (of .92 and .95, respectively), have been demonstrated for this measure. Again, it is moderately correlated with related constructs such as the Interpersonal Relationship Inventory (r= .42) and the Revised UCLA Loneliness Scale (r= -.76) indicating good discriminant validity.

Other Measures

Following the socio-ecological model of suicidal behaviour (WHO, 2014), categorical variables and factors which have been shown by literature to have correlations with suicidal behaviour were included in the present study (Baiden et al., 2020; Oppong Asante et al., 2017; Quarshie & Andoh-Arthur, 2022a). They included health risk behaviours such as (smoking, drinking, hard drug intake, and number of hours spent on social media), interpersonal factors (i.e., having a confidante

with whom adolescents share their personal struggles, being discriminated upon in their orphanages, past sexual abuse, and being cyberbullied). These exposure variables were measured on a nominal scale (i.e. yes/no basis). For example to measure alcohol use "yes" or "no" responses were used (where "yes" means the respondent takes at least one alcoholic drink in a week and "no" means the respondent does not drink alcohol). The 12-month prevalence of suicidal behaviour was also measured using categorical responses (yes/no). To measure the 12-month estimate of suicidal ideation, suicidal planning, and suicidal attempt participants were asked to respond yes or no to the following: "have you ever thought about killing yourself in the past 12 months?", "over the past 12 months have you had clear plans of how you would want to kill yourself?", "have you personally attempted to kill yourself over the past 12 months?".

Ethical Considerations

The University of Ghana's Ethics Committee for Humanities (ECH) and the Department of Social Welfare provided ethical approval for the present study. Ethical approval for the study was sought from University of Ghana's Ethics Committee for Humanities (ECH 153/20-21), after obtaining an approval from the Psychology Department of the University of Ghana. The Department of Social Welfare also approved the study and provided contacts of orphanages registered with them. Contacts were then made. Orphanages that agreed to participate in the study were visited. The purpose of the study was clearly stated in the questionnaires administered.

To ensure complete adherence to ethical guidelines and procedures, the following ethical concerns were addressed: informed consent, confidentiality (participants were assured of confidentiality and anonymity; their names would never be required), freedom of participation (all participants were allowed to withdraw from the study at any time without any repercussions), and benevolence (the researcher prioritized the welfare of participants and therefore did not deploy any

method that posed any harm to the participants). Even though the researcher made arrangements with a professional clinical psychologist to resolve potential distresses that could emanate from the study, this arrangement was not utilized since no part of the data collection presented harm to the participants.

Data Analysis

To address the research questions three main statistical analyses were used: (1) univariate analysis to assess the distribution of the sample across the variables and the prevalence estimates of suicidal behaviour (2) bivariate analysis, using chi-square ($\chi 2$) to assess the relationships between each of the exposure variables and outcome variables (suicide ideation, attempt and planning); (3) multivariate analysis (logistic regression) to find significant predictors of suicidal behaviour among the identified exposure variables.

The Statistical Package for Social Sciences (SPSS, version 20.0 for windows) was used for the data analyses. The analyses of data were performed in two main stages. The first stage consisted of the preliminary analysis (description of data) and the second stage involved correlations and prediction analyses. Some measures on the questionnaire were not fully completed, thus, cases were excluded pairwise (Pallant, 2020). Within the sample, 5 participants did not complete the Suicide Behaviour Questionnaire-Revised, 4 participants failed to complete the Sense of belonging Instrument-Psychological experience (SOBI-P), thus 97% of participants (253) received scores on sense of belonging, 4 participants did not complete the Depression Anxiety Stress Scale (DASS21), therefore, 97% of participants (253) had scores for depression, anxiety and stress. On the WHO Quality of Life scale, 8 participants did not complete the questionnaire bringing the total number of scores received on the scale to 249, representing 96% of the sample.

CHAPTER FOUR

RESULTS

The purpose of this study was to examine the prevalence of suicidal behaviour, its associated factors and the significant predictors among adolescents in orphanages.

Preliminary Analysis

Table 1 shows the normality of the data distribution, as well as the skewness and kurtosis of the scales used to measure the underlying variables. The reliability values of measures used (Cronbach's alpha coefficient) are also presented in Table 1. Correlations of measures were also analysed and are reported in Table 2.

Assessing the Normality of Variables and Reliability Analysis of Measures

To clean-up the data, normality for all variables, skewness, kurtosis and outliers were assessed. A variable is normally distributed when the kurtosis and skewness values are between -1 and +1, according to Tabachnick and Fidell (2001). The findings of the analysis revealed that all the study variables (i.e. depression, anxiety, stress, sense of belonging, quality of life, and suicidal behaviour) were normally distributed. The Suicide Behaviour Questionnaire-Revised was positively skewed (skewness = 1.00, *SE* = 0.15) with scores grouped on the low end (mean=6.31, SD = 4.55), indicating that suicidal behaviour for the sample was low. The Sense Of Belonging Instrument – Psychological Experience had a negative skewness coefficient (skewness = -0.27, *SE* = 0.15) and positive kurtosis (kurtosis = 0.96, *SE* =0.31) with mean = 42.30 and SD = 10.45. This questionnaire was negatively worded which means high scores represented low sense of belonging. Therefore the negative kurtosis and positive skewness observed within the sample indicates that most participants experience low levels of sense of belonging.

The depression subscale of DASS-21 demonstrated some positive skewness, an almost fair symmetrical distribution (skewness = 0.25, *SE* = 0.15) and negative kurtosis (kurtosis = -0.96, *SE* =

0.31) with mean score =14.56 and SD = 0.32, indicating that just a little over half of the participants reported moderate to severe depression and fewer individuals were at either end of the range of scores (i.e. normal, mild and extremely severe depression scores).

The anxiety subscale of DASS-21 demonstrated positive skewness (skewness = 0.14, *SE* = 0.15) and negative kurtosis (kurtosis = -0.95, *SE* = 0.30) with a mean score of 14.09 and SD =10.89, indicating that a little more than half of the participants reported moderate to severe anxiety and fewer individuals were at either end of the range of scores (i.e. normal, mild and extremely severe anxiety scores).

The stress subscale of DASS-21 demonstrated slight positive kurtosis (kurtosis = 0.9, *SE* =0.30), (skewness = -0.12, *SE* = 0.15) with a mean score of 15.24 and SD = 10.71 indicating a peaked distribution where a number of individuals scores' were clustered in the center of the distribution where moderate to severe anxiety scores were located.

The WHO quality of life scale demonstrated negative skewness (skewness= -0.31, *SE*=0.15) and negative kurtosis (kurtosis= -0.50, *SE*=-0.81) with a mean of 50.85 and a standard deviation of 11.18, participant scores on quality of life total was clustered mostly at the centre of the distribution thus, normal quality of life was common among the sample.

To test the psychometric properties of the measures used on the study participants, a test for reliability coefficient (Cronbach's alpha) was ran. DeVellis (2003) recommended an alpha value of 0.70 to be attained for a sample in order to make a scale satisfactory for psychometric analysis. The computed Cronbach's alpha for Suicide Behaviour Questionnaire- Revised (SBQ-R) was 0.83 (α = .83), that of the Sense of Belonging Instrument-Psychological experience was 0.84, DASS-21 recorded an alpha coefficient of 0.91, while that of the WHO Quality of Life scale was 0.83**.** All measures were deemed suitable for psychometric analysis because their alpha values were above the

threshold of.70, indicating strong internal consistency (Mahembe, 2013). These are shown in Table 1 below.

Table 1

Descriptive statistics and Reliability Coefficients of measures

	N	Min	Max	Mean	Std. Dev	Skewness	Kurtosis	Cronbach's Alpha
Suicide Behaviour	252	3.00	17.00	6.31	4.55	1.00	-0.65	0.83
Quality of Life- Total	249	22	74	50.85	11.18	-0.31	-0.51	0.83
Depression	253	0	18	7.64	5.05	0.15	-0.96	0.76
Anxiety	257	0	19	7.80	4.95	0.14	-0.95	0.78
Stress	257	0	21	8.05	4.81	-0.12	-0.90	0.78
Sense of belonging	253	18	69	42.31	10.45	-0.27	0.96	0.84

Descriptive Statistics, Frequencies of Demographic Data

Descriptive analysis, cross tabulations and frequency analyses were ran on the study's data in order to study and understand the demographic characteristics of the present sample. These are shown in Table 2 and Table 3 below.

Table 2

Descriptive statistics of Demographics

Demographic Content	Frequency (N)	Mean	Std. Dev.	Skewness	Kurtosis
Sex	257	0.53	0.50	-0.10	-2.00
Male	135				
Female	122				
Age		1.41	0.49	036	-1.89
12-15	257				
16-19	151				
	106				
		0.95	0.74	0.49	0.07
Level of study	257				
Class 4-6					
JHS 1-3	70				
SHS 1-3	137				
Other (Tertiary, vocational training)	43				
	7				
Religiosity	257	1.80	0.41	-1.69	1.40
Yes	207				
No	49				

Table 3

Frequency of Sample Demographics

Demographic Content	Responses	Frequency
Gender	Male	135
	Female	122
Level of Study	Class 4-6	70
	JHS 1-3	137
	SHS1-3	43
	Other	7
Age	12-15	151
	16-19	106
Religious person	Yes (attend church/mosque at least more than once per month)	207
	No	50
Employment status	None	208
	Menial jobs	42
	Employed	7
Smoking	None	237
	At least one cigarette per week	20
Alcohol intake	No	199
	At least one drink per week	58

Demographic Content	Responses	Frequency
Drug Use (hard drugs)	None	206
	At least one hard drug during the past month	51
Cyberbullied	Yes	29
	No	228
Time spent on social media	None	103
	At least 30 minutes per day	154
Forced sexual engagement	Yes	50
	No	205
Discriminated in orphanage		92
	Yes No	161
Confidante	Yes None	174 83

Frequency analysis showed that 135 participants were male while 122 were female. Their levels of study was broken down into the categories; upper primary which is from class 4 to class 6 (70 participants), Junior High School (JHS) (137 participants), Senior High School (SHS) (43 participants) and others which included respondents who fell within the age range of the study but were not students (7 participants). The age group of participants for the present study was 12-15 years (151 participants) and 16-19 years (106 participants). To explore religiosity of participants, a simple yes/no response was given to whether participants attended church or the mosque at least once a month, 207 participants responded in the affirmative while 70 responded negative. The employment status of participants revealed that 208 of the total respondents were not employed or did any form of paid work, 42 participants, however, were engaged in some menial jobs while 7 of them were involved in doing paid work. Frequency of health risk behaviours revealed that 20 out of the total respondents reported to having at least one drink a week, 58 out of the total sample smoked at least one cigarette or weed per week, 51 of the total respondents took at least one hard drug over the past month. As expected, 154

out of the total reported spending at least 30 minutes a day on social media using either a smart phone or a computer, however only 29 reported to being cyberbullied currently or in the past. Ninety-two out of the total respondents reported to feeling discriminated upon at their orphanage home, this is particularly not surprising as scores on sense of belonging revealed that participants tended to have negative psychological experience in terms of their sense of belonging. Fifty respondents have been forced before (either physically or verbally) to engage in sexual activities against their wish. When asked if participants had someone or people they confided in whenever they experience personal or emotional problem, 174 of them responded positively, revealing that majority of participants had at least one confidante.

Univariate Analysis Assessing the Distribution of Prevalence Estimates of Suicidal Behaviour

The 12-month prevalence estimates of outcome variables (suicide ideation, planning and attempt) measured as categorical variables within the sample are shown in Table 4.

From table 4 below, 29.2% of participants reported having suicide ideations over the past twelve months, 11.3% of them proceeded to planning suicide while 5.1% of participants within the sample had attempted suicide in the past 12 months.

Table 4

Summary of Descriptive and Frequencies of Outcome Variables (Twelve-Month Suicide Ideation, Planning and Attempt Prevalence)

Variable	Frequency (N)	N%	Mean	Std. Dev	Skewness	Kurtosis
Ideation	252		0.30	0.46	0.89	-1.22
Yes	75	29.2				
No	177	70.2				
Planning	252		0.12	0.32	2.43	3.92
Yes	29	11.3				
No	223	86.8				
Attempt	251		0.05	0.22	4.10	14.67
Yes	13	5.1				
No	238	92.6				

Bivariate Analysis of Exposure Variables and Suicidal Behaviour

Correlation analyses between suicidal behaviour and exposure variables revealed that the inter-correlations among measures of interest were significant. Among the statistically significant correlations, the correlation between depression and 12-month prevalence of suicide ideation was the highest (r = .89, p<0.01), whereas the association between anxiety and 12-month prevalence of suicide ideation, was the least (r = .261, p<0.05). Bivariate correlations among the variables of interest revealed that suicidal behaviour (SBQ-r) significantly correlated with sense of belonging (r = .33, p < .01), depression (r = -.34, p < .01), anxiety (r = .21, p < .05), and stress (r = .34, p < .01). There was no indication of multicollinearity among variables of interest. Sense of belonging was statistically correlated with measures of depression (r = -.31, p < .01), anxiety (r = .34, p < .01), stress .37, p < .01) and suicidal behaviour (r = .33, p < .01), at .01 significant level for all correlations, no indication of multicollinearity. The sense of belonging instrument was however not statistically correlated with quality of life. Depression subscale of DASS-21 was correlated with other measures to assess multicollinearity. No multicollinearity was detected. Although depression had small correlations with other measures, it exhibited significant correlation with suicidal ideation (r = -.48, p < .01), report of at least one prior suicide attempt (r = -0.26, p < 0.01), and number of prior suicide attempts (r = -.28, p < .01), suicide behaviour risk score (r = -0.34, p < 0.01), sense of belonging (r =-0.31, p < .01), anxiety (r = -0.79, p < .05), and stress (r = -0.82, p < .05). No multicollinearity was detected as anxiety correlated with suicide behaviour risk score (r = -0.21, p < 0.01), sense of belonging (r = -0.34, p < .05), depression (r = -0.79, p < .05), and stress (r =-0.84, p < .05). There was no multicollinearity among measures that correlated with stress, as stress correlated with suicide behaviour risk score (r = 0.34), sense of belonging (r =-0.37), depression (r =-0.82), and anxiety (r =-0.84) all at 0.05 significance level (p<0.05). The Depression Anxiety Stress Scale however had no correlations with quality of life. The results are shown in Table 5 below.

Table 5

Summary Results of the Correlations between Exposure and Outcome Variables.

Variable	1	2	3	4	5	6	7	8	9	10	11	M	SD
1.Ideation_12month	—											.30	.46
2.Planning_12month	.55**	—										.12	.32
3.Attempt_12month	.36**	0.59**	—									.05	.22
4.Depression	.89**	.15**	0.17	—								.76	5.03
5. Anxiety	.13*	.15*	0.03	.75**	—							7.77	5.0
6. Stress	.10	.15*	.02	.37**	.75**	—						8.03	4.80
7. Sense of Belonging	.08	.15*	.76	.16**	.37**	.38**	—					42.23	10.48
8. SBQ	.89**	.18**	.50**	.04**	.16*	.18**	.14*	—				5.85	3.96
9. Media Reportage	-.02	.64**	-.06	.05	.04	.13*	0.5	.029	—			11.19	6.93
11. QOL	-.16*	-.04	-.10	-.12	-.18**	-.16**	-.22**	-.31**	-.26	-.31**	—	51.10	10.80

Note. QOL=quality of life. SBQ = suicide behaviour questionnaire.

**. Correlation is significant at the 0.01 significant level (2-tailed)

*. Correlation is significant at the 0.05 significant level (2-tailed)

Chi-Square correlation analysis was conducted to measure the associations between exposure variables which were categorical and 12-month prevalence of suicidal behaviour. The results revealed that none of the exposure variables were correlated with 12-month prevalence of suicide ideation, planning and attempt, except smoking status (Heath Risk Behaviour) which was found to be the only exposure variable to have significant bivariate associations with suicide ideation within the sample ($\chi 2 = 5.34$, $p > .05$). The results are presented in Table 6 below.

Table 6

Chi-Square Correlation between Exposure Variables and 12-Month Prevalence of Suicide

	12-month suicide ideation			12-month suicide planning			12-month suicide attempts		
	No	Yes		No	Yes		No	Yes	
Variable	n	n	χ^2	n	n	χ^2	n	n	χ^2
Health Risk Behaviours									
Drug Use									
Yes	13	5	0.37	16	2	0.00	17	1	0.00
No	164	70		207	27		221	12	
Alcohol Use									
Yes	21	10	0.11	26	24	0.74	30	1	0.28
No	156	65		197	5		208	12	
Smoking									
Smoker	12	0	5.34*	12	0	0.93	12	0	0.69
Non-Smoker	165	75		211	29		226	13	
Orphanage Level Factors									
Discrimination									
Yes	58	25	1.38	71	12	1.13	77	6	1.42
No	112	46		142	16		150	7	
Socio-demographics									
Sex									
Male	94	36	0.55	112	18	1.44	119	10	3.58
Female	83	39		111	11		119	3	
Age									
12-15 years	101	46	0.40	132	15	4.44	141	6	0.87
16-19 years	76	29		91	14		97	7	
Religiosity									
Yes	140	62	0.45	178	24	0.27	190	11	0.44
No	32	11		38	5		41	2	
Interpersonal Factors									
Confidante									
Yes	106	63	13.87	147	22	1.15	158	10	0.62
No	71	12		76	7		80	3	
Past Relationship Break up									
Yes	46	20	3.24	58	8	0.28	62	4	0.50
No	119	54		153	20		164	8	
Forced sexual engagement									
No	139	27	3.87	177	22	2.72	189	9	5.81
Yes	60	12		34	5		37	2	

Multivariate Analysis of Predictors of Suicidal Behaviour among Exposure Variables.

Logistic regression analysis was conducted to identify the exposure variables that significantly predicted suicidal behaviour. Variables which did not have significant correlations with suicidal behaviour were not included in the logistic regression analysis. This was done based on the assumption that a predictor variable must correlate with the outcome variable in order to run logistic regression (Pallant, 2020). Therefore, Health Risk Behaviours, orphanage level factors and interpersonal factors were not included in the logistic regression analysis. Although smoking, a health risk behaviour, showed some significant correlation with suicidal behaviour in the Chi-Square analysis above, it was excluded from the analysis because it altered the sensitivity of the model due to the tiny percentage of the group that had the characteristic of interest, i.e. those that responded "yes" to smoking (8% of the total sample). The vast difference between the number of cases observed in both groups violated the assumption of sensitivity of the regression model (Pallant, 2020).

Socio-demographic variables (sex and age) were included as covariates. The results of the logistic regression are reported as odds ratios with 95% confidence intervals (CI) and P-values. Statistically significant results are also determined using $P < 0{\cdot}05$ (Pallant, 2020).

The results revealed that being male significantly increased the odds of attempting suicide (AOR = 1.82, 95% CI [1.27, 9.62]). Also, having low sense of belonging statistically increased the odds of participants planning suicide (AOR=1.06, 95% CI [1.01, 1.12]. This is shown in Table 7 below.

Table 7

Logistic Regression Analysis of Predictors of Suicidal Behaviour (Ideation, Planning and Attempt) with sex and age as covariates

	12-month suicide ideation			12-month suicide planning			12-month suicide attempts		
Variable	β	AOR	95% CI	β	AOR	95% CI	β	AOR	95% CI
Socio-demographics									
Sex (Male reference)									
Female	-0.20	0.82	[0.48, 1.40]	0.77	2.15*	[0.88, 5.27]	2.42	1.81*	[1.27, 9.62]
Age (12-15 years reference)									
16-19 years	-0.29	0.74	[0.41, 1.34]	0.19	1.22	[0.53, 2.81]	0.32	1.38	[0.39, 4.82]
Psychological Factors									
Depression	0.83	1.09	[0.47,1.49]	0.07	1.08	[0.93, 1.25]	-0.14	0.87	[0.62, 1.23]
Anxiety	0.01	1.01	[0.92, 1.11]	0.05	1.05	[0.91, 1.20]	0.18	1.21	[0.90, 1.61]
Stress	0.05	0.96	[0.86, 1.07]	-0.03	0.97	[0.83, 1.13]	-0.01	0.92	[0.71, 1.18]
Psychosocial Factors									
Sense of Belonging	0.02	1.02	[0.98, 1.05]	0.06	1.06*	[1.01, 1.12]	0.04	1.04	[0.97, 1.12]
Quality of life total	0.05	1.05	[0.97, 1.12]	0.09	1.09	[0.09, 1.21]	0.06	1.07	[0.84, 1.43]
Community Factors									
Media Reportage	-0.04	1.00	[0.95, 1.04]	0.01	1.01	[0.95, 1.08]	0.07	1.07	[0.93, 1.23]

Note. β = beta value, AOR= adjusted odds ratios. CI = confidence interval

*$p < 0.05$, **$p < 0.01$

CHAPTER FIVE

DISCUSSION

The study aimed to explore the prevalence of suicidal behaviours and its associated factors among adolescents in orphanages. Specifically, the study sought to estimate the 12-month prevalence of suicidal behaviours (suicide ideation, planning and attempt), to examine the factors associated with suicidal behaviours, and to identify the significant predictors of suicidal behaviours among adolescents in orphanages. This chapter presents a discussion of the main research findings in the light of relevant theories and related studies. Additionally, the chapter will expound on the implications, limitations, recommendations, and conclusion.

Twelve-month prevalence rate of suicidal behaviour among adolescents was analysed. The results revealed that a 12-month prevalence rate of suicide ideation among orphaned adolescents was 29.2% that of suicide planning was 11.3% and while estimate for suicide attempt was 5.1%. The risk factors of suicidal behaviour were also analyzed and revealed that depression, anxiety, stress, quality of life, sense of belonging, smoking behaviours and media reportage of suicide were correlates of suicidal behaviour. Finally, from the risk behaviours, it was found that sex and sense of belonging were predictors of suicidal behaviour among the participants.

Demographic Characteristics

Following the explorative nature of the present study, some characteristics of the target population that stood out were observed. Notably, the study participants reported a significant degree of psychopathology, (demonstrating moderate to severe levels of depression, anxiety, and stress). Also, sense of belonging to their respective orphanages was incredibly low within the sample as has been shown by studies involving participants who are inmates in orphanages (Denton

et al., 2017; Gutman et al., 2010). Given the challenges such as low sense of belonging and the associated challenges, the finding on the negative psychological and psychosocial outcomes not surprising. For instance, studies have shown that children in orphanages are deprived of emotional attachment as a result of poor child-caregiver relationships, this adversely affects their sense of belonging and eventually leads to negative emotional and psychological issues as exhibited in the sample (Crenshaw & Garbarino, 2007; Gibbons, 2005).

Prevalence of Suicidal Behaviour

The research question that guided the issue of prevalence of suicidal behaviour in the sample was "What is the 12-month prevalence estimate of suicidal behaviour among adolescents in orphanages?" The present study found a 12-month prevalence estimate of suicide ideation among orphaned adolescents to be 29.2%, that is, approximately 3 out of 10 adolescents in the orphanages studied reported having suicidal ideation over the past 12 months. The estimates in percentage of suicidal ideation for males and females were 26.4% and 28.8% respectively. Again, 11.3% of the sample reported planning suicide, while 5.1% of the sample had actually attempted suicide in the past 12 months. This suicidal behaviour prevalence within the sample aligns with findings by Evans et al. (2017) in a systematic review and meta-analysis of comparative studies of suicide ideation and attempt among children and adolescents in care and non-care populations, where children and adolescents in care populations were found to be three times more likely to have suicide ideations and actually make suicidal attempts as compared to their counterparts in non-care populations (Katz et al., 2011; S. E. Stewart et al., 2001). The above prevalence estimate of suicidal behaviour among the orphans studied is not surprising as Kidd (2006) asserted that parent relations were the most consistent protective factor in suicidal behaviour among adolescents. Perhaps, the social context of life in the orphanages may promote suicidal behaviours due to lack of parental warmth and sense

of belonging as would have been found ordinarily between most adolescents and their biological parents.

David Klonsky and May (2015)'s Ideation-to-Action Framework, helps to shed light on the high prevalence estimates of suicide ideation in comparison with suicide planning and attempt among the present sample. According to the framework, suicidal behaviour occurs along a two-step process that involves the emergence of suicidal ideation and the transition from ideation to attempted suicide. The progression is facilitated by certain distinct processes which may not be present in every ideator and therefore results in few ideators progressing to planning and attempt. What is more, observations made by Gibbons (2005) have shown that deprivation is experienced in orphanages. Children in orphanages do not usually gain access to whatever they want or ask for. Rather they usually make do with whatever is provided to them (Gibbons, 2005). The lack of access to material and emotional needs could heighten underlying psychological and psychosocial problems and subsequently suicidal behaviours.

The prevalence estimates found in this study is similar to studies conducted within the African and Ghanaian context among JHS and SHS adolescents. The 12-month prevalence estimates are in line with the range of estimates (6.9% to 27.9%) recorded throughout sub-Saharan African nations (Aggarwal et al., 2017; Baiden et al., 2020; Lim et al., 2019; Oppong Asante et al., 2017; Quarshie et al., 2020b; Uddin et al., 2019).

The findings of the present study may be pointing to the possibility of the role of environmental factors in adolescent suicidal behaviours (Wambua et al., 2018). This in line with Merz & McCall, (2010) who discovered that children who spent more years in orphanages had greater rates of clinical depression, anxiety and behaviour difficulties. Children in institutions are particularly vulnerable to psychological difficulties, with a high rate of externalizing, internalizing, social, and

mental disorders in them. They also have a high risk of negative future behavioural outcomes such as suicidal behaviour and the development of psychological impairment (Gabrielli, Jackson, et al., 2015; Groza & Ryan, 2002; Taussig et al., 2014; Zapata et al., 2013).

Correlates of Suicidal Behaviour

Following the socio-ecological model of suicidal behaviour (Ayyash-Abdo, 2002b; WHO, 2014), the correlates of suicide ideation, planning and attempt within the sample of the present study revealed that correlates were multi-contextual: personal, lifestyle, community related, psychological and psychosocial. It was interesting to discover that some factors expected to be associated with suicidal behaviour (such as alcohol intake, being discriminated upon, forced sexual engagement) did not exhibit any correlation as in other adolescent populations, (Quarshie & Andoh-Arthur, 2022a). However, other psychological level factors such as (depression, anxiety, stress), psychosocial factors (quality of life and sense of belonging), health risk behaviours (smoking behaviours), and then community factors (such as media reportage of suicide) stood out as the main correlates of suicidal behaviour outcomes (ideation and planning). Just as Ayyash-Abdo (2002) documented, this study's outcomes have shown how suicidal behaviour among adolescents in orphanages is influenced by the interaction of some factors at different ecological levels.

None of the identified variables on the other hand correlated with suicide attempt. This is surprising and very much inconsistent with several studies that have found multi-level correlates to suicide attempt (Quarshie et al., 2020a, 2021b; Quarshie & Andoh-Arthur, 2022a). A plausible reason for lack of associations between suicide attempt and multi-level factors might be the low prevalence recorded for suicide attempt in the sample. Pallant (2020) illustrate that the amount of variability in a data affect the size and statistical significance of correlations.

In the present study, the notably low number of positive responses of suicide attempt observed in the data (13 yes responses out of a total sample of 256) affected the variability and the general distribution of the data which in turn may have had significant impact on the correlations.

Overall, suicide ideation and planning correlated with some exposure variables (smoking, anxiety, depression, stress, sense of belonging, and media reportage of suicide). This is supported by global literature and that of Sub-Saharan African regions (Baiden et al., 2020; Cipriano et al., 2017; Khuzwayo et al., 2018; Koyanagi et al., 2019). Media reportage of suicide correlated strongly with suicide planning but not suicide ideation. This finding is counterintuitive because studies have found common correlates for both suicide ideation and planning (Quarshie et al., 2021a).

This finding can be explained with the Interpersonal psychological theory of suicidal behaviour. The theory suggests that uncontrolled burdensomeness and thwarted belongingness are two major risks that may lead to increased suicidal desire. According to this theory, when the need to belong is unmet at any point in life, the consequences include negative mental health outcomes such as suicide ideation, attempt and fatalities (J. T. Cacioppo & Cacioppo, 2014; Holt-Lunstad et al., 2010b). This may be true within the present sample as sense of belongingness was observed to be very low. Unlike adults, adolescents show exaggerated responses to suicide risk factors (Galvan et al., 2007). Suicidal behaviour, according to Adinkrah (2013) is mostly an impulsive act. For adolescents, in particular, there exists general neuroscientific evidence of impulsivity in their approach to life. The relatively immature prefrontal cortex, as a result of developmental imbalance in the adolescent brain is unable to provide appropriate top-down control to the more mature emotion-processing of the subcortical system (Casey et al., 2008). Thus, this increases their inclination to impulsivity. The peculiar developmental pattern among adolescents, makes them

more prone to emotional dysregulation, and impulsivity, which have been linked to suicidality (Christensen et al., 2014; T. Joiner, 2009).

Within the sample, sense of belonging was observed to be low but demonstrated a positive weak relationship with suicide planning only. The relationship although positive and weak (due the negatively worded nature of the sense of belonging scale used in this study), aligns with studies that have investigated the relationship between sense of belonging and suicide behaviour among adolescents (Timmons et al., 2011b; Van Orden et al., 2010b). These studies indicate that adolescents with low sense of belonging are more likely to have suicidal thoughts, planning or a history of suicide attempts. In a systematic review study by Hatcher & Stubbersfield (2013), it was suggested that in non-clinical samples, varying conceptualisations of idea of sense of belonging may account for the weak relationship between suicide behaviour and sense of belonging. In the present study, sense of belonging was conceptualised as a psychological experience focusing on participants' perceptions of feeling accepted, included and identified by others as a good fit in the orphanage. While this conceptualisation has been established to be a more reliable measure of sense of belonging (Hagerty & Patusky, 1995) as compared to the other concept of sense of belonging ("antecedents to sense of belonging", that is, individuals' motivations for sense of belonging), Allen et al. (2021) suggested that a combination of both conceptualisations (i.e., psychological experience and the antecedents of sense of belonging) make the measure stronger and more valid.

Predictors of Suicidal Behaviour

In the final adjusted logistic models, sense of belonging (1.06, CI [1.01, 1.12] and sex (1.81, CI [1.27, 9.62]) were associated with increased odds of planning, and attempting suicide. According to Joiner (2009) and Baumeister and Leary (1995) theories of suicide, when individuals', especially adolescents' basic need to belong is thwarted, it may lead to the motivated desire to die. As

suggested by Hatcher & Stubbersfield (2013), sense of belonging exhibits significant associations with suicidal behaviour when other specific factors, such as perceived burdensomeness and being depressed as result of significant life changes, are also present. The suggestion above aligns also with (Timmons et al., 2011b) who found parental displacement (parental death and abandonment) as a significant factor that had statistically reliable effects on perceived belongingness of adolescents.

Like numerous studies, this study found increased odds of planning and attempting suicide by virtue of being male. This finding supports earlier research and systematic reviews (Beautrais, 2002; Canetto & Sakinofsky, 1998; Miranda-Mendizabal et al., 2019) which found that male adolescents have a considerably higher risk of suicidal attempt. Consistent with meta-analysis on gender differences in suicidal behaviour in adolescents and young adults (Miranda-Mendizabal et al., 2019) parental divorce or separation was a risk factor for suicide attempts that was more prevalent in men. This study's results are in line with research suggesting that parental absence or separation, which is the case for adolescents in orphanages, may increase the likelihood of suicide attempts in male adolescents. The gender-specific characteristics linked to suicide attempt discovered in this study are not wholly surprising, given school-based studies in Ghana have consistently indicated that male adolescents are more likely than female adolescents to attempt suicide (Baiden et al., 2020; Oppong Asante et al., 2017; Owusu-Ansah et al., 2020)

Implications of study

This study is seminal as far as research in suicidal behaviours in orphanages in Ghana is concerned. It thus have several public health and practical implications. The first is that, a national policy on suicide prevention that focuses on special groups such as orphans must be developed. The health directorate of Ghana in particular has a crucial role to play in bringing together and coordinating all

sectors and stakeholders; including media, education and social welfare, to actively engage in suicide prevention efforts among vulnerable groups. Again, access to suicide help and support must be made available to orphanages. It is suggested that to acquire proper help, the health ministry should put efforts to have at least one psychologist stationed in orphanages. Furthermore, findings from this study and other orphanage related studies have shown the critical role caregiver behaviour plays on the mental health of adolescents in orphanages. The Department of Social Welfare must therefore, include extensive training of caregivers in orphanages in their Care Reform Initiatives. Considering the fact that caregivers are supposed to be access points through which children and adolescents in orphanages can reach out for help concerning suicidal tendencies, caregivers need to be sensitised to the prevailing psychological and psychosocial issues their adolescents face daily. Additionally, they can also be given training on suicide literacy specifically, identification of early warning signs and basic prevention tips to enable them address or refer suicidal behaviours recorded in the orphanages.

This study being the first of its kind in this population implies that more research using different research approaches need to be conducted to examine the broader psychological, social, physical and spiritual dimensions of orphans' lives and the coping resources they deploy in times of difficulty towards boosting existing and potential support services for orphans.

Limitations

Although some key findings emerged from this study, these facts should be interpreted in light of a number of limitations. First, the quantitative design is suitable for measuring prevalence estimate of suicidal behaviour and major correlates unique to the sample, as well as helping in the identification of significant correlations between underlying factors and suicidal behaviour, however, due its cross-sectional nature the study could not find causal relationships. Again, memory

bias may be present because the results are based on retrospective self-reports. Furthermore, rather than using clinical evaluation to diagnose the psychopathologies for this study, structured instrument was used in this study. Despite this restriction, there was good agreement between survey diagnoses and blinded clinical diagnoses (Kessler et al., 2009).

Also, reporting bias is a very likely limitation of this study, considering the "tabooed" nature of suicide in the Ghanaian context. Although anonymity was assured, and the self-report measures used were considered sensitive, respondents may not have accurately reported their level of suicidal behaviour. As a result, an underestimation of suicidal behaviour in this study is possible (Schneidman, 2016).

In addition, the limited statistically significant interactions among inter-level factors of suicide behaviour may be attributed to the small sample size (n= 256) and the limited number of reported suicide outcome variables (ideation, planning and attempt). This accounted for the relatively modest associations and predictions in this adolescent sample.

Recommendations

First, a replication of this study could use longitudinal research and, possibly, a mixed methods approach to aid in better understanding the causality or direction of the relationships shown in the present study. In addition, a wider scope including participants' families of origin, age at placement in orphanage, adverse childhood experiences, orphanage environmental factors, number of years spent orphanage, previous out-of-home care could be explored. Again, past psychopathologies and traumatic experiences could be assessed using clinical diagnostic tools in addition to self-report measures.

Finally, owing to the sensitive nature of suicide in the Ghanaian context, it is recommended that future research focuses on demystifying negative perceptions of suicidal behaviour among study participants prior to data collection.

Conclusion

This exploratory study used a quantitative approach to examine the prevalence of suicidal behaviours among adolescents in orphanages. Specifically, the study investigated the 12-month prevalence estimates, correlates and predictors of suicidal behaviours among adolescent orphans in Ghana. The 12-month prevalence estimate was found to be 29.2% for ideation 11.3% for planning and 5.1% for attempt. The correlates of suicidal behaviour were depression, anxiety, stress, sense of belonging, quality of life, smoking status, and media reportage of suicide. The significant predictors of suicidal behaviour identified by the present study were sense of belonging, and sex (male). The findings of this study serve to provide clues of the multi-level factors that associates and predict suicidal behaviour in the target population. It also serves as a foundational step to further research in the context of suicidal behaviours in the target group. Suicidal behaviour prevalence was found to be in the range of general estimates according to studies done in sub-Saharan Africa, however, for this study in particular, suicide ideation prevalence rate fell on the higher side of the range (29.2%). This calls for urgent attention towards understanding and addressing potential challenges in the orphanages that may likely influence adolescent's thoughts and desire to die particularly when suicidal ideation is a single most important risk factor to suicide attempt and suicide. The interconnected nature and the multilevel of the correlates of suicide attempts identified in this study provide support for the

WHO's recommendation to adopt socio-ecological approaches to understanding and preventing adolescent suicides generally, Additionally, the multi-level correlates of suicidal behaviour in this

study's sample serve as a good indicator to key areas where suicide prevention efforts can be targeted (Ayyash-Abdo, 2002; Asante et al., 2017; Baiden et al.,2019; Owusu, 2008, Quarshie & Andoh-Arthur, 2020; WHO, 2014).

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