

Assessment of Physical and Mental Health of Children Living in Orphanages in Islamabad- A Cross-Sectional Survey



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Abstract

Background: Childhood holds immense significance in shaping the physical, mental, and emotional growth of children. Orphaned children face heightened susceptibility to encountering various physical and mental health challenges, thereby depriving them of the opportunity to experience optimal well-being throughout their childhood and beyond. Pakistan is home to an estimated 4.6 million orphaned children, with the majority being under the age of 17. The objective of the study was to assess the mental and physical health of children living in orphanages of Islamabad and Rawalpindi.

Methods: A descriptive cross-sectional survey was conducted on a sample of 110 children aged 7 to 18 years, living in orphanages of Rawalpindi and Islamabad to assess their physical and mental health. Anthropometric measurements were taken and the presence or absence of anxiety was determined by using the "Revised Children Manifest Anxiety Scale" (RCMAS) questionnaire.

Results: 50% of the study population was underweight based on their BMI, while 46.36% had normal weight and 1.82% were overweight or obese. Out of the 33 male participants, 20 were found to be underweight. The results of the RCMAS scoring revealed that 20.9% of the children had anxiety, with a higher prevalence among females as compared to males.

Conclusion: Prevalence of underweight was found to be higher among male orphans. Female orphans were more likely to experience anxiety and depression as compared to males.

Keywords: Orphans, orphanages, physical health, mental health

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Introduction

The capacity of an individual to thrive in society and achieve a fulfilling life hinges on their physical and mental well-being. Poor physical or mental health can impede an individual's capacity to function effectively. Childhood health problems can have repercussions in adulthood. Orphans, who are often overlooked, may be vulnerable to health issues that deprive them of the chance to enjoy good health in their youth and later years. This places them at risk of developing mental and physical health problems. The bond between a child and their parent during the early years plays a crucial role in the child's physical and psychological development (1) These initial interactions serve as a vital stage of growth, establishing the groundwork for the child's psychological well-being and future learning development (2). Anxiety among orphans may arise due to their low self-esteem and limited ability to make decisions (3, 4). In our country, there is a dearth of evidence and research on the mental and physical health problems affecting orphans. There are approximately 132 million children worldwide, who have been orphaned, with approximately 60

million residing in Asia. In a survey carried out by the United Nations, in 2022, it was observed that an estimated 4.5 million children are orphaned in Pakistan (5). Orphanages serve as an alternative for these vulnerable children in the absence of parental care, providing them with support and care.

Children in orphanages may receive their education either inside or outside the facility. Children who have lived in orphanages, especially those who have experienced adverse conditions during their early years, may experience various physical and behavioral issues (6). Developmental impairments are often caused by the lack of emotional and social attachment, as well as inadequate stimulation and interaction with family members. Emotional deprivation, anxiety, and insecurity can also affect the growth of children by influencing the neurochemical regulation of the growth hormone. Children who have been exposed to socio-emotional neglect may experience growth deficiencies and develop a condition known as psychosocial dwarfism (7).

The COVID-19 pandemic has resulted in a significant number of orphaned children (8). While different countries have implemented various

policies to care for vulnerable, abandoned, and orphaned children, a large proportion of those residing in orphanages continue to experience neglect and have poor mental and physical health. Depression, anxiety, and low self-esteem are among the common issues faced by orphans (9).

According to a study conducted in 2018 by Ilu Abba Borzone, it was discovered that the prevalence of depression among orphans aged 11 to 17 years was 24.1% (8). Thielman et al conducted a study to investigate the physical wellbeing of abandoned and orphaned children in impoverished countries, such as Cambodia, Ethiopia, India, and Tanzania. The study revealed that 23% of orphaned and abandoned children had health issues, including fever, upper respiratory tract infections, gastrointestinal problems, and mental health issues such as anxiety and stress (9). EL Koumi et al conducted a study on 265 children aged 6-12 years, which observed that children living in orphanages are more susceptible to psychiatric disorders. The study found that 64.53% of children in institutional care had behavioral disturbances, with nocturnal enuresis (23.3%), attention deficit hyperkinetic disorder (ADHD) (19.62%), and oppositional defiant disorder (17.36%) being the most notable psychiatric disorders (10).

A study by Yendork et al in Ghana compared the quality of life of orphans and non-orphans. The study included 200 children aged 7-17 years, with 100 orphans and 100 non-orphans. The results of the study showed that orphaned children experienced more stress in their lives compared to non-orphans (11). In 2014, Routray et al. conducted a study in Odisha, eastern India, with the aim of examining the growth and developmental outcomes of orphaned children from birth. The primary objective was to identify effective interventions to enhance their successful integration into society in the future. The study findings revealed that the absence of maternal and familial care was linked to growth and developmental delays among the children (12). Another cross-sectional study was conducted in India to assess the nutritional and cognitive development of orphans, which found that orphans were more susceptible to malnutrition and cognitive delay compared to children living with parents. The study had a sample size of 70 children, including 35 orphans and 35 non-orphans (13).

Similarly, a study conducted by Saraswat et al in New Delhi, India aimed to examine the psychological well-being of orphans living in institutes. The study reported a wide range of mental health issues among orphans, including low self-esteem, self-doubt, mistrust towards strangers, and a longing for parental love (14). In Indian held Kashmir, a study was conducted to investigate the psychological impact of institutionalization on orphans living in orphanages. The findings revealed that orphans face psychological problems and struggle with adjusting to society after leaving the orphanages (15).

In 2020, a research was carried out in Lahore, Pakistan, to examine the psychological well-being of orphans residing in orphanages. The study sample comprised of 300 children, including 150 orphans and 150 non-orphans. The DASS and ADMQ tools were used for data collection. The results of the study indicated that children in orphanages had increased levels of stress, depression, and poor decision-making ability (16). Another research was conducted in Lahore to recognize mental health problems

and PTSD among children living in care homes in Lahore, Pakistan. Data was collected from 132 children aged 9-19 years. The study results revealed a high prevalence of PTSD (70.45%), common health issues (43.94%), and posttraumatic growth (17).

Orphans living in orphanages are highly susceptible to the negative impacts of their environment and poor nutrition. However, there is a lack of research on the physical and mental health of orphans in Islamabad and Rawalpindi, therefore, it was essential to conduct a study to assess their mental and nutritional status, as well as their living conditions in an orphanage. In line with this, Hassan et al conducted a study in Peshawar to assess the health status of orphans living in orphanages using anthropometric measures, visual acuity, dental and oral hygiene. The study included orphans with a mean age of 12 years. The results revealed that a significant percentage of orphans were malnourished (58.6%), showed signs of anemia (30.5%), and had jaundice (0.4%). In addition, many orphans had problems with visual acuity, increased ear wax, hearing problems, skin disorders, and poor dental and oral health. These findings suggest that a considerable number of orphans in the orphanage had poor physical health status (18).

The present study aimed to evaluate the physical and mental well-being of children residing in orphanages in Islamabad and Rawalpindi. This was done by utilizing the Modified Revised Children's Manifest Anxiety Scale (RCMAS) to assess mental health, anthropometric indices to evaluate physical health, and identifying the provision of basic necessities such as food, clean water, basic healthcare, education, and living conditions for these children. Operational definitions: Orphan: An orphan is defined by UNICEF AS "Any child under the age of 18 who has lost one or both parents to death". Orphanage: A place or institute for children whose biological guardian are dead or not present for upbringing of their child. Anthropometric indices: The measurement used to assess physical health like height, weight, BMI, upper arm circumference etc. Anxiety: an emotional state that is marked by worry, distress, overthinking and sometimes physiological symptoms. Revised children's anxiety manifest survey: a simple YES or NO answer survey to assess different components of mental health such as physiological anxiety, oversensitivity, social concerns and defensiveness. In RCAMS a T-SCORE greater than 60 shows anxiety problems.

Methodology

A descriptive cross-sectional survey was conducted on children living in orphanages of Islamabad and Rawalpindi. Data was collected from the following orphanages of Islamabad and Rawalpindi; Edhi Welfare Center, SOS Children's Village, Beheishte Mustafa and Mera Ghar. Inclusion criteria: Children from 7-18 years of age residing in orphanages and willing to participate in research. Exclusion criteria: Children suffering from known mental or genetic diseases.

Purposive sampling was conducted and a sample size of 110 was calculated by using online sample size calculator, with 10% margin of error and 95% confidence interval. The p-value was considered significant at <0.05.

To assess mental health, the "Revised children

manifest anxiety scale” (RCMAS) was used. It is a 36 items self-report instrument designed to assess the level and nature of anxiety. An answer of “YES” indicated that item is descriptive of subject’s feelings and actions and answer of “NO” showed that item is generally not descriptive. The scale was subdivided into three anxiety subscales. Firstly, Physiological anxiety - ten items about somatic manifestations of anxiety, for example, sleep disturbances, nausea and fatigue. Secondly, worry and oversensitivity - eleven items measuring obsessive concerns about variety of things, most of which were typically vague and ill-defined, as well as fears about being hurt or emotionally isolated. Thirdly, social concerns/concentrations - seven items measuring distracting thoughts and fears that were of a social or interpersonal nature. The remaining items on RCMAS constitute the Lie subscale.

For physical health, anthropometric measurements were carried out (weight in kg, height in meters) with the help of weighing machine and height charts. BMI was calculated and categorized according to WHO classification. BMI less than 18.5 was considered underweight, 18.5 to 24.9 as normal, 25 to 29.9 overweight and more than 30 as obese. Data analysis was done by using SPSS version 23. Frequencies and percentages of different variables were measured. Cross tabulation and significance was found by using Chi-square test and fisher exact test. T-score was calculated for RCMAS.

Ethical considerations: Prior to conducting interviews and examinations, the directors of the orphanages were contacted and written permission was obtained to allow the orphaned children to participate in the current study. The purpose of the study was explained to the participants and written informed consent was obtained individually from each child.

Results

The study population was 110 children living in orphanages and data was collected from five different orphanages situated in Islamabad and Rawalpindi.

Socio-demographic Variables: Mean age of children participating in study was 12.71 ±2.98 years. Out of 110 children 50.9% were of 11-14 years of age. 23.6% in the range of 7-10 and 25.5% between the ages of 15-18 years. Majority of children were school going and were getting their primary education from government schools. Only 6 children out of 110 were not school going and all of them were from Edhi orphanage. Out of 110 children 70% were females and 30% were males. Children residing in orphanages come from various backgrounds and experiences, encompassing those who have been abandoned as well as those who have experienced the loss of their parents.

Living conditions of Orphanages: Each orphanage was assessed for their living conditions. Superintendent of each orphanage were asked simple questions about rooms available to children, food timing and availability of fruits and dairy products, education facilities available to children and leisure activities. Shared rooms with bunker beds were present in behest e Mustafa and hmara ghar, hall like rooms, where around 16 children slept was observed in Mera Ghar. In SOS there were rooms with beds. One room was shared by at least 4-5 children. In Edhi Home cement made beds

were present. In each orphanage, there were only 2-3 washrooms which were shared by children. However, separate washrooms were designated in case the orphanage had both males and females, In all the orphanages, except Edhi Home, children were attending school. In Edhi orphanage a teacher came to orphanage to teach the children. Meals were given to children 3 times a day. Milk was given only to small children. For leisure activity television facility was available in each orphanage and viewing timings were fixed. Different sports equipment was also present. For girl’s orphanage like hmara ghar indoor games equipment was present.

Table 1: Socio-demographic variables of the study population

Statement	Variable	Frequency	Percentage (%)
Age of participants (years)	7-10	26	23.6
	11-14	56	50.9
	15-18	28	25.5
Education status of participants	Not attending school	6	5.5
	Primary	84	76.4
	Secondary	20	18.2
Gender of participants	Male	33	30.0
	Female	77	70.0
Orphanages included in the study	Beheshte Mustafa	23	20.9
	Hmara Ghar	18	16.4
	Mera Ghar	36	32.7
	SOS	26	24.5
	Edhi	6	5.5

Physical health: Physical health of children was measured with anthropometric indices which included height, weight, and upper arm circumference. Weight was measured in kg and height in cm to calculate BMI. Mean BMI was 1.55±.629. The pie chart shows percentage of underweight, normal, overweight and obese children.

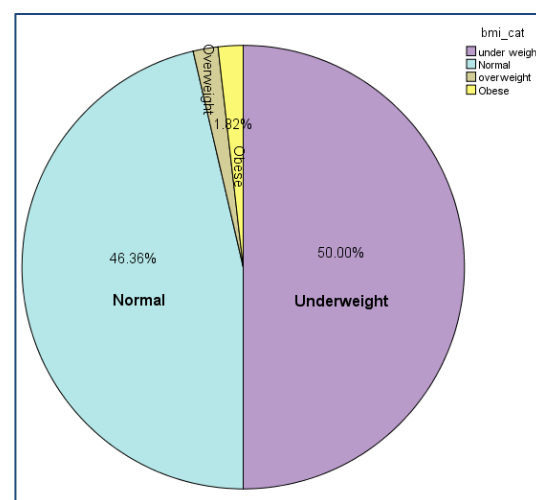


Figure 1: BMI of children participating in study

Out of 110 children 55 were underweight giving a percentage of 50%. 51 children had normal BMI and only 2 children were overweight and obese.

Table 2: Cross tabulation between independent variables and BMI categories

Variable BMI	Under weight 18.5 or <	Normal 18.6-24.9	Over weight 25-29.9	Obese 30- or >	p-value
Age range					
7-10	21	5	0	0	p=.001*
11-14	24	30	2	0	
15-18	10	16	0	2	
Gender					
Male	20	13	0	0	p=0.37
Female	35	38	2	2	
Orphanages					
Behisht -e- mustafa	12	11	0	0	p=0.123
Hmara ghar	8	8	1	1	
Mera ghar	14	21	1	0	
Sos	15	11	0	1	
Edhi	6	0	0	0	

Table 2 shows that in age group of 7 to 10, 21 (80.76%) were underweight 5 were normal and no one was overweight and obese. In age group of 11 to 14, 24 (42.86%) were underweight and 30 were normal, 2 were overweight. In age group of 15 to 18, 10 (35.7%) were underweight 16 were normal and 2 were obese. Out of 33 males 20 (60.6%) were underweight. Out of 77 females 35 (45.4%) were underweight, 38 were normal, 2 were overweight and 2 were obese. In Behshte Mustafa orphanage out of 23 children, 12 (52.17%) were underweight In Hamara ghar orphanage out of 18 children, 8 (44.4%) were underweight, 8 were normal and one child was overweight. In Mera Ghar orphanage out of 36 students 14 (38.8%) were underweight, 21 were normal and 1 child was overweight. In SOS orphanage out of 26 children 15 were underweight, 11 were normal and one child was obese. In Edhi orphanage data was taken from 6 children and all (100%) were under weight. Mental health: Revised children manifest anxiety scale (RCMAS) was used to assess mental health.

Table 3: Frequency & percentages of anxiety according to RCMAS

Statement	Frequency(n)	Percentage (%)
No anxiety	87	79.1
Anxiety	23	20.9
Total	110	100

Table 3 shows that 20.9% children living in orphanages had anxiety problems. Anxiety percentage was calculated by T score.

Table 4: Cross tabulation between anxiety and variables

Variable	Anxiety	n	%	No anxiety	p-value
Age range					
7-10	7	26	26.9%	19	p=.517
11-14	12	56	21.4%	44	
15-18	4	28	14.2%	24	
Gender					
Male	2	33	6.06%	31	p=.012*
Female	21	77	27.2%	56	
Orphanages					
Behisht - e - Mustafa	0	23	0%	23	p=.003*
Hmara ghar	2	18	11.1%	16	
Mera ghar	14	36	38.8%	22	
SOS	6	27	28.5%	21	
Edhi	1	6	16.6%	5	

Table 4 shows the cross tabulation between different variables and state of anxiety. Anxiety was mostly observed among children between 7-10 years of age (26/9%). Out of 77 females 21 (27.27%) had anxiety, however, among males only 2 had anxiety. Orphanage data showed that all orphanages included in the study had some children who were suffering from anxiety except Bahisht-e-Mustafa. Females were found to be more prone to anxiety problems. The Fisher's exact test revealed a noteworthy correlation between orphanages and the presence of anxiety issues (p <0.05)

Discussion

Numerous reports and studies indicate that in Pakistan orphans encounter various obstacles related to their physical and mental health (19, 20). Research has revealed that orphans in Pakistan are at a greater risk of developing mental health issues such as depression, anxiety, and post-traumatic stress disorder (PTSD). The loss of a parent can be a distressing experience for a child, and if they do not receive proper support, it can result in long-term mental health problems (17, 21).

In terms of physical health, orphans in Pakistan may face challenges regarding malnutrition, lack of access to healthcare, and exposure to infectious diseases. Additionally, they may be more susceptible to physical abuse and neglect (18).

It was observed that both physical and mental health was suboptimal in children residing in orphanages in the twin cities. Comparable results were reported in previous studies by Hassan et al. at Peshawar and by Mohammadzadeh et al. in 2018 in Malaysian orphanages (3, 18). The presence of low BMI among orphans, especially among younger age groups, has also been observed among the orphans of Southern Ethiopia as well as those living in Odisha, India, where around 27% and 32% of the orphans were found to be underweight respectively. However, the study populations in the above-mentioned studies were much younger (6 months - 5 years) in age as compared to those of the present study (7 - 18 years) (22, 23). Moreover, the prevalence of underweight among male orphans was higher as compared to female orphans. Similar findings were observed in a study conducted in Bangladesh, where most males were malnourished (24). It's important to note that generalizations may not apply to every specific case, as individual circumstances can vary widely. Biological differences between males and females can play a role. Generally, males tend to have higher metabolic rates and caloric requirements as compared to females. This can lead to a higher likelihood of malnutrition and underweight conditions if they do not receive adequate nutrition. Moreover, orphaned children, particularly those living in institutional settings, may experience emotional and psychological distress. Such stress can impact appetite, eating patterns, and overall nutritional intake. Factors such as depression, anxiety, and trauma can affect males and females differently, potentially leading to varying degrees of underweight prevalence.

The prevalence of anxiety and stress was observed to be high among orphans in various orphanages located in the twin cities, especially among the older age group. This

was possibly because adolescents face more challenges than younger children (3). The significant relationship observed between anxiety and gender, with females being more likely to experience anxiety and stress might have resulted by the fact that females, in general, may be more susceptible to anxiety due to biological, hormonal, and genetic factors (25). Females may also have a higher dependency than males (21, 26). These findings are consistent with some previous studies that have also reported higher levels of anxiety among orphaned females (3, 27).

The overall psychological wellbeing of children living in orphanages in Rawalpindi and Islamabad was below standard, having minimal basic facilities; however, some orphanages had better management as compared to others. The lack of facilities was also observed in a study conducted in 2015 in Punjab, Pakistan (28). Orphanages often rely on donations and limited resources, which may restrict their ability to provide high-quality facilities. Insufficient financial support can hinder the improvement of infrastructure, healthcare services, educational resources, and recreational activities (29). Moreover, the management of orphanages plays a critical role in ensuring the provision of good facilities. Issues such as mismanagement, corruption, or lack of proper oversight can impact the quality of facilities and services available to the children (30).

There is a pressing need for a comprehensive and coordinated response from the government, NGOs, and the wider community to provide the necessary support, supervision, and guidance to ensure that orphans in orphanages receive the resources they need to lead healthy and fulfilling lives.

It is imperative that orphanages pay special attention to improving the physical health of these children by offering them a well-balanced diet, encouraging participation in recreational activities, and ensuring regular medical check-ups. Additionally, to promote their mental well-being, it is crucial for orphanages to have counseling services readily available for the children. Furthermore, it is essential to develop effective programs that can comprehend and address the emotional challenges faced by orphaned children. By implementing these measures, we can nurture these children into individuals who are not only physically healthy but also mentally resilient.

The study had some limitations, including a small sample size due to several orphanages not permitting data collection, the manual measurement of weight and height which could lead to human errors, and the use of self-reported questionnaires to measure anxiety which may be subject to biases such as lying or defensiveness.

Conclusion

The physical and mental health of orphans residing in orphanages in Rawalpindi and Islamabad is a multifaceted problem. A paucity of basic facilities was observed, and younger orphans were more likely to be underweight, with males being more affected than females. Additionally, it was observed that females were more prone to anxiety and depression than their male counterparts.

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