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Emotional Distress, Resilience and Mental Well-being among TB Patients in Peshawar

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ABSTRACT

Background: Tuberculosis is a widespread global disease with a significant impact on mental health. "Resilience," the ability to grow positively amidst stress, is influenced by factors such as mental health, TB-related stigma, relationships, and the ability to engage in work and education.

Objective: The objective of the present study was to assess the emotional distress, resilience and mental well-being among tuberculosis patients in Peshawar.

Methodology: The cross-sectional study was carried out at different hospitals of Peshawar (LRH, CMH, KTH, RMI, and North West hospital). Between June 2020 till July 2021 data was collected and analyzed on different Scales. Emotional Distress Inventory (PEDI), The Warwick-Edinburgh Mental Well-Being Scale (WEMWBS), Brief Resilience Scale (BRS). T-Test (independent sample t-test), and Pearson's correlation was used for analysis of data.

Result: The study included 200 diagnosed TB patients (N=200), evenly divided into male and female groups, and further divided into adolescents (13-45 years) and adults. Purposive sampling from Peshawar hospitals was employed. Results indicate that adolescent TB patients scored significantly lower on resilience and mental well-being scales compared to adults. Additionally, adolescents scored higher on the perceived emotional distress scale. A negative correlation between resilience and mental well-being was observed among TB patients, suggesting a positive relationship between the two.

Conclusion: The current study concluded that Adolescent Tb patients have significant levels of emotional distress as compare to adults and Adolescents have low levels of wellbeing and resilience as compare to adults. The significance of this study is that TB patients not only need medication but also need instant psychological support.

Keywords: Tuberculosis; Emotional Distress; Resilience; Mental Well-being

Introduction

Tuberculosis (TB) is an airborne bacterial infection that affects any part of the body and often affects the lungs.[1] TB infection can travel to the lungs, larynx, lymph nodes, spinal cord, bones or kidneys, and TB bacilli are discharged directly to any part of the body through blood flow or lymphatic ducts. Depending on the immune response, the bulk of TB bacilli can be destroyed by white blood cells in 2 to 8 weeks.[2] Pulmonary tuberculosis often presents symptoms like cough, spitting blood, chest pain, reduced appetite, weight loss, night sweating, fever, and exhaustion. The affected body area determines symptoms, but loss of appetite, night sweats, and fever may be more widespread. Many patients face psychological difficulties because of their illness.[3] One of the illnesses that causes emotional distress is tuberculosis (TB). Emotional distress was also linked to a lack of family help and friends support, as well as stigma associated with tuberculosis.[4]

An unpleasant subjective state of melancholy and anxiety that interferes with daily tasks is referred to as psychological distress (PD), which includes both emotional and physiological symptoms. It is characterized by physical symptoms as well as depressive and anxious symptoms. Mood swings are a sign of psychological disturbance in people who are functioning normally. Negative perceptions of oneself, others, and the environment can arise from psychological discomfort.[5] Emotional distress and tuberculosis both have similar risk factors because they both are co-morbid disease.[6] The likelihood of common mental problems rose after receiving a TB diagnosis. Older age, not married, grade 8 through 11 and 12 or more educational level, low socioeconomic status, TB/HIV co-infected , past TB treatment history, ongoing ART treatment, and alcohol usage, considered to have a significant or serious disease, perception of TB stigma , perception of co-morbid chronic illness , alcohol use, and current smoking were all factors associated with Emotional distress in TB.[7]

A state of extreme mental anguish or bodily agony is referred to as emotional distress. Emotional discomfort is defined as an unpleasant emotional reaction in the Merriam-Webster dictionary of 1982. It combines both depression and anxiety. People who endure emotional anguish may feel isolated and constantly guilty without good cause either little or excessive sleep. Emotional distress have direct or indirect impacts on a person's psychological, social, and occupational functioning, which can have an impact on many aspects of a person's life, including relationships, employment, and health.[8] Due to their common social and medical risk factors, there is a high likelihood of finding comorbidity between tuberculosis (TB) and psychological distress, according to existing evidence.[9] The amount of psychological discomfort among TB-infected patients on treatment in under developing countries is high.[10]

In the public health literature, the term "resilience" has been used to describe people's different attempts to overcome adversity, such as psychological coping mechanisms, resource bargaining , and social relationships, group functioning and the strengthening of social networks. Despite the tremendous obstacles that individuals and societies face, Better-than-expected psychological, physical, and social outcomes are frequently associated with resilience.[11] By affecting Adolescents and Adults' resilience, TB may have an effect on their future trajectories. The term "resilience" describes a person's capacity to grow in a constructive way when faced with stress and hardship. Data on the connections between TB and resilience directly was not available. However, resilience may be impacted by a variety of factors, including mental health, the stigma associated with TB, relationships with family and friends, and the capacity to participate in work and education.[12]

As several Patients with tuberculosis (TB) must cope with a wide range of challenges, resilience and health benefits are complicated. In one domain (family life), an individual may be resilient, but not in another (work). Furthermore, resilience is a product of processes that might vary over time, rather than a one-size-fits-all attribute. Resilience can communicate with vulnerability in other domains, so the resilience of one domain can have an impact on the vulnerability of another. As a result, different manifestations of resilience can have different effects on the well-being of TB patients.[13]

An infectious disease that is among the top 10 global causes of morbidity and mortality is tuberculosis (TB). TB is most of the world's common cause of death, in 2022, about 1.5 million individuals died as a result of the disease.[14] According to a study conducted in Ethiopia's capital city, Emotional distress affects 67.6% of TB patients. According to a national survey, 9.1% of the general population suffers from depression.[15] According to a regional survey, 19.82 percent of TB patients in the region had Emotional Distress.[16] It ranged from 40.6 to 67.6% in other studies. Emotional distress was linked to a history of previous TB care. Most people with a history of tuberculosis care (87.7%) were found to be emotionally distressed.[17]

Objectives

The objective of this study was to assess the level of resilience and mental well-being in adolescent and adult tuberculosis (TB) patients. Additionally, the study aimed to measure emotional distress in these TB patients and investigate the correlation between resilience and mental well-being within this patient population.

Methodology

The present cross-sectional study was conducted from June 2020 till July 2021 Purposive sampling technique was used to select sample from different hospitals in Peshawar (LRH, CMH, KTH, RMI, and North West hospital). The age range of sample was 13-45 years. The sample belong to nuclear and joint family system. The demographic sheet was used to collect information related to Age, education, family type, marital status, family income, number of children's, employment status and socioeconomic status, past psychiatric history. Report was developed with participants after this they were briefed about the objective of the study. Before data collection, consent form was given to the participants to ensure their willingness to participant in the study. The present study was divided into two stages. In the first stage demographic sheet was given to the participants, after that Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) was administered. Participants who scored high were excluded from the study. Secondly perceived emotional distress inventory (PEDI) and Brief Resilience scale (BRS) was administered to assess their level of emotional distress and resilience. The completed questionnaire was collected from the patients and carefully wrapped in an envelope to maintain their confidentiality. At the end they were ensured about the confidentiality of the data they provided, that it was used only for research purpose.

Result

The aim of the study was to find out emotional distress, resilience and Mental well-being among male and female adolescence and adult TB patients. The study population included (N=200) participants, male adolescents, and adults (n=100) and female adolescents, and adults (n=100) (Table 1).

Table 2 shows alpha reliability of the scales. Values of alpha reliability indicates that the data is normally distributed. The reliability analysis of the scales indicated that all the scales have high internal consistency and is best scales for data analysis.

Result showed that Adolescence TB patients scores significantly low on resilience scale as compare to adults TB Patients, and adolescence score low on Warwick-Edinburgh Mental Well-being scale as compare to adult, which means that the result support the first hypothesis of the study which states that “Adolescents TB patients will score low on resilience and mental well-being scale as compare to adults TB Patients”.

Result showed that adolescence TB patients score high on perceived emotional distress scale as compare to adult TB patients, which means that the result support the second hypothesis of the study which states that “Adolescents TB patients will score high on emotional distress scale as compare to adults TB patients”.

Result showed that there is negative correlation between resilience and mental well-being among TB patients,

Table 1. Frequency and percentages of demographic variables.

Variables	Frequency	Percentage
Age (Years)		
Adolescence (10 – 20)	100	50.0
Adult (21 - 45	100	50.0
Gender		
Male	100	50.0
Adolescence Male	50	25.0
Adult Male	50	25.0
Female	100	50.0
Adolescence Female	50	25.0
Adult Female	50	25.0

which means that the result does not support the third hypothesis of the study which states that “There is positive correlation between resilience and mental well-being among TB patients”.

Discussion

Tuberculosis (TB) is the leading infectious cause of mortality globally. According to a recent estimate, 1.8 million adolescents and young adults (AYA, ages 10 to 24) were the victims of all new cases of TB disease. Additionally, adolescence is a period of significant transformation, which when combined with increased TB susceptibility and unique social and developmental features results in distinct risks for TB transmission, infection, and illness.[18]

Resilience is the "positive development despite adversity “or "a stronger and more resourceful capacity to tolerate and recover from disruptive life situations". Strong social networks are associated with resilience, while weak social networks are associated with poor mental health.As a result of TB's negative effects on Adolescents and Young Adults' mental health and social networks, their ability to be resilient may be compromised.[19]

According to the World Health Organization, having positive mental health is "a state of well-being in which the individual realizes his or her own abilities, can cope with everyday stresses, can work productively and fruitfully, and is able to make a contribution to his or her community”. The link between tuberculosis (TB) and emotional distress is becoming more widely acknowledged.[20] There is mounting proof that emotional disturbance is highly expressed as anxiety and depression. In a sample of patients from Ethiopia, 63.7% of those with HIV positive status and 46.7% of those with HIV negative status both indicated significant levels of discomfort. According to a South African study, 87% of TB patients showed signs of considerable emotional distress.[21]

Table 2. Psychometric properties for WEMWBS, PEDI, BRS scales.

Scale	No. of items	N	Mean	SD	Cronbach's Alpha
WEMWBS	14	200	32.67	5.007	0.859
PEDI	15	200	23.05	9.42	0.958
BRS	6	200	20.14	1.17	0.700

Note: WEMWBS stands for Warwick-Edinburgh Mental Well-being scale, PEDI stands for perceived emotional distress inventory and BRS stands for brief resilience scale

The study's findings showed a significantly significant difference between adolescents' and adults' test scores. The same findings are supported by Moscibrodzki et al, (2021), The effects of tuberculosis on young people's resilience and general well-being. The health needs of adolescents and young adults (AYAs) have been overlooked in TB care, management, and research. AYAs differ from younger children and older adults due to the dynamic changes they encounter in their physical, psychological, emotional, cognitive, and social development. Five facets of teenage well-being are necessary for a smooth transition from childhood to adulthood: 1) Good health; 2) Social connection and contribution; 3) Safety and a loving environment; 4) Learning, Competence, Education, Skills, and Employability; and 5) Agency and Resilience. For this narrative evaluation, they used three sources. TB and its treatment have detrimental effects on teenage resilience and well-being in all areas. According to Parviniannasab et al.'s findings (2022), children with low psychological resilience are more likely to experience loneliness, anxiety, and depressive symptoms, all of which contribute to lower mental wellbeing. These findings run counter to those of this study. One explanation for this could be that psychological resilience has less to do with kids' mental health and more to do with their physical strength. Zvonareva, et al., (2021) Conduct research on young people with TB in Russia to determine how hospitalization and the TB diagnosis itself affect their mental health and how interpersonal ties serve as a buffer between these effects. In the Tomsk pediatric TB clinic, they performed a qualitative, interview-based research. A total of 17 informants from three groups—adolescent patients, their adult careers, and their treating physicians—were interviewed in order to accomplish the goal of this study. The findings of their study show that there are several risks to teenagers with TB's mental health. Teenagers who are preparing to begin in-patient treatment experience trepidation and worry about their future. They frequently find it difficult to accept their diagnosis because they perceive it as something humiliating, and as a result, they may come to view

Table 3. Mean score, standard deviation and t value of scores of adolescences and adult on Brief Resilience Scale, and Mental Well-being Scale (N=200)

Group	M	SD	t	p	95% CI		Cohen's d
					LL	UL	
Adolescence	19.98	1.35	-	-	-0.656	-0.003	-
BRS	-	-	-1.99	0.000	-	-	0.281
Adult	20.31	0.950	-	-	-0.656	-0.003	-
Adolescence	31.96	5.62	-	-	-2.81	-0.044	-
WEMWBS	-	-	-2.035	0.000	-	-	0.28
Adult	33.39	4.213	-	-	-2.81	-0.43	-

Note: CI stands for confidence interval.

themselves negatively. Most importantly, many suffer the agonizing loss of close friendships and anticipate or really go through peer rejection as a result of having TB. The effects of TB diagnosis and hospitalization on Adolescence' mental wellness, however, are mitigated by interactions with medical professionals, careers, and other clinic patients, and these connections can lead to opportunities for assistance.[22]

Result also revealed highly significant difference between adolescence and adult scores conducted a multicenter investigation on the association between emotional distress and treatment non-adherence for tuberculosis. Prior to diagnosis, they examined emotional distress (K-10 score), TB-related health literacy, and morbidity (TB score) in 1502 adolescents who had pulmonary TB symptoms from clinics in Cape Town (n = 419), Harare (n = 400), Lusaka (n = 400), Durban (n = 200), and Mbeya (n = 83). Data on socioeconomic conditions, demographics, and alcohol consumption were gathered. At two and six months after starting treatment, patients' DOTS cards were evaluated. In Southern Africa, individuals with TB frequently experience severe emotional distress. In newly diagnosed TB patients, targeted treatments to lessen emotional distress, alcohol use, and enhance health literacy may minimize non-adherence to treatment. Feng et.al, (2018) conducted a study to assessed the incidence of psychological distress and looked into the synergistic emotional distress-protective effects of work satisfaction, self-esteem, and perceived social support. 581 nurses were polled using the Kessler Psychological Distress Scale, the Multidimensional Scale of Perceived Social Support, the Rosenberg Self-Esteem Scale, and a self-developed Job Satisfaction Questionnaire. The potential relationship between self-esteem, perceived social support, work satisfaction, and psychological discomfort was investigated with the use of structural equation modelling. Surprisingly, psychological distress was prevalent among Chinese nurses. As protective variables

Table 4. Mean score, standard deviation and t value of scores of adolescences and adult on Perceived Emotional Distress Inventory (N=200)

Group	M	SD	t	p	95% CI		Cohen's d
					LL	UL	
Adolescence	26.48	8.758	-	-	4,395	-	-
PEDI	-	-	5.503	0.000	-	-	-
Adult	19.63	8.84	-	-	4.39	9.30	-

Table 5. Pearson's correlation of Brief resilience Scale and Mental Well-being Scale (N=200)

Correlation	
Resilience	-.229**
Mental well-being	

against psychological discomfort, job satisfaction, self-esteem, and perceived social support were found to be important in that order.

Findings of the present study also showed a negative correlation between well-being and resilience. Mehta et.al, (2019) conducted a study to evaluate the "positive cognitive triad" of hope, worldview, and self-esteem as a possible mediator between resilience and well-being for the first time in an American population. 198 participants responded to online questionnaires about their resilience, hope, and sense of self. The triad significantly mediated the connection between resilience and wellbeing, as was expected. These results highlight the significance of creating interventions that focus on the positive cognitive triangle and investigating the triad in relation to mental illness. The psychological effects of TB on people's minds are also extremely detrimental, including unpleasant emotions like melancholy, worry, frustration, loss of interest, difficulties concentrating, financial stress, anxiety, and others. Adults and adolescents are also psychologically and emotionally effected by TB.

Conclusion

The present study measures emotional distress, resilience and mental well-being among Adolescents and adults TB patients. Adolescence TB patients score low on resilience and mental well-being as compare to adults TB patients, Adolescence TB patients score high on emotional distress as compare to adult TB patients, there is negative relationship among resilience and mental well-being, Female TB patients score low on resilience and mental well-being as compare to male TB patients and female TB patients score high on emotional distress as compare to male TB patients. The current study concluded that Tb patients have significant levels of emotional distress and low levels of wellbeing and resilience.

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