

## **Measurement and Optimization of Mental Health and Academic performance among Adolescent Orphan and Non-Orphan students: A Cross-sectional study of Two districts of Jammu and Kashmir.**

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### **Abstract**

Mental health has evolved as one of the global priority public health issues and as a crucial component of overall holistic development. Globally one in every five children and adolescent suffer from a mental disorder, affecting quality of life and it is expected that by 2025 child adolescent neuropsychiatric disorder will rise to over 30% leading to increased morbidity, disability and mortality. The study is a cross sectional in nature and aims at understanding psychosocial constructs between mental health and academic achviement and their co relation impact on orphan adolescents especially in conflict and post conflict settings. This study attempts to seek psychosocial approaches to properly understand and address mental health services needed for adolescent orphans especially in post-conflict settings and aims to establish the level of mental health distress with academic performance in orphans comparing them with nonorphans.

To measure metal health status a standardised DASS-21 scale was used with a developed composite mental health index, while average grade score of last two years was used as index of academic achievement.

Finally, the data was analyzed using correlation coefficient models and independent t-test for mental health constructs and academic performance. The results showed that adolescent orphans demonstrated high rates of anxiety, depressive and post-traumatic stress reactions as compared to non-orphans and there was strong significant relation with their academic outcomes, although it seems that the other social interaction terms also affected the academic performance.

Findings of this study include that we need an orphan centered comprehensive solution within the policy dimensions for caregiving institutions especially orphanages and should include psychosocial syndemic determinant approach to tackle wider mental health constructs within the philosophy of inclusive holistic development.

### **1.Introduction.**

Psychological and cognitive health has evolved as one of the priority public health issues and an essential element of overall global holistic development as recognized by the fact that India has adopted global sustainable development goals 2030 (SDGs) which has taken mental health (part of SDG Goal-3) as the first and foremost priority in the upliftment and development of the country with emphasis on inequality and disparities due to mental morbidity within wider inclusive ecosystem.

Globally mental health conditions have led to immense disease burden affecting quality and functioning of life; premature disability, morbidity and mortality. Decades of research has provided convincing evidence that the adolescent age group has remained as

the most sensitive strata of society, which is psychologically vulnerable having detrimental effect of social trauma and conflict on cognitive and academic development. Addressing and reducing adolescent mental health has been coalited as a significant developmental issue particularly in conflict-affected regions.

The mental morbidity during initial during adolescent life has emerged as focus area for fostering better mental health outcomes, in 2017, the WHO named depression as the single largest contributor to global disability accordingly India has undertaken substantial measures as seen in recent National health policy 2017 and with launch of National Mental Health Programme (NHMP).

Globally one in every five children and adolescent suffer from a mental disorder and two out of five who

require mental health services which they do not receive. It is expected that by 2025 childhood neuropsychiatric disorder will rise to over 30% and will become one of five most common reasons of morbidity, mortality and disability among children and adolescent [1]. India has the largest population of children under age 18 in the world that makes about 400 million youngsters and out of that about 55 million are orphans; and around 10% of these are under institutional care like orphanages [2]. Children living under Institutional care like orphanages are one of the most vulnerable risk groups of children in a society: many of them live in a state of repeated neglect or fear [3] and are at risk of many potential abuses and threats. This study is an attempt to provide health professionals with reliable information on the magnitude of the problem which will be valuable for policy planning, priority allocation and mobilizing political commitment for orphan institutional care in conflict ridden and low resource setting regions like Kashmir Valley.

### **1.1 Mental Health and Adolescents.**

Adolescence phase (13-19 yrs.) is marked by “rapid biopsychosocial changes and enhanced focus on activities with a peer group and establishment of a basic self-identity” [4]. This phase is full of stress and strain and is highly sensitized by external structural and social determinants attributable to cognitive and behavioral changes impacting overall development [5]. Mental health being a multidimensional construct has been defined as per its intended use, in case of adolescents it has been defined as “ability or capacity to adapt to various pressures and demands at that age and includes both cognitive and emotional elements [6]. Mental health is one of the crucial domains for adolescent health and wellbeing [7].

Mental distress or illness is generally reflected in the form of symptoms like lack of interest in daily activities, anxiety, tension, restlessness or hopelessness, lack of focus on academic activities among others. According to the findings of National Mental Health survey (2016), around 8% of adolescents suffer from some sort of mental illness and nearly 58 % do not get treated for these conditions (treatment gap). According to WHO, half of all mental illness begins by age of 14, but most cases go undetected and untreated.

### **1.2 Structural factors and Mental Distress in Orphans**

Orphan well-being is multi-dimensional concept with numerous interlinked domains such as mental wellbeing, economic wellness, educational opportunities, social and physical health [4]. Literature has shown that variety of structural and environmental predictors interacting with each other are responsible for increased vulnerability of psychiatric problems in adolescents.

Apart from psychological factors, mental health is greatly influenced by many environmental factors and life events such as armed and internal conflicts, physical and sexual abuse, poverty, parental psychopathology, instability in the family environment especially parental loss which can lead to diverse psychological issues like depression, anxiety, stress, and poor self-concept [8]. The literature also makes comparison reports between orphans and non-orphans about their emotional instability which, reveals that orphans suffer from high emotional problems as compared to non-orphans [9]. Orphan children are socially deprived and tend to encounter higher economic distress, hopelessness, and frustration than non-orphans [10]. According to Tadesse (2008), challenges faced by orphans are that they experience negative health, social and developmental outcomes resulting in poor educational achievement and struggle to concentrate during lessons due to stress [11].

### **1.3 Institutional care and orphans**

Emotional and behavioral problems being more among orphans because they are exposed to abuse, exploitation, neglect, lack of care and support of parents. In addition to these factors, most of them are brought up in institutional homes where individual care is inadequate making them socially and emotionally impair and insecure. In institutionalized adolescent orphans, many studies have shown that there are higher prevalence rates of mental distress which affect their relationships, cognitive functions and result in functional impairment. Review of literature shows the prevalence of behavioral and emotional problems among orphans and other vulnerable children to be from 18.3% to 64.53% [12] while study by Gemechu and Lemibacha [13] showed prevalence of depression among orphans in orphanages was 24.1% and was slightly higher in females (27.2%) than in males (21.24%). One of studies showed that (95.4%) of the institutionalized orphan adolescents have below normal mental health and one in five (20.0%) orphan adolescents suffer from some kind of mental

disorders [14], similar findings were given by other studies [15-16].

#### **1.4 Mental Health status of Orphans in Kashmir**

Orphan numbers has grown manifold in conflict ridden Kashmir over the years, A study conducted by a UK based NGO “Save the Children” in December, 2006 mentioned that about 214,000 children are orphans in Jammu and Kashmir in which most of these children are institutionalized and 37 % of them were orphaned due to the armed conflict while 55 percent were orphaned due to the natural death of parents. According to a report, titled “Ignored Orphans of Jammu and Kashmir”, published in Kashmir Watch under the Human Rights section in its December, 2011 issue, the number of orphans in the state is around 600,000 children. Conflict in Kashmir had an immense impact on children and adolescents, and has led to the economic hardships [17]. Literature gaps exist on the psychosocial health of orphans in Kashmir due to minimal studies hence need of this study.

#### **1.5 Mental Health Constructs and Academic Performance**

A wealth of research findings indicate that academic performance is affected by the mental health problems[18]. A mental health model introduced by Clark and Watson (1991) based on the framework that mental health is affected by the overlapping elements of depression, anxiety, and stress, these are the main contributing factors for mental wellbeing[19]. This study is based on the Clark-Watson mental health model of Depression Anxiety Stress Scale (DASS) to measure and explain the effect of mental health on academic achievement.

The academic achievement is assessed through overall abilities in academic process. There is not any particular test for assessing academic capabilities of a child. This study used average of percentile of previous two years grades for assessment. A number of existing research findings have revealed that there is positive relationship between these parameters of mental health, and academic achievement in orphans and non-orphans [20-23]. Many studies [24-26] have shown that there is positive correlation between mental health and academic achievement and reveals that non orphans have better achievement as compared to orphan students.

Depression which is common problem among adolescents and jeopardizes academic performance [27-

28,] results from many studies reveal that, depression in orphan students lead to the difficulty in concentrating, lack of interest and motivation and poor attendance ultimately negatively affecting the performance of orphans in their academic. Number of studies have shown that orphan students suffering from anxiety disorder often do not perform well in lives and academics and there is a significant negative correlation between anxiety and the achievement of grades [29-30].

Stress is the most common parameter of mental health existing in academic students, stress reaches to critical level when students fail to manage those problems [31].

#### **2.Objectives and Value of study**

The study besides adding to the existing literature gap and fills the information and knowledge about the extent and types of emotional and behavioral problems found in orphans and tries to guide policy makers, academicians and institutional caregivers in implementation of evidence based suitable intervention measures designed around orphan philosophy. The study was operationalized by objectives as:

- Determine and assess mental health distress and its effect on academic performance in institutionalized orphan students.
- Evaluate the differences in level of mental health and academic achievement of orphan and non-orphan adolescents.
- To suggest evidence-based solutions and best practices for effective interventions for institutionalization of orphan care especially in post-conflict reconstruction.

#### **3.1 Materials and Methods**

The study by design is an ecological cross-sectional study employing triangulated approach helping in extending its ontological and epistemological scope. The study consisted of two gauged data collection survey instrument tools for measuring of mental health and academic achievement. A socio demographic questionnaire was also administered, the study used DASS 21 item mental health scale which has very high internal consistency (Cronbach alpha = 0.85) and criterion validity it is a self-administered scale. Grades were used for measuring academic achievement.

#### **3.2 Study Design and eligibility criteria**

Study was done between July-November 2019 across two districts Pulwama and Budgam of Jammu and

Kashmir. The inclusion criteria include those institutions where academic services were provided for both orphans and non-orphans. .

sample of 220. The results of DASS scores are shown in **table 2**. Anxiety was found to be more in females both in orphans and non-orphans than males, while as

Districts	Pulwama N (%) weighted	Budgam N (%) weighted
Institutional samples		
Orphanages	06 (43.1)	04 (55.0)
NGOs and other Caregiver Institutions	03 (25.1)	02 (22.5)
Special Schools	02 (31.8)	02 (22.5)
Total institutions	11	08
Adolescent student sample size		
Orphans (male:61, female: 50)	60	50
Non-Orphans (male:55, female: 54)	60	50
Total (male:116, female: 104)	120	100

**Table: 1** depicts the sampling strategy used in the study or two districts. To ensure validity, fit and to minimize sampling biases and errors, samples of orphans and non-orphans were taken from same academic class and multiple sample design was operationalized. The statistical population consisted of non-orphans and “orphans” as defined, by (Skinner, 2008) The sampling was purposive for orphans and systemic random for non-orphans of same academic class.

### 3.3 Tools of Measurement for mental health and academic performance

The data related to socio-demographic was collected through separate schedule and through field observations. In order to examine mental health, the mental health questionnaire DASS 21item short scale was used; this questionnaire contains 21 multiple-choice questions, classified into three areas of depression, anxiety, stress with 7 items each and each item divide into a four-point severity scale with maximum score of 28 for each construct. The score was multiplied by 2 to make normative DASS data. Academic performance was measured by their total average grade for last two previous years. Analysis of data was done using SAS. Mental health level was assessed by a composite index using principal component analysis based on scores of DASS. Regression was done for parameters of mental health and academic achievement at the CI of 95%.

### 4. Findings

The age of orphan students ranged from 13-19 (mean 15 +/- 2.5) and of non-orphans was from 14-18 (mean 16 +/- 1.6). The respondents belonged to classes 8<sup>th</sup> to 12<sup>th</sup> while there were 116 males and 104 females out of total

depression and stress scores were not significantly different in two genders.

Range of DASS score is (0-42), Min 0 value and Max 42 value			
Mean score (standard deviation)			
	Depression	Anxiety	Stress
Orphans	18.6 (4.5)	14.4(6.7)	21.3 (5.6)
Non -Orphans	16.4(5.6)	12.1(7.8)	18.9(8.9)
Correlation coefficient between 3 construct scores of Mental Health			
Students	Orphans		
Depression	1.00	0.567	0.76
Anxiety	0.567	1.00	0.69
Stress	0.76	0.69	1.00
Students	Non-Orphans		
Depression	1.00	0.367	0.65
Anxiety	0.367	1.00	0.56
Stress	0.65	0.56	1.00

Scores of three constructs of mental health were highly correlated with each other. On analysis of association of academic classes with mental health scores it was seen that higher the class higher was the construct scores, anxiety ( $p=0.02$ ), depression ( $p=0.027$ ) and stress ( $p < 0.001$ ). Regression analysis showed that there was a significant relation between mental health score and educational performance in orphans as compared to non-orphans, higher the mental health score of students, the poor was their educational performance. Moreover, there was a significant relation between educational performance and components of mental health depression, anxiety; and stress in orphans while as in non-orphans there was no significant relationship at 95% CI for anxiety and stress. Summary of correlational analysis is shown in **table 3**. The prevalence of stress was found to be most followed by anxiety and depression in both the districts. While parameters of mental health were worst in Budgam district as compared to Pulwama district.

Table 3: Statistical Analysis related to mental health, its Constructs and Academic performance for orphans and non-orphans in two Districts of Union Territory of Jammu and Kashmir					
Variables of Study	Number	Average	T Value	P Value	Results
Orphans					
GPA- Average for last two years (%)	112	56±6.32	5.85	-	-
Mental health Composite Score	112	8.8±1.7	1.98	0.019	Significant
Stress	112	1.9±0.2	2.11	0.036	Significant
Anxiety	112	2.8±1.5	1.71	0.021	Significant
Depression	112	4.1±1.9	0.92	0.015	Significant
Non-Orphans					
GPA- Average for last two years	112	69.9±4.56	7.85	-	-
Mental health Composite Score	112	5.6±2.9	2.25	0.047	Significant
Stress	112	0.8±0.2	4.12	0.189	Not Significant
Anxiety	112	1.7±0.5	3.70	0.074	Not significant
Depression	112	3.1±4.2	1.96	0.035	Significant

## 5. Discussion and Conclusion

In this study significant relations were found between educational performance and mental health components, such as depression and anxiety, it seems that orphan students who have a better mental health status, that is those who obtained lower scores in the mental health questionnaire, have a better educational performance. These findings were in agreement with findings of the many studies [32-34], [21-22], [24], while as in non-orphans there was significant relation in some of components of mental and non-agreement can be ascribed to the various predictors affecting both non-orphans and orphans such as difference among, living environment, social/economic conditions, and seemed that the students' educational status is influenced by other factors as well.

Our findings suggest that we should take psychological distress in adolescents especially in orphans seriously and intervene at early phase of distress so that negative effect of mental health on the academic side and on their daily activities do not worsen and students are able to cope efficiently and effectively to their academic, personal and time management issues. The psychosocial and mental health services for traumatized adolescents especially orphans need to be addressed, strengthened and more specifically integrated into existing institutional care platforms within the National mental health policy in line with SDG.

Our policies should not only promote treatments but provide overarching directions and infuse interventions on broader issues for ensuring mental health in distressed adolescents especially orphans. Institutions especially orphanages need to incorporate development model for education with stress free approach for inclusive development of orphans. Our research tries to assess orphan students on the basis of academic achievement and compare them with non-orphan adolescents, the research will guide the educationists, institutional administrators, policy makers to frame the suitable interventions for optimization of both mental health and academic activities. Further the study aimed at providing interventions for optimization of institutional care as shown in **box 1**.

### Box 1: Key points for Optimizing Mental health Care in orphans

- Augment interaction between institutional orphans and mental health system.
- Improve adherence to mental health protocols and guidelines around orphans.
- Delivering and practicing orphan centered care.
- Capacity building for mandated maternal services.
- Leveraging quality care evidences based on implementation research of NMH programme.
- Inclusion of primary mental care service for children with special needs.
- Multisectoral engagement and a life-course approach towards adolescents.

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