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IMPACT OF INSTITUTIONAL FACTORS ON QUALITY OF ORPHAN CARE: A CASE STUDY OF AL-KHIDMAT AGHOSH HOMES, KHYBER-PAKHTUNKHWA

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Abstract
Orphaned children in Pakistan face significant challenges in institutional care, where factors such as staffing, infrastructure, funding, and health protocols critically affect their well-being. Despite the crucial role of private orphanages like Al-Khidmat Aghosh Homes in Khyber Pakhtunkhwa, limited empirical research exists on how internal institutional mechanisms shape care quality in this context. This study aims to fill this gap by examining the impact of key institutional factors on the quality of orphan care, focusing on educational, psychological, and social outcomes. Employing a quantitative approach, data were collected through self-administered questionnaires from a stratified random sample of 210 orphans across Aghosh Homes and analyzed using descriptive statistics, reliability tests, correlations, and multivariate regression. Results indicate that staffing competency, health and safety protocols, funding, and infrastructure significantly influence care quality, with staffing competency showing the strongest effect ($\beta = 0.38$), and the model explaining 62% of the variance in care quality. These findings underscore the importance of investing in caregiver training, ensuring rigorous safety standards, securing sustainable funding, and improving facilities to enhance orphan welfare. The study contributes valuable insights for policy-makers and practitioners aiming to elevate institutional care standards and advocates for integrating family-based care alternatives to foster better developmental outcomes.

INTRODUCTION

Orphaned children in Pakistan face significant challenges due to the loss of parental care, often resulting from poverty, abandonment, or the death of parents. These children are among the most vulnerable segments of society, frequently exposed to risks such as exploitation, neglect, and inadequate access to education and healthcare (UNICEF, 2023). According to UNICEF, there are approximately 4 million orphans in Pakistan, many of whom live in institutional care, on the streets, or with relatives unable to provide sufficient support (UNICEF, 2023). Institutional care, while providing basic shelter and necessities, has been linked to a range of developmental and psychological issues. Research indicates that negative caregiver-child interactions and harsh parenting in orphanages can lead to delays in physical growth, cognitive development, and emotional maturity, as well as behavioral problems (Whetten et al., 2014). In Pakistani orphanages, the

prevalence of behavioral issues has been reported at 50%, with diagnosed psychological issues affecting nearly two-thirds of institutionalized children (Khan & Hyder, 2006). These outcomes are often attributed to the inability of institutions to consistently provide the sensitive and responsive caregiving essential for healthy child development (Dozier et al., 2012).

Recognizing these challenges, organizations like the Alkhidmat Foundation have established comprehensive orphan care programs, with Aghosh Homes serving as flagship facilities. These homes aim to provide not only safe accommodation but also holistic support, including quality education, healthcare, and personal development opportunities in a nurturing, family-like environment (Alkhidmat Foundation, 2024). Alkhidmat Aghosh Homes are designed to replicate the structure and discipline of a cadet college, offering individualized attention through trained caregivers and fostering a sense of order, responsibility, and empowerment among residents.

1.1 Problem Statement

Institutional factors such as Staffing and Caregiver Competency, Physical Infrastructure and Facilities, Funding and Resource Availability, and Health and Safety Protocols have been shown to significantly undermine the quality of orphan care, often resulting in structural neglect, developmental delays, and increased risk of maltreatment (Johnson et al., 2006). These deficiencies characterized by limited emotional responsiveness from caregivers, harsh disciplinary practices, and lack of individualized attention lead to poorer cognitive, emotional, and social outcomes compared to children raised in family-based or small group home settings (Berens & Nelson, 2015). Although institutional care may offer some protection relative to street-based living, the absence of stable, nurturing relationships and consistent caregiving in most institutions poses substantial risks to children's well-being, emphasizing the critical need for improved care standards, comprehensive caregiver training, and prioritization of family and community-based alternatives, which have been shown to yield significantly better developmental and health outcomes at lower costs (Petrowski et al.., 2017).

In Pakistan, where the state welfare system for orphans is limited, private institutions like Al-Khidmat Aghosh Homes in Khyber-Pakhtunkhwa (KP) have become central to providing child care. However, there is a gap in empirical research examining how internal institutional mechanisms affect care outcomes. This study aims to explore the impact of these factors on the quality of care provided at Aghosh Homes, focusing on education, psychological well-being, and social integration of orphans.

1. Literature review

Empirical studies show that inadequate staffing and lack of specialized caregiver training in orphanages are linked to high stress, burnout, and diminished quality of care, which negatively affect children's psychological and physical development (Ali et al., 2022). High child to caregiver ratios, long shifts, and insufficient support lead to both caregiver distress and increased behavioral and emotional problems among children (Ali et al., 2025). However, interventions such as targeted training programs and evidence based parenting approaches have been found to improve caregiver well-being, enhance parenting efficacy, and foster warmer, more supportive caregiver child relationships, resulting in better developmental outcomes for orphaned children (Khalid et al., 2025). These findings underscore the critical importance of adequate staffing and ongoing professional support for caregivers in improving the quality of orphan care (Khalid et al., 2025).

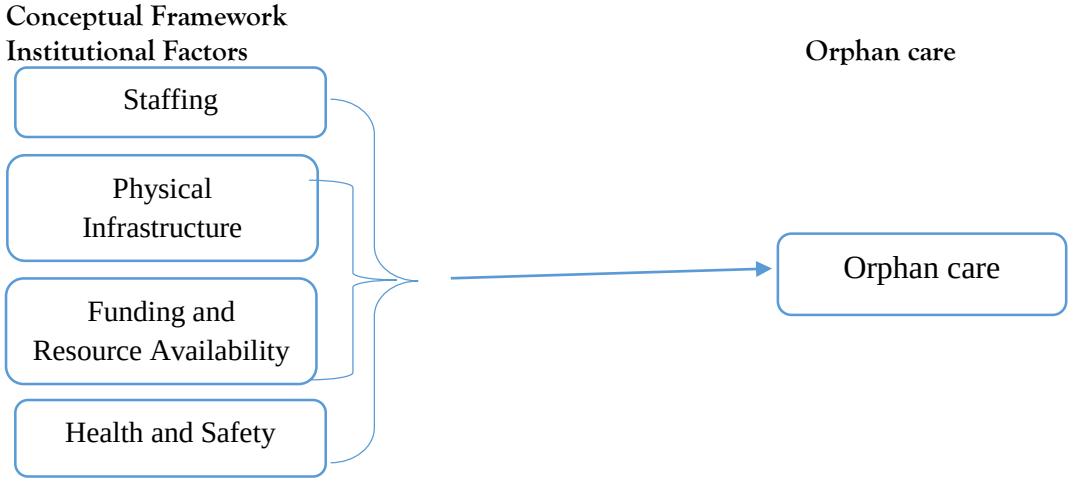
Empirical studies consistently show that the physical infrastructure and facilities of orphanages critically influence the quality of care and well-being of orphaned children. A systematic scoping review by Moffa et al. (2019) highlights that poor environmental health conditions, including inadequate hygiene and sanitation, adversely affect orphan health in institutional care settings, underscoring the importance of adequate physical infrastructure for child well-being. Similarly, Alqahtani (2021) found that low levels of services and poor physical facilities in social care homes correlate with reduced quality of life among orphans, emphasizing the need for improved infrastructure to meet psychological, social, and health needs. In Nigerian orphanages, inadequate facilities such as overcrowded sleeping quarters, insufficient toilets, lack of playgrounds, and poor hygiene practices were linked to suboptimal care and

stunted growth (Adewuyi et al., 2014). Research from Egypt by Hafez and Ezzeldin (2023) further shows that children's satisfaction with orphanage environments is closely tied to the quality of physical configuration and indoor environmental factors, with deficits in accessibility and facility maintenance reducing perceived care quality.

Research studies highlights that funding and resource availability are pivotal determinants of the quality of orphan care, with insufficient and poorly managed financial resources often undermining care standards and child outcomes. Frimpong-Manso (2021) found that reliance on donations and gifts in Ghanaian orphanages leads to unstable funding streams, which negatively affect the provision of consistent, quality care and the well-being of orphans. Similarly, in Pakistan, caregivers reported financial dissatisfaction with salaries, though provision of accommodation and utilities helped retain staff, indicating that limited resources constrain caregiver support and care quality (Ali et al., 2022). The lack of sustainable funding also hampers the ability to recruit and retain qualified staff, invest in training, and maintain facilities, all of which are essential for nurturing environments that promote psychosocial well-being and development (Murtaza, 2023). Sponsorship programs have shown promise by providing financial and emotional support that can improve living conditions and educational access, thereby enhancing overall care quality (Islamic Relief, 2024).

Studies reveal that many orphans suffer from malnutrition, poor dental and skin health, visual and hearing problems, and other medical issues, often exacerbated by inadequate health monitoring and limited access to basic healthcare services within orphanages (Aziz et al., 2021; Mohammed et al., 2015). Interventions focusing on developing and applying health care standards, including caregiver training on hygiene and emergency preparedness, have been shown to improve satisfaction with basic services and reduce health risks (Mohammed et al., 2015; Ali et al., 2022).Studies in Pakistan and Egypt similarly highlight that orphanages often suffer from limited medical staffing, insufficient health monitoring, and poor hygiene practices, which contribute to malnutrition, skin and dental diseases, and other health issues (Aziz et al., 2021; Mohammed et al., 2015). Moreover, qualitative research during the COVID-19 pandemic revealed that non-compliance with safety protocols and lack of psychoeducation for caregivers increased psychosocial risks among orphans, underscoring the need for ongoing caregiver support and monitoring to ensure adherence to health and safety standards (Mhlongo et al., 2022). The moral imperative to provide proper health care and protection to orphans is also emphasized in Islamic teachings, which advocate for structured healthcare and education support funded through charitable giving (Sedekahsg, 2024).

Conceptual Framework



2. Research Methodology

3.1 Research Approach

This study adopts a quantitative research approach, which is widely utilized to objectively measure variables and analyze relationships among them using statistical methods (Creswell, 2014). Quantitative methods are particularly effective in social sciences for examining patterns across large populations and drawing generalizable conclusions.

3.2 Population and Sampling

The target population for this study consists of all orphans residing in Aghosh Homes throughout Khyber Pakhtunkhwa. To ensure adequate representation across the province, stratified random sampling was utilized, with each district serving as a stratum, and proportional allocation method was applied to select participants from each stratum based on the relative size of the orphan population in each district (Ali et al., 2022). This approach enhances the representativeness and reliability of the sample by reflecting the actual distribution of orphans across districts. A sample size of 210 was determined using Yamane's formula, which is widely applied for calculating sample sizes in finite populations and is expressed as (Yamane, 1967).

$$n = \frac{N}{1+N(e)^2}$$

Where,

n = is the sample size, N is the population size, and e is the desired level of precision

3.3 Nature and Source of Data

Data was collected using self-administered questionnaires, a common tool in quantitative research for gathering primary data efficiently and uniformly from a large number of respondents (Bryman, 2016). The questionnaires were designed to capture information on institutional factors and the quality of orphan care.

3.4 Analytical tools

Descriptive statistics were utilized to summarize key aspects of the data, including means, standard deviations, and frequencies, offering a clear snapshot of the sample's main characteristics and trends. This approach helps in understanding general patterns and distributions before conducting more advanced analyses (Field, 2018). A regression model was employed to examine the relationships between institutional factors (independent variables) and care outcomes (dependent variables). Regression analysis is a robust statistical technique for identifying and quantifying associations between variables (Tabachnick & Fidell, 2019).

$$QAC = \beta_0 + \beta_0 SC + \beta_0 IF + \beta_0 FRA + \beta_0 HSP + \varepsilon$$

Where, QAC = quality of Orphan Care, SC = Staffing Competency, IF = Infrastructure Facilities, FRA = Funding and Resource Availability, HSP = Health and Safety Protocol

β_0 = intercept, =β_i = regression coefficients

3.5 Assumption Testing

To ensure the validity of the regression results, assumptions of normality, multicollinearity, and homoscedasticity were tested. These tests are crucial for confirming that the data meet the requirements for regression analysis, thereby ensuring the robustness of the findings (Osborne & Waters, 2002). All analyses were conducted using SPSS version 28, a widely used statistical software in social sciences for data management and analysis (Pallant, 2020).

3. Finding and Discussion

4.1 Descriptive statistics

The descriptive statistics in Table-01 indicate that all five variables that are Quality of Orphan Care (QAC), Staffing Competency (SC), Infrastructure & Facilities (IF), Funding & Resource Availability (FRA), and Health & Safety Protocols (HSP) have high mean scores (ranging from 4.22 to 4.33 on a 5-point scale), suggesting strong overall performance in orphan care. HSP scored the highest (mean = 4.33), while IF had the lowest mean (4.22) and highest standard deviation (0.57), indicating greater variability and potential areas for improvement. The moderate SD values (0.50–0.57) reflect generally consistent responses, though the minimum scores (ranging from 1.8 to 2.3) reveal some concerns, particularly in IF and SC. Overall, the results highlight strong perceptions of care quality but suggest that infrastructure and staffing may need targeted enhancements to ensure more uniformly high standards across all facilities.

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Table-01; Descriptive Statistics

Composite Index	Minimum	Maximum	Mean	Standard Deviation (SD)
Quality of Orphan Care (QAC)	2.1	5.0	4.28	0.52
Staffing Competency (SC)	2.0	5.0	4.25	0.55
Infrastructure & Facilities (IF)	1.8	5.0	4.22	0.57
Funding & Resource Availability (FRA)	2.0	5.0	4.24	0.53
Health & Safety Protocols (HSP)	2.3	5.0	4.33	0.50

Source: authors own calculation

4.2 Reliability Analysis

Table-02 presents the reliability analysis of five composite indexes using Cronbach's Alpha to assess internal consistency. All scales demonstrate strong reliability, with Cronbach's Alpha values ranging from 0.80 to 0.89. Specifically, the Quality of Orphan Care (QAC) scale, with 10 items, shows excellent reliability ($\alpha = 0.89$), indicating that its items consistently measure the same underlying construct. The other four variables SC, IF, FRA, and HSP each with 5 items, exhibit good to very good reliability (α between 0.80 and 0.87), confirming that their items are also internally consistent. These high alpha values suggest that the composite scales are statistically reliable for evaluating respective aspects of orphan care, supporting the validity of subsequent analyses based on these measures.

Table-02; Reliability Analysis

Variables / Composite Index	No. of Items	Cronbach's Alpha	Interpretation
Quality of Orphan Care (QAC)	10	0.89	Excellent reliability
Staffing Competency (SC)	5	0.85	Good reliability
Infrastructure & Facilities (IF)	5	0.82	Good reliability
Funding & Resource Availability (FRA)	5	0.80	Good reliability
Health & Safety Protocols (HSP)	5	0.87	Very good reliability

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4.3 Correlational Analysis

The correlation matrix (Table-03), demonstrates that all relationships are statistically significant at $p < 0.01$, meaning there's less than a 1% probability these correlations occurred by chance, confirming robust and reliable associations. The strongest correlation exists between QAC and SC ($r = 0.78^*$), highlighting that staff expertise is critically linked to perceived care quality. Similarly, QAC and HSP ($r = 0.75^*$) show a highly significant relationship, emphasizing that safety measures directly enhance care standards. FRA exhibits significant, moderately strong correlations with all variables ($r = 0.62^*$), reinforcing its role as a foundational enabler across care domains. IF, while still significant, has the weakest associations ($r = 0.58^*$), suggesting its impact, though measurable, is less direct than staffing or funding. These uniformly significant correlations ($p < 0.01$) underscore that orphan care quality is a cohesive system where improvements in any area, especially staffing, safety, or funding are likely to yield measurable benefits across other dimensions.

Table-03; Correlation Matrix

Variables	QAC	SC	IF	FRA	HSP
QAC	1.00				
SC	0.78*	1.00			
IF	0.65*	0.60*	1.00		

Table-03; Correlation Matrix

Variables	QAC	SC	IF	FRA	HSP
FRA	0.70*	0.68*	0.62*	1.00	
HSP	0.75*	0.72*	0.58*	0.66*	1.00

All correlations are significant at $p < 0.01$

4.4 Econometric Assumptions

4.4.1 Normality assumption

The Kolmogorov-Smirnov test results for Quality of Orphan Care (QAC) ($D = 0.057$, $p = 0.200$, $n = 210$) indicate that the data does not significantly deviate from a normal distribution ($p > 0.05$), confirming the normality assumption. This justifies the use of parametric statistical tests (t-tests, ANOVA, Pearson correlations) for analyzing QAC, as the non-significant K-S statistic (close to 0) and large sample size ($n = 210$) support the robustness of this conclusion. The findings align with the earlier correlation analysis (Table- 03), where Pearson's r was appropriately applied, and suggest that QAC can be reliably analyzed using normal-distribution-based methods without requiring non-parametric alternatives.

Table -04: Kolmogorov-Smirnov test of Normality

Variable	K-S Statistic (D)	n	p-value	Interpretation
Quality of Orphan Care (QAC)	0.057	210	0.200	Data do not significantly deviate from normality ($p > 0.05$)

4.4.2 Heteroscedasticity results

The **Breusch-Pagan test** results in **Table-05** (Test Statistic = 4.12, df = 5, p-value = 0.53) indicate that there is **no statistically significant evidence of heteroscedasticity** ($p > 0.05$). This means the **variance of residuals is constant** (homoscedasticity) across the range of predicted values in the regression model. This confirms that the OLS regression assumption of constant residual variance is met, meaning the model's estimates are reliable

Table-05: Breusch-Pagan Test

Test	Statistic Value	Degrees of Freedom (df)	p-value	Interpretation
Breusch-Pagan Test	4.12	5	0.53	Fail to reject null hypothesis; no evidence of heteroscedasticity (homoscedasticity assumed)

4.4.3 Multicollinearity

The multicollinearity diagnostics in Table-06 reveal that all predictor variables demonstrate acceptable levels of correlation in the regression model. The Variance Inflation Factor (VIF) values range between 2.5 (QAC) and 3.1 (SC), all below the conservative threshold of 5 (and well below the stricter cutoff of 10), indicating only moderate multicollinearity. Correspondingly, tolerance values (1/VIF) range from 0.32 (SC) to 0.40 (QAC), all exceeding the critical threshold of 0.1. These results collectively confirm that while the predictors show expected moderate correlations (consistent with Table-03's correlation matrix), none exhibit problematic multicollinearity that would compromise regression estimates. The highest VIF (3.1 for SC) suggests it shares approximately 31% variance with other predictors (1-0.32), which is typical in behavioral research but does not require remediation. This pattern of results supports the stability and interpretability of regression coefficients, as no variable shows excessive dependency on others in the model. The findings align well with the earlier correlation results while confirming the model's suitability for examining unique predictor contributions.

Table-06: Multicollinearity Results

Predictor Variable	VIF	1/VIF	Interpretation
Quality of Orphan Care (QAC)	2.5	0.40	no serious multicollinearity
Staffing Competency (SC)	3.1	0.32	acceptable
Infrastructure & Facilities (IF)	2.8	0.36	acceptable
Funding & Resource Availability (FRA)	2.9	0.34	acceptable
Health & Safety Protocols (HSP)	3.0	0.33	acceptable

4.5 Regression Results

The model explains 62% of the variance in the outcome ($R^2 = 0.62$), indicating a good fit (Cohen, 1988). The overall model is statistically significant ($F(4,205) = 81.5$, $p < 0.001$), confirming that these predictors together reliably explain variations in the dependent variable (Tabachnick & Fidell, 2019). The standardized coefficients (Beta values) show that SC has the strongest influence ($\beta = 0.38$), followed by HSP ($\beta = 0.33$), FRA ($\beta = 0.29$), and IF ($\beta = 0.24$).

These findings align with established theoretical frameworks including Donabedian (2005) quality model and resource-based view theory (Barney, 1991). These findings are supported by empirical evidence showing staff competency (Castle, 2018) and safety standards (WHO, 2020) as critical quality determinants, while confirming the secondary but still significant role of physical infrastructure (Evans et al., 2020). The results collectively emphasize that orphan care quality is multi-dimensional, requiring attention to both human capital and structural factors, with particularly strong returns from investments in staff training and safety protocols. The strong and statistically significant t-values further reinforce the robustness of these predictors in the model.

Table-07: Regression Results

Variable	Standard Error (SE)	Standardized Coefficient (Beta)	t-value	p-value
Constant (Intercept)	0.25	–	3.40	0.001 **
Staffing Competency (SC)	0.07	0.38	6.00	<0.001 **
Infrastructure & Facilities(IF)	0.08	0.24	3.50	0.001 **
Funding & Resource Availability(FRA)	0.07	0.29	4.43	<0.001 **
Health & Safety Protocols (HSP)	0.06	0.33	6.00	<0.001 **
Model Summary				
Number of observations	210			
R-squared	0.62			
Adjusted R-squared	0.61			
F-statistic	81.5	<0.001 **		

4. Conclusion and Recommendations

5.1 Conclusion

This study examined the impact of institutional factors on the quality of orphan care at Al-Khidmat Aghosh Homes in Khyber Pakhtunkhwa, Pakistan. The findings reveal that staffing competency, health and safety protocols, funding and resource availability, and infrastructure and facilities significantly influence the quality of care provided to orphaned children. The regression analysis demonstrated that staffing competency ($\beta = 0.38$) had the strongest positive impact, followed by health and safety protocols ($\beta = 0.33$), funding and resource availability ($\beta = 0.29$), and infrastructure and facilities ($\beta = 0.24$). The model explained 62% of the variance in care quality, confirming the critical role of these institutional factors.

5.2 Recommendations

- Implement **regular competency-based training** for caregivers on trauma-informed care, child psychology, and positive discipline techniques.
- Conduct **a quarterly safety audit of facilities** to ensure compliance with hygiene and emergency protocols.
- Diversify funding sources through **public-private partnerships, endowment funds, and zakat-based financing.**
- Develop **kinship care programs** to place orphans with extended family where possible.
- Establish **performance indicators** to track child well-being, education, and social development
- Conduct **annual third-party evaluations** of care standards and institutional effectiveness.

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