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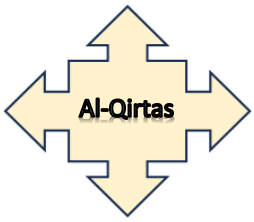
Integrated Psychological Intervention for Amelioration of Mental Health Problems of Individuals with Physical Disabilities in Pakistan



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Abstract

Background
This study aimed to explore an effective treatment strategy to improve common mental health issues in a population with physical disabilities. This population did not receive enough attention from the healthcare system in Pakistan.

Objective
To evaluate the effectiveness of an integrated psychological intervention for managing common psychological problems among individuals with physical disabilities.

Method
Sixty participants were recruited from the Community Based Rehabilitation (CBR) of Aid to Leprosy Patients (ALP) Rawalpindi-Pakistan from November 2021 to July 2022. The participants were recruited purposively and received comprehensive rehabilitation services with an integrated psychological intervention. The duration of the study was 2 months, including the screening and outcome sessions.

Results
The results indicated clinically significant improvements in psychosocial disability (p<0.001, cohen's d = 0.93), emotional problems (p<0.001), depression, anxiety, stress and post-traumatic stress disorder (p<0.001).

Conclusion
Integrated psychological intervention is an effective form of rehabilitation that enables individuals with physical disabilities to resume community functioning, particularly those who were previously unable to do so.

Keywords: Integrated healthcare, disability, mental health, psychological intervention

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Introduction

Physical disability is an increasing public health issue, an estimated one billion people of the world's population are experiencing some form of disability and the incidence rate is increasing (World Health Organization, 2023). People with physical disabilities (PWDs) experience stereotypic social attitudes, emotional abuse, poverty, environmental barriers and lack of access to appropriate health care (Hussain, Munir & Ibrar, 2020). These multiple risk factors are anticipated to result in three times more prevalence of psychological problems in PWDs than in the general population (Banks et al., 2017; Chevarley et al., 2006; Rimmer et al., 2011), particularly in females with physical disabilities (Noh et al., 2016). Excessive stress on the mind and body makes individuals vulnerable to impairments in their cognitive and social functioning. Additionally, they experience stress due to the treatments received for their physical condition. They may also experience isolation, which can lead to depression and anxiety (Taylor, 2006; Chevarley et al., 2006). Physical disability has a profound impact on emotional, psychological and social aspects of the life. These challenges may significantly contribute to increased levels of stress, anxiety, depression and adjustment problems among PWDs (Rokach et al., 2006).

Psychological disorders are often classified into two types depending on their relationship with chronic conditions. The first involves a psychological response to a physical illness, while the second involves the somatic expression of a psychological disorder. In clinical practice, some individuals may exhibit characteristics of both categories, and in certain cases, it can be challenging to differentiate between physical and psychosomatic symptoms (Fink et al., 2005). Consequently, there is a need to establish a comprehensive rehabilitation program for individuals with disabilities (WHO, 2017). Furthermore, PWDs often encounter challenges when seeking effective and accessible mental health care, in addition to the burden of disease, resulting in considerable economic costs associated with mental illnesses (Marcus et al., 2012). Consequently, the burden of mental illness is increasing in low and middle income countries (Whiteford et al., 2013). Therefore, to decrease the burden of mental illness and ensure cost-effective psychological interventions, the World Health Organization (WHO) has encouraged for low-intensity psychological interventions for individuals experiencing psychosocial impairment and concurrent depressive symptoms in resource-limited settings (WHO, 2001). These interventions can be administered by trained community health workers as part of a multidisciplinary approach.

Problem Management Plus (PM+) is a low-intensity psychological intervention specifically tailored for individuals contending with common mental disorders (WHO, 2017), and its successful implementation has been demonstrated within the Pakistani populace (Hussain & Khalily, 2024; Hamdani et al., 2020). PM+ is a manualized treatment based on five weekly sessions on behavioral techniques, sessions related to stress management, problem solving, behavioral activation and enhanced social support techniques (Dawson et al., 2020). Each session lasted approximately ninety minutes and could be delivered by any trained person (i.e. community

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health worker). This study highlights the inadequate psychological support for persons with disabilities (PWDs) in primary healthcare in Pakistan. This issue is aggravated by mobility difficulties and the high prevalence of psychological issues among PWDs. Therefore, an integrated psychological intervention is considered a potential solution for socially isolated and chronically ill individuals to address challenges and reduce psychological ailments (Hussain, Khalily, Hallahan, 2023). Keeping this in mind, the current research is designed to integrate psychological interventions in the routine physical care of PWDs. This intervention is particularly focused on the special needs of PWDs, where mobility challenges and the associated stigma are prominent. This study evaluated the effectiveness of Problem Management Plus (PM+) as a comprehensive treatment for common mental health conditions related to disability.

Method

Sixty participants were recruited from Community Based Rehabilitation (CBR) of Aid to Leprosy Patients (ALP) Rawalpindi from November 2021 to July 2022. Inclusion criteria included individuals aged 18-65 years with a diagnosed physical disability and the ability to provide informed consent. The exclusion criteria included severe cognitive impairment and the presence of any unmanaged acute medical conditions. Participants received comprehensive rehabilitation services with structured psychological interventions. The duration of the study was 2 months, including the screening and outcome sessions. The participants received comprehensive rehabilitation services with structured psychological intervention based on the manualized, low intensity psychological intervention, developed by the World Health Organization, known as problem management plus (PM+). This intervention is designed to address common mental disorders in low resource setting and can be delivered by a trained health worker under supervision. It is primarily based on the techniques of stress management, problem solving, behavioral activation and enhanced social support. This may help address the unique psychological needs of PWDs. The participants attended weekly sessions over a 2 months including the outcome session. To assess the effectiveness of the intervention, the participants underwent pre-intervention baseline assessments using standardized psychological scales. Post-intervention assessments were conducted after completion of the psychological intervention.

Psychometric Measures

Standardized psychometric measures were used to assess the level of symptomatology and functional impairment in persons with physical disabilities. These measures include the following:

General Health Questionnaire (GHQ-12)

The GHQ is a widely utilized self-report scale designed to assess the presence or absence of psychological distress. Comprising 12 items, it exhibits high internal consistency, with a Cronbach's alpha value of 0.92 (Minhas & Mubbashar, 1996). The Urdu version of the GHQ-12 was employed solely for screening purposes.

WHO Disability Assessment Scale (WHODAS 2.0)

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The WHODAS serves as a self-reported instrument utilized for assessing disability across six domains: cognition, mobility, self-care, social interaction, daily activities, and participation. The Urdu version of the WHODAS 2.0, comprising 12 items, was employed and showcased robust psychometric properties, boasting a high internal consistency score of 0.84 as determined by Cronbach's alpha (WHO, 2010).

Depression, Anxiety, and Stress Scale (DASS)

The DASS, a 21-item self-report questionnaire employing a 4-point Likert scale, is utilized for evaluating emotional difficulties by measuring depression, anxiety, and stress levels. The Urdu adaptation of the DASS-21 (Zafar & Khalily, 2015) was employed to assess these symptoms, demonstrating favorable psychometric properties with high internal consistency (Cronbach's alpha = 0.95).

Posttraumatic stress disorder (PTSD) symptoms Checklist (PCL-C).

The PCL-C is comprises 17 items designed to evaluate the symptoms associated with traumatic events. The Urdu version of PCL-C was utilized in this study to assess trauma symptoms in PWDs, and it demonstrated strong psychometric properties, a high internal consistency score of 0.95 as measured by Cronbach's alpha (Khalily, Gul, Mushtaq, & Jahangir, 2012).

Ethical approval

Ethical approval was obtained from the Bioethics Committee of the International Islamic University Islamabad. In addition, informed consent was obtained from the study participants after confirming their privacy and confidentiality.

Data Analysis

Data were analyzed using the Statistical Package for Social Sciences Version 29 (SPSS 29.0). A paired sample t-test was used to compare pre and post intervention outcomes by focusing on changes in the emotional problem scores. Data analysis revealed significant differences between the outcomes and baseline scores, providing insights into the effectiveness of integrating psychological interventions into primary healthcare for individuals living with physical disabilities.

Table 1

Demographic Characteristics and Disability information of Individuals with Disability (N =60)

Variable	n	%	M	SD
GHQ-12			21.93	7.03
Age			36.17	12.19
Duration of Disability			20.82	16.24
Gender				
Female	24	40.0		
Male	36	60.0		
Marital status				

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Married	31	51.7
Unmarried	29	48.3
Occupation		
Self Employed	19	31.7
Housewife	20	33.3
Unemployment	21	35.0
Education		
Illiterate	30	50.0
Primary	22	36.7
Middle	3	5.0
Matric	3	5.0
Intermediate	2	3.3
Disability Type		
Lower Limb (Mobility Disability)	36	60.0
Vision Disability	6	10.0
Hearing Disability	2	3.3
Upper Limb (Independent Living Disability)	4	6.7
Locomotor (Self-care Disability)	12	20.0
Disability Etiology		
Congenital	30	50.0
Accident	6	10.0
Infection	14	23.4
Senile	5	8.3
Stroke	5	8.3

GHQ-12 = General Health Questionnaire

A total of sixty individuals participated in the study. The study included 36 male and 24 female participants. Most of them were illiterate (30, 50%) and the rest ranged from primary to intermediate level education.

The GHQ test was used to screen the participants (*M* = 21.93, *SD*=7.03). The duration of the disability of the participants were (*M* = 20.82, *SD*=16.24). The majority of participants had lower limb disability (36, 60%) and the major cause of disability was reported to be congenital (30, 50%).

Table 2

Comparison of Pre and post intervention scores of participants

Variables	Pre intervention	Post intervention	t(59)	p	r	Cohen's d

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	M	*SD*	*M*	*SD*				
WHODAS	36.78	7.84	28.20	10.35	9.44	0.001	.73***	0.93
DASS	38.88	9.91	25.45	9.59	10.71	0.001	.50***	1.38
Depression	12.78	3.91	8.47	3.14	9.44	0.001	.43***	1.22
Anxiety	12.62	2.99	7.92	3.28	8.74	0.001	.44***	1.49
Stress	13.48	3.86	9.07	3.78	10.91	0.001	.46***	1.15
PTSD	21.10	12.72	13.50	8.92	8.61	0.001	.89***	0.69

Note: *WHODAS = WHO Disability Assessment Scale 2.0; DASS = Depression, Anxiety, and Stress Scale; PTSD = Post traumatic stress disorder. ***P*<.001.

A paired sample t-test to analyze the variations between baseline (Pre-intervention) and outcome (Post-intervention) assessment scores. Table 2 illustrates the mean comparison of pre- and post-intervention scores for disability, depression, anxiety, stress, and post-traumatic stress disorder. The study revealed significant mean variances in disability, with $t(59) = 9.44$, $p < .001$. Cohen's d value was 0.93 (>0.80), suggesting a substantial effect size. Further investigation indicated significant mean differences in psychological issues such as depression, anxiety, stress, and post-traumatic stress disorder, all demonstrating a large effect size.

Statistical tests were employed to compare the outcomes of the integrated psychological intervention, with a focus on changes in psychological well-being scores. The data analysis determined that post intervention scores (outcomes) differed significantly from the pre intervention scores, thereby providing insights into the effectiveness of integrating psychological interventions into primary healthcare for individuals living with physical disabilities. The study outcome shows that the integrated psychological intervention has a significant amelioration in disability levels and common mental conditions in PWDs.

Discussion

The prevalence of mental disorders is increasing globally, particularly in individulas with physical disabilities. This situation is alarming for public health experts. Additionally, the treatment gap in mental health conditions is up to 90% in low- and middle-income countries including Pakistan (James et al., 2018; Whiteford et al., 2013). Therefore, managing the common mental illnesses in general and particularly among PWDs, is becoming a public health concern, especially in Pakistan. PWDs are at a greater risk of developing psychological problems due to lower levels of functioning, environmental barriers and inadequate healthcare facilities (Üstün et al., 2003; Hussain, Munir & Ibrar, 2020). Therefore, such individuals are three times more vulnerable to psychological problems then the general population (Banks et al., 2017; Chevarley et al., 2006; Rimmer et al., 2011). Additionally, physical disabilities affect individuals psychologically, socially and emotionally (Zaman et al., 2021). In this context, there is a need to develop integrated services to address the immediate need for PWDs including the need for mental well-being.

In this study, we integrated a manualized, low-intensity psychological intervention known as problem management plus (PM+) for comprehensive physical care of PWDs. PM+

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intervention is designed to help people with emotional and practical problems caused by adversity (Sijbrandij et al., 2015). After the integration of the psychological intervention based on PM+, the effectiveness of integrated psychological intervention for improvement in the common mental conditions of people living with physical disability. This finding supports that the integrated intervention was associated with significant amelioration of disability, depression and anxiety symptoms. Additionally, the results revealed that overall functioning improved with greater sociability and community engagement. These findings are supported by previous studies conducted in Pakistan (Rahmani et al., 2016; Hamdani et al., 2020). These studies highlighted the efficacy of low resource interventions delivered by community health workers. However, in the current study, the findings revealed that the integration of low intensity psychological intervention is also effective for the amelioration of comorbid common mental disorders among persons with physical disabilities. Furthermore, integrated psychological interventions for anxiety management, problem solving, and accessing social support techniques are appropriate for PWDs with difficulties.

Conclusion

This study aimed to highlight the potential benefits of integrating psychological interventions into primary healthcare to address the common mental health problems of individuals with physical disabilities. Ultimately this contributes to a more holistic approach to care. Our findings suggest that integrated care improved psychological problems of PWDS and overall improved the functioning with greater sociability and community engagement.

This study findings also highlight the significance of integrated care and pave the way for improved well-being and quality of life for this often underserved population.

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