Mental Health Disparities among Orphaned and Non-Orphaned Adolescents: A Cross-Sectional Study

Umair Ali
umairaliuoswabi@gmail.com
PharmD, Department of Pharmacy, University of Swabi, KPK, Pakistan

Shuraim Shah
shuraimshah980@gmail.com
MBBS, Department of Medicine, Gajju Khan Medical College, Swabi, KPK, Pakistan

Muhammad Sajjad
mohammadsajjad@gkmcs.edu.pk
MD, Department of Medicine, Gajju Khan Medical College, Swabi, KPK, Pakistan

Muhammad Tayyab
muhammadtayyab012021@gmail.com
PharmD, Department of Pharmacy, University of Swabi, KPK, Pakistan

Inam ullah
inamullah0916@gmail.com
PharmD, Department of Pharmacy, University of Swabi, KPK, Pakistan

Walid Khan
waleedyousafzai39@gmail.com
MBBS, Department of Surgery Khyber Teaching Hospital Peshawar
Corresponding Author: * Shuraim Shah shuraimshah980@gmail.com

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ABSTRACT

Introduction: *Approximately 153 million children worldwide face orphanhood, with 17.8 million losing both of their parents. Parental carelessness raises the likelihood of stress, anxiety, and depression and can cause severe psychological suffering. Orphans frequently deal with extra difficulties that affect their general well-being, such as social prejudice, restricted access to healthcare ,education, and mental discomfort. Research comparing the mental anguish of orphaned and non-orphaned children is still limited, despite increased awareness of mental well-being issues. Assessing and comparing the stress, anxiety, and depression levels of orphans and non-orphans in the districts of Swabi and Peshawar is the aim of this study.*

Methods: *A cross-sectional study was conducted in Swabi and Peshawar, among 326 children aged 8–16. The sample included 163 orphans residing in orphanages and 163 non-orphans living with relatives. Data were collected using the DASS-21 scale. SPSS version 20.0 was employed to conduct the analysis, using a Mann-Whitney U test to compare the groups.*

Results: *Depression, anxiety and stress were compared between orphans and non-orphans using a Mann-Whitney U test. The analysis found that orphans had much higher depression and anxiety scores than non-orphans ($U = 8416.000$, $Z = -6.058$, $p = 0.001$; $U = 7314.000$, $Z = -7.159$, $p < 0.001$). The stress level experienced by orphans and non-orphans was not found to be different on average ($U = 11503.500$, $Z = -2.272$, $p = 0.23$).*

Conclusions: *The findings underscore the heightened mental health burden among orphans, emphasizing the need for targeted psychological support and intervention strategies.*

Keywords: *Orphanhood, depression, anxiety, stress, mental health*

ABBREVIATIONS

KPK – Khyber Pakhtunkhwa; DASS-21 – Depression, Anxiety, and Stress Scale – 21 Items; DASS-42 – Depression, Anxiety, and Stress Scale – 42 Items; SPSS – Statistical Package for the Social Sciences; KORT – Kashmir Orphan Relief Trust

INTRODUCTION

Orphanhood is also known as the loss of a parent during childhood (Shafiq et al., 2020). According to a census, 17.8 million children have lost both parents, out of the approximately 153 million children who have lost one parent (Brunello et al., 2000; Shiferaw et al., 2018). Losing one or both parents has a dramatic and long-lasting effect on children's psychological health, which affects every facet of their lives, including their capacity to learn, be active, be healthy, play, be productive, and form healthy relationships with others (Duraisamy et al., 2022). Discrimination, Orphans are more vulnerable to emotional and behavioral problems in kids and teens due to physical challenges, a lack of resources for health and education, and other factors. Stress is a primary contributor to poor mental health (Cluver et al., 2008; Rahman et al., 2012).

Depression is a frequent and severe mental disease marked by ongoing feelings of sadness, worthlessness, or guilt, indifference, and an inability to find joy in once-pleasurable or enjoyable activities (Azeez & Khan, 2022; Mohammadzadeh, Awang, Ismail, et al., 2018). Along with emotional symptoms, people who are depressed also frequently have physical symptoms such as increased fatigue, difficulty sleeping, loss of energy, disrupted appetite, and poor attention. These symptoms significantly impair the person's ability to live a happy and productive life (Al-Jabi, 2021). Fear and anxiety are sometimes used interchangeably, and anxiety can present as tense feelings, concerned thoughts, and physical symptoms like elevated blood pressure, despite their differences. Anxiety is considered a long-acting, future-focused reaction that is often based on a diffuse threat, whereas terror is a realistic, present-oriented, transient response to a specific, well-defined threat (Hofmann et al., 2010)

Stress is a bad decision that can impact one's physical and mental well-being. Stress is assumed to be the source of the negative emotional, cognitive, behavioral, and physiological processes that take place when someone tries to cope with or adapt to stressors (Dey et al., 2013). Stressful situations can damage a person's personality and harm all of their connections with others (Yendork & Somhlaba, 2014). A bad self-image, low self-confidence, elevated negative emotions, and increased everyday stress are all caused by ineffective communication (Mohammadzadeh, Awang, Ismail, et al., 2018). It can also lead to psychosocial issues, decreased creativity and cognitive motivation, and inadequate handling of internal and external pressures (Jaffer et al., 2023).

The incidence of stress, anxiety, and depression in both orphans and non-orphans has received very little attention (Saeed et al., 2024) .This research serves to evaluate the levels of stress, anxiety, and depression in both orphaned and non-orphaned children. It will shed important light on the unique psychological difficulties that orphans encounter in contrast to those who are not. The psychological health of both child groups will eventually improve as a result of this research's contributions to the development of better mental health interventions and support networks.

METHODOLOGY

A cross-sectional study design is used for this investigation to measure the levels of stress, anxiety, and depression in two different groups, i.e., orphans and non-orphans at Khyber Pakhtunkhwa (KPK), Pakistan. The participants, aged between 8 and 16 years, were selected from different schools and orphanages in the Swabi and Peshawar regions. Both males and females took part in the study (Table 1).

Table 1: Demographic characteristics and study sites

Statement	Variable	Frequency	Percentage (%)
Age of Participants (Years)	8-11	132	40.2
	12-16	196	59.8
Education Status of the participants	Primary school	140	42.7
	Secondary school	188	57.3
Gender of participants	Male orphan	133	40.5
	Male non-orphan	132	40.2
	Female orphan	30	9.1
	Female non-orphan	32	9.7
Orphanage institutes	Kashmir Orphan Relief Trust (KORT)	59	17.9
	Rubi Gul Agosh Welfare Organization	25	7.6
	Bat ul yatama	18	5.4
	Al huda center	22	6.7
	Model institute of the state children Zama kor	40	12.1
Non-orphanages institute	The Muslim Model Higher Secondary School	55	16.7
	Rise and shine school system	33	10.0
	Al noor rozatal ilm public school	76	23.1

Ethical approval

The ethical review committee of Gajju Khan Medical College, Shahmansoor, Swabi, Pakistan, approved the study. Data was collected after obtaining formal permission from various institutions in Swabi and Peshawar. Each participating institution granted its approval to be involved in the research. In Swabi, the institutions included Muslim Model Higher Secondary School, Al-Noor Rozatal Ilm Public School, Rubi Gul Agosh Welfare Organization, Rise and Shine School System, and Kashmir Orphan Relief Trust (KORT), Alamabad. In Peshawar, data were gathered from Bait-ul-Yatama, Al-Huda Centre, and the Model Institute for State Children, Zamung Kor. Participants were informed that permission was acquired in addition to institutional approval. To ensure the participants understood the purpose of the study well, their agreement was obtained verbally and in writing. They were also made aware of their right to withdraw from the study at any point.

Sample

The Raosoft sample size calculator was used to select a sample of 326 kids with a 50% response distribution, a 95% confidence level, and a 5% margin of error. This sample size guarantees that the study's findings are trustworthy. In all, 326 participants between the ages of 8 and 16 were chosen for the study. The participants' average age was thirteen years old. Of the 326 participants, 163 (50%) were orphans residing in orphanages, while the other 163 (50%) lived with their relatives. Among the participants, 24 were female orphans, and 34 were female non-orphans. In contrast, 140 male orphans and 130 male non-orphans participated in the study.

Survey details

Convenience sampling was used to choose study participants, and a cross-sectional survey was conducted. A non-probability sampling technique, convenience sampling, selects participants depending on their accessibility and proximity to the researcher.

Inclusion Criteria

The study included children and adolescents aged between 8 and 16 years. Participants were selected from both orphaned and non-orphaned populations. Non-orphan children were required to live with their biological or legal guardians in the local community. In contrast, orphaned children must have lived in an orphanage for at least one year to ensure adjustment to the institutional environment. All participants needed to demonstrate the ability to understand and respond to the survey questionnaire or interview independently or with minimal assistance. Additionally, regular school attendance was considered an indicator of stability and included in the inclusion criteria.

Exclusion Criteria

Children were excluded if they had been recently admitted to an orphanage (less than one year), had a known diagnosis of a psychiatric disorder (such as major depression, bipolar disorder, or schizophrenia), or were suffering from severe physical or neurological conditions that could influence psychological responses. Participants who were not fluent in the language used in the assessment tools or had cognitive impairments preventing comprehension were also excluded. Finally, any child or guardian who declined to participate or withdrew consent at any stage was excluded from the study.

Research Scale

The Depression, Anxiety and Stress Scale 21 Item (DASS21), a verified version, was used to gather information and evaluate the mental health of samples (Oei et al., 2013a)

Depression, Anxiety, Stress Scale 21 (DASS 21)

There are 42 items on the Depression, Anxiety, and Stress Scale (DASS-42). The DASS-21 is a condensed version of that scale (Oei et al., 2013b). The three self-report measures are designed to measure stress, anxiety, and depression; the seven items on each of the three scales are divided into subscales with related material; the depression scale assesses skeletal muscle effects, situational anxiety, anhedonia or dysphoria, hopelessness, self-deprecation, depreciation of life, and lack of interest or involvement; the anxiety scale assesses situational anxiety, autonomic arousal, and the subjective perception of anxious affect; and levels of persistent nonspecific arousal influence the stress scale. It evaluates anxious arousal, difficulties relaxing, and signs of impatience, irritability, and over reactivity. The summation of the scores for the relevant categories determines the scores for stress, anxiety, and sadness. Depressive symptoms often have the following cutoff scores: mild (10–13), moderate (14–20), severe (21–27), and extremely severe (28+). Normal is recommended (0–9). mild (8–9), moderate (10–14), severe (15–19), and extremely severe (20+) are the ranges for anxiety. Stress levels range from 0 to 14 for normal stress, 15 to 18 for light stress, 19 to 25 for moderate stress, 26 to 33 for severe stress, and 34+ for extremely severe stress. The DASS-21 scores were multiplied by two (Lovibond & Lovibond, 1995) to determine the final score following the handbook's instructions. The validity and reliability of the DASS-21 have been confirmed by earlier studies.(Crawford & Henry, 2003)

Analysis of Data

SPSS version 20.0 for Windows was utilized to analyze the data. The difference in depression, anxiety, and stress between adolescents who were orphaned and those who were not was evaluated using the

Mann-Whitney U test. Given that the data was ordinal, the Mann-Whitney U test was selected since it is suitable for assessing non-parametric data and establishing whether a significant difference exists between the two groups (Table 2).

Table 2: Result of Mann-Whitney U Test

Variable	Orphan Mean Rank	Non-Orphan Mean Rank	Mann-Whitney U	Z-score	P-Value
Depression	195.18	133.82	8416.000	-6.058	0.001
Anxiety	201.10	127.10	7314.000	-7.159	0.000
Stress	176.38	152.34	11503.00	-2.272	0.23

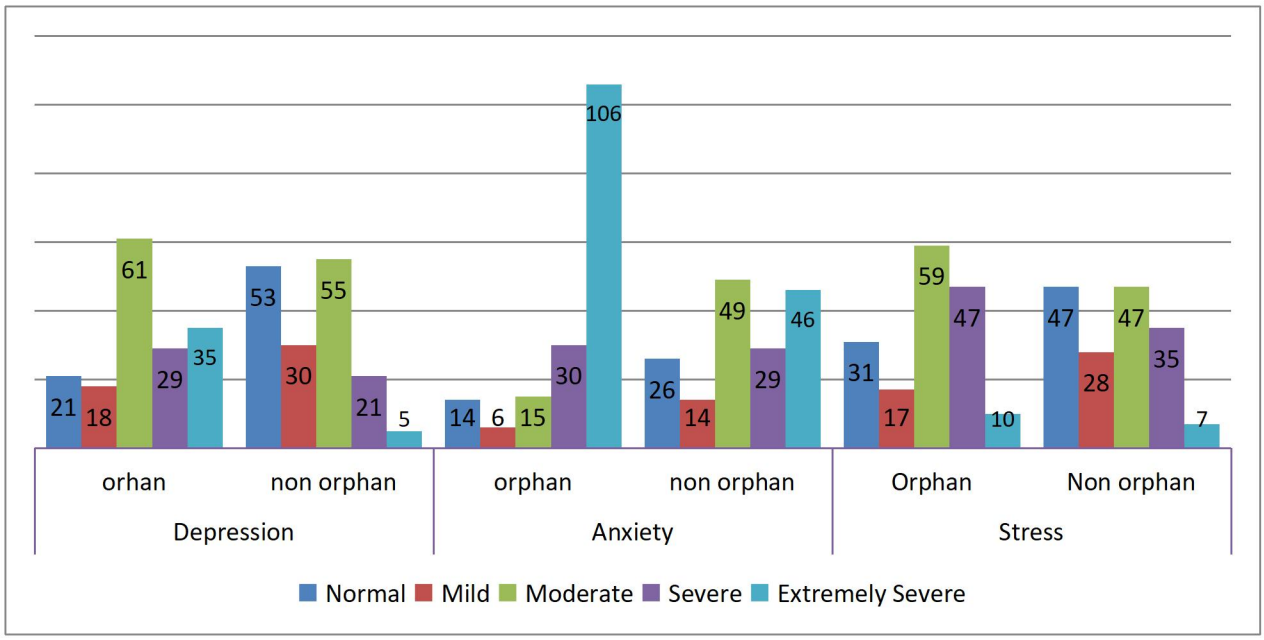
RESULTS

The mean rank for depression was 133.82 for non-orphans and 195.18 for orphans. There was a significant difference, with orphans reporting higher levels of depression than non-orphans, as indicated by the Mann-Whitney U value of 8416.000, Z-score of -6.058, and p-value of 0.001.

Orphans' mean anxiety score was 201.10, whereas non-orphans' was 127.10. With a Z-score of -7.159, a p-value of less than 0.001, and a Mann-Whitney U value of 7314.000, there was a highly significant difference between the anxiety levels of orphans and non-orphans.

The mean rank for stress was 152.34 for non-orphans and 176.38 for orphans. Stress levels among orphans and non-orphans were similar, and the Mann-Whitney U value was 11503.500 with a Z-score of -2.272 and a p-value of 0.23, suggesting no significant difference between the two groups (Figure 1).

Figure 1: Comparative distribution of mental health status among orphan and non-orphan adolescents based on DASS-21 score.



DISCUSSION

It is currently believed that between 5% and 80% of adolescents and young adults globally suffer from mental health conditions such as stress, anxiety, and depression (Sahoo & Khess, 2010). Major psychiatric disorders that are common in adolescents today include stress, anxiety, and depression(Buzdar et al., 2015). Negative experiences like losing parents at a young age have made orphan teenagers less attached to their parents. Adolescent orphans who lived in orphanages were denied fathers' affection and attention. Before their parents' passing, they had to deal with a different atmosphere (Stallard et al., 2004). Yet prior research has demonstrated that adolescents residing in orphanage facilities have mental health issues more frequently than adolescents who are not orphans(Mohammadzadeh, Awang, Kadir Shahar, et al., 2018). According to the current study, adolescents who have been orphaned have much greater levels of depression than adolescents who have not. These results are in line with previous research that shows orphans have higher levels of depression (Abedin & Heydari, 2021; Beck et al., 1963) and subjected to behavioral issues, including antagonistic and disruptive behaviors(Lehmann et al., 2013). The findings of this study are consistent with previous studies, which lends further support to the idea that orphans are more likely to experience depression. The study suggests that depression affects women orphans more than men orphans. Such things as gender-based bias, cultural rules and a missing mother in a child's life can lead to greater mental health challenges (Chandrashekarappa et al., 2018; Safdar, 2018). Researchers have previously found that female orphans are more likely to develop depression, showing the strong link between gender and mental health suffered by orphans (Aa & Vostanis, 2017).

This study suggests that among stress, anxiety and depression, anxiety was the biggest problem for orphans. Stress and depression were lower in orphans than anxiety, which means they carry a much heavier emotional load. Also, female has these findings match what was found earlier (Walker & Koob, 1997) that anxiety is the primary mental health issue for orphans, mainly for girls (Gao et al., 2020; Pourfarahani et al., 2020) so additional mental health services are urgently needed.

Even though orphans were found to have higher stress levels than non-orphans, the difference did not reach statistical significance, researchers report. Therefore, the difference in stress between the two groups could not be considered significant. On a different note, orphaned children often experience a lot more stress in the early stages of being orphans (Eljo et al., 2021; Irshad, 2017). The variation in participants' backgrounds, environments or coping behaviors might explain the results found here and earlier.

We should remember the study's flaws when we review its outcomes. It is challenging to guess long-lasting mental health results for orphaned and non-orphaned adolescents based on only momentary data using the cross-sectional approach. In addition, people's answers tend to be areas where society expects them to be perfect or accurately remembered, which could introduce bias that might cloud the findings' reliability. As a result, scientists should proceed with further studies that follow participants for longer and use more objective ways to examine mental health problems among adolescents who have lost their parents.

CONCLUSION

The study found that orphaned teenagers often have significantly different mental health outcomes than those who are not orphaned. Of the three variables studied, anxiety was the main issue, and both sadness and anxiety were much more common among orphans. Besides, when compared to boys, girls who have lost their parents describe greater levels of depression and anxiety. Yet, orphans generally felt more stressed, though this was not strong enough to be a difference. The results are consistent with past work on anxiety and depression, but they differ from those that stated orphans had much higher levels of stress.

Encouraging mental health for orphaned adolescents should involve special interventions for anxiety and depression, the results clarified.

STATEMENTS

Conflicts of Interest

The authors of this manuscript have no conflicts or competing interests that are relevant to this paper.

Ethical Approval

The ethical review committee of Gajju Khan Medical College, Shahmansoor, Swabi, Pakistan, approved the study.

Authors' Contributions

Umair ali: Conceptualization, Writing - Review & Editing, Project administration. **Shuraim shah:** Formal Analysis, Data Curation, Writing - Original Draft. **Muhammad sajjad :** Writing - Original Draft, Writing - Reviewing and Editing. **Muhammad Tayyab;** Formal Analysis, Data curation. **Inam ullah;** Formal Analysis, Data Curation, **Walid khan;** Reviewing, Data Curation

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