

PREVALENCE, DIMENSIONS, OCCUPATIONAL DETERMINANTS, AND WORKPLACE MANAGEMENT OF MAJOR DEPRESSIVE DISORDER IN PAKISTAN

Anwar Khan^{*1}, Maqsood Haider²

^{*1}Department of Management Sciences, Khushal Khan Khattak University

²Department of Management Sciences, FATA University

^{*1}akpashtoon1981@gmail.com, ²dr.haider@fu.edu.pk

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Corresponding Author: *
Anwar Khan

Abstract

Depressive Disorders are a substantial public health concern in Pakistan, yet there is no comprehensive review of its prevalence, dimensionality, occupational determinants and workplace management. This gap in knowledge hinders the development of effective interventions and policies to address the burden of depression in Pakistan. This narrative review organizes the available data between 2010 and 2025 on these research gaps in Pakistan to inform clinical and workplace practice and health policy. Narrative review methodology was employed. Data was extracted from major databases such as ScienceDirect & PubMed and synthesized to summarize findings. Findings confirmed that depression highly prevalent and multidimensional mental health disorder in Pakistan. Psychotherapy and pharmacotherapy are effective, yet their scalability is hindered by workforce shortages, inefficiencies, and unequal service distribution. Evidence indicates that workplace management practices like organizational climate, workload regulation, leadership, and environmental design considerably influence the prevalence of Major Depressive Disorder (MDD). This study concluded that addressing depression in Pakistan requires a multi-tiered approach integrating clinical intervention, institutional reform, and policy innovation. Sustainable mental health advancement depends on aligning evidence-based treatment with workplace and system-level restructuring. Future efforts must focus on task-shifting, primary care integration, and developing a culturally valid research agenda to advance an equitable and effective mental healthcare system in Pakistan.

INTRODUCTION

Major Depressive Disorder is a well-known mental health problem and one of the leading causes of disability worldwide (Fan et al., 2025). Recent epidemiological statistics as published in "The Lancet," reported an alarming number of approximately 279.60 million cases of depression worldwide (Zhao et al., 2024). The challenge of

addressing Major Depressive Disorder in low and middle-income South Asian countries, including Pakistan, is intensified by a confluence of various factors, including under-resourced mental healthcare systems, prevalent psychosocial stressors, and widespread mental health stigma (Rahman et al., 2024). Despite its importance to

public health, the prevalence, dimensionality, and management of Major Depressive Disorder in Pakistan are still poorly understood. This leaves several research gaps and hinders the development of efficient clinical and policy-level interventions.

Turning to an examination of these research gaps yields fascinating findings. The existing literature, including regional and facility-based surveys such as those by Mumtaz et al. (2022) and Qazi et al. (2022), reports high rates of depressive symptoms. However, Pakistan lacks robust, nationally representative data on Major Depressive Disorder from either governmental reports or systematic research syntheses, such as systematic reviews, narrative reviews, or meta-analyses. This absence constitutes a major research gap. Furthermore, earlier studies such as Ullah et al (2024) had reported prevalence in terms of present or absent symptoms or percentage of symptoms, however few studies investigated dimensional aspects of Major Depressive Disorder. This can limit our understanding of aspects of Major Depressive Disorder as represented in the Pakistani population, and it may hinder customized treatments.

Increasingly, depression is recognized not merely as an individual mental health condition but as a phenomenon embedded within institutional and workplace ecosystems. Human Resource Management variables, including leadership quality, supervisory support (Sanatkar et al., 2025), job autonomy (Wentholt et al., 2025), performance appraisal (Sert et al., 2025), and employee development opportunities (Bilderback, 2025) have been globally associated with MDD. In contexts characterized by workforce shortages and institutional inefficiencies, maladaptive Human Resource Management practices may intensify depressive risk, while supportive management structures may serve protective functions.

In Pakistan, occupational cohorts such as healthcare professionals and educators demonstrate particularly high rates of depressive symptoms (Sehrish & Husain, 2020). It suggests that workplace management structures warrant

systematic examination within the broader depression landscape. Yet empirical integration of Human Resource Management variables into national mental health discourse remains limited. This narrative review, therefore adopts a multidimensional framework, integrating epidemiological, clinical, occupational, and policy perspectives to provide a comprehensive synthesis of depression in Pakistan. Specifically, this review aims to:

- i. Synthesize current evidence on prevalence patterns of depression in Pakistan.
- ii. Examine the dimensional presentation of depressive symptoms.
- iii. Explore workplace management and Human Resource Management-related determinants of depression.
- iv. Assess functional and performance-related consequences.
- v. Review treatment approaches and systemic implementation barriers.
- vi. Identify policy and organizational reform priorities to reduce the national burden of depression.

Research Methodology

Review Method

The current study used a narrative review approach (Gonzales et al., 2023). A narrative review methodology was selected because of the qualitative and quantitative nature of the published studies, which made meta-analyses and systematic reviews less appropriate.

Data Sources and Databases Selection

To guarantee extensive coverage of pertinent studies, a thorough literature search was carried out utilizing the following significant scientific databases:

1. ScienceDirect.
2. PsycINFO.
3. ProQuest.
4. PubMed.
5. Google Scholar (Google aided in the inclusion of pertinent published and unpublished research. Moreover, grey literature, which includes book chapters, dissertations, and journal articles were taken into consideration.

Search Plan, Terms and Boolean Operators

The search process was carried out by using the following search terms and Boolean operators with AND, OR, NOT:

1. "Depressive Disorders in Pakistan" AND "Prevalence".
2. "Major Depressive Disorder in Pakistan" AND "Prevalence".
3. "Dimension of Depression in Pakistan" AND "Psychopathology of Depression in Pakistan".
4. "Depression Treatment and Management in Pakistan" OR "Treatment Approaches for Depression in Pakistan".
5. "Pharmacological Treatment of Depression in Pakistan" OR "Mental Health Services in Pakistan".
6. "Workplace" OR "Occupational Stress" OR "Work Environment" OR "Job Strain") AND "Depression" AND "Pakistan".
7. "Job Performance" OR "Productivity" OR "Absenteeism" OR "Presenteeism") AND "Depression" AND "Pakistan".
8. "Psychotherapies for Depression in Pakistan" OR "Non-pharmacological Treatment of Depression in Pakistan".

In order to include both contemporary advancements on depression research in Pakistan, the search was carried out between 2010 and 2024.

Steps of Screening Process

This narrative review was conducted according to the guidelines given by Gregory & Denniss (2018), which served as the basis of steps for this narrative review:

1. *Step 1-Title and Abstract Searching and Screening:* Relevant study titles and abstracts were examined for inclusion and relevancy. In addition to eliminating extraneous studies, duplicate titles were eliminated.
2. *Step 2-Entire-Text Review:* Using the inclusion and exclusion criteria specified in the next section, the entire texts of a few chosen, pertinent research studies were examined.

Inclusion and Exclusion Criteria

Research studies and other documents were included if they met the following criteria:

1. Research conducted in Pakistan or among Pakistani populations.
2. Studies that are published between 2010 and 2025.
3. Articles or documents addressing research gaps as identified in this study.
4. Both quantitative, descriptive, correlational, and qualitative (either simple or exploratory) studies were included.
5. Studies published in English were considered.

Exclusion criteria included documents such as editorials, short letters, opinion pieces, commentaries, and research studies having no details related to the above-mentioned three aspects of depression in Pakistan.

Data Extraction and Synthesis

Relevant data were extracted by keeping in mind the key research gaps as identified in the introduction section. Since this is a narrative literature review, the findings were grouped and synthesized conceptually rather than statistically.

Results

Descriptive Findings

The search identified 225 studies. After the deletion of duplicate 14 studies, 211 records were further screened for eligibility. At this point, 111 records were eliminated because they were irrelevant. The remaining 100 full-text studies were rigorously evaluated, with 50 studies being excluded due to insufficient outcome reporting, the use of non-validated measurement tools, a publication date outside 2010 to 2025, or the inability to obtain the full text. Consequently, 50 studies were selected for narrative analysis.

Mental Healthcare in Pakistan

Mental health in Pakistan is significantly impacted by the current socioeconomic circumstances (Javed et al., 2022). Compounding the mental health issues is a critical shortage of mental health professionals. This shortage is particularly acute in rural areas (Ambareen Main

Thompson et al., 2025). Pakistan faces a critical shortage of mental health professionals, with an estimated 500 psychologists and 400 psychiatrists serving its entire population (Saeed, 2025). The population in Pakistan experiences a high

prevalence of diverse mental health disorders. As detailed in Table 1 painting a picture of mental health burden in Pakistan.

Table 1

Prevalence of common Mental Health Problems in Pakistan

Common Mental Health Problems	Sources (References)
Depressive Disorders	(Mumtaz et al., 2022) (Qazi et al., 2022)
Post-traumatic Stress Disorder	(Khan, Ullah, Abid, & Awan, 2021)
Substance Abuse Disorder	(Amir-Ud-Din, 2022) (Khan et al., 2020)
Anxiety Disorders	(Qureshi et al., 2020)
COVID-19 Related Fear	(Sun et al., 2022)
Obsessive-Compulsive Disorder	(Quratulain, Younus, & Hasan, 2020)
Sleep Disorders	(Tanveer et al., 2022)
Eating Disorders	(Zahra et al., 2023)

To manage mental health issues, Pakistan faces a severe mental health treatment gap, which is illustrated by the World Health Organization data: the country has only 11 large-scale psychiatric hospitals, 578 community care facilities, and 800 psychiatric units in general hospitals. The scarcity of resources is further highlighted by a mere 2.1 mental health beds per 100,000 people (WHO, 2022).

Prevalence and Dimensionality of Major Depressive Disorder in Pakistan

In Pakistan, remarkably, a high prevalence of major depressive disorders has been observed in

most of the published literature. It accounted for 3.13% (95% CI 2.25 to 4.24) of total Disability-Adjusted Life Years (Alvi et al., 2024). The prevalence of major depressive disorder is also elevated in the capital cities of Pakistan such as Lahore, Peshawar, Karachi, and Rawalpindi. Particularly, the provincial capital city of Peshawar. Interestingly, despite wide area, Gilgit and Northern Areas receives only limited studies. It is because of the remote location of region and limited resources for research and data collection. A full breakdown of these findings is provided in Table 2.

Table 2

Geographic Coverage of Prevalence of Depression in Pakistan

Regions and Settings	No. of Studies (out of 50)	Examples of representative studies
Sindh Province(Karachi and rural Sindh)	12	(Farooq et al., 2019); (Rabbani et al., 2025); (Ali et al., 2010)
Punjab (Lahore, Rawalpindi, Faisalabad, Sialkot)	15	(Ahsan et al., 2016); (Hassan et al., 2018); (Atif et al., 2016); (Niaz et al., 2021)
Khyber Pakhtunkhwa (Peshawar, Kohat, Swabi, Lower Dir)	10	(Noor et al., 2022); (Ishtiaq et al., 2018); (Fatima et al., 2025); (Hayat et al., 2021); (Khan, Shah, et al., 2025)
Baluchistan (Quetta, Loralai, Kalat)	05	(Kakar et al., 2024); (Ahmad, 2020); (Raheem et al., 2023)
Rest of Pakistan including Gilgit and Northern Areas	08	(Hussain et al., 2017); (Malik, Jan, et al., 2024);(Bano et al., 2020)

In a similar vein, as seen in Table 3, gender distributions within the literature reveal disproportionately rely on female-only samples and specific subgroups, particularly university students (n≈8). While community-based surveys (n≈11) offer the closest estimate of general

population prevalence. Notably, the research neglects key demographic groups, including elderly adults, and marginalized populations, e.g., nomadic communities, and transgender individuals.

Table 3

Population Type and other sample Characteristics in Reviewed Studies

Population Type	No. of Studies (out of 50)	Coverage of Prevalence	Examples of representative studies
University and medical students	07	Mixed genders and ages with high symptom reported	(Khan et al., 2022); (Asif et al., 2020)
Perinatal and female maternal cohorts	06	Pregnant and postpartum population	(Maria et al., 2021); (Padhani et al., 2024)
Persons with chronic disease and other clinic samples	08	Mixed clinic-based population	(Farooq et al., 2019); (U. Abbas et al., 2025)
General community population	11	Mixed general variable urban and rural population	(Ullah et al., 2024); (Rahman et al., 2024)
Healthcare workers, teachers and occupational cohorts	08	Mixed with population such as doctors, nurses, teachers, engineers and bankers	(Saeed et al., 2023); (Khan, Shah, et al., 2025)
Adolescents and school students	07	Mostly mixed, urban population predominated	(Ibbad et al., 2022); (Farooq et al., 2023)
Mixed special populations (HIV, refugees, IDPs and others)	03	Mostly mixed population	(Junaid et al., 2021); (Akhunzada et al., 2015)

In addition, a review of the selected studies revealed that all of studies have used standardized assessment and diagnostic instruments, which helped in the identification of various dimensions of depression, however, the most dominant patten included symptoms such as

sadness, depressed mood, anhedonia, somatic symptoms, neurovegetative symptoms (such as sleeplessness, appetite, general fatigue), suicidality, and psychomotor changes, as clear from Table 4.

Dimensionality and Symptom Pattern of Depression in Reviewed Studies

Dimensionality and Symptom Pattern	Instruments Used	No. of Studies (out of 50)	Examples of representative studies
Sadness, Anhedonia, Somatic & Neurovegetative Cognitive (low concentration, guilt), Suicidality, and Psychomotor changes.	Patient Health Questionnaire:09	12	(Ahmad et al., 2018); (Junaaid et al., 2022)
Core depression, Anhedonia, Somatic & Neurovegetative Anxiety, Agitation, Cognitive, Guilt, Suicidality,	Hamilton Depression Rating Scale-17	13	(Hashmi, Naz, et al., 2016); (Mansoor et al., 2022)
Hypochondriasis and Insight. Cognitive distortions, e.g., guilt, hopelessness, guilt, Affective symptoms, Somatic and Neurovegetative, e.g., sleep, fatigue, appetite loss, and Suicidality	Beck Depression Inventory: BDI-II	10	(Iffat et al., 2021); (Abbas et al., 2015)
Depression symptoms, Anxiety symptoms, Stress symptoms	Depression Anxiety and Stress Scale-21	05	(Nadeem et al., 2023); (Malik, Bashir, et al., 2024)
Depressed mood, Sadness, Guilt, Anhedonia, Anxiety features, and Suicidality	Edinburgh Postnatal Depression Scale	06	(Dosani et al., 2022); (Husain et al., 2014)
Depressed mood, Anhedonia, Insomnia Observable agitation, Loss of energy, guilt, Diminished ability to think and suicide thinking	Structured Clinical Interview for DSM-5	04	(Mohsin et al., 2021); (Husain et al., 2021)

Physical and structural characteristics of the work environment constitute important, yet frequently overlooked, determinants of depressive symptomatology. Environmental stressors such as overcrowding, inadequate lighting and ventilation, high noise exposure, prolonged working hours, rotating shift schedules, and

insufficient rest periods have been associated with chronic stress activation and increased risk of mood disorders (Ganster & Rosen, 2013; Rugulies et al., 2017).

The Job Demand–Control model posits that high job demands combined with low decision latitude significantly elevate psychological strain (Karasek & Theorell, 1990). Similarly, the Effort–Reward Imbalance framework emphasizes that sustained effort without commensurate reward or recognition contributes to emotional exhaustion and depressive symptoms (Siegrist, 1996). These models are particularly relevant in under-resourced public institutions—such as hospitals and educational systems in Pakistan—where workforce shortages and infrastructural limitations often intensify environmental strain. Beyond physical conditions, workplace management includes leadership style, supervision quality, communication transparency, job autonomy, and fairness of performance evaluation systems. Organizational climate has consistently been linked to mental health outcomes, with authoritarian or unsupportive leadership associated with increased burnout, psychological distress, and depressive symptoms (Skakon et al., 2010; Montano et al., 2017).

High workload demands in the absence of adequate institutional support can generate a cyclical interaction between occupational stress and depressive impairment. Sustained performance pressure contributes to emotional exhaustion, while depressive symptoms—such as impaired concentration, reduced motivation, and cognitive slowing—further diminish work efficiency and increase perceived performance strain (Lerner & Henke, 2008; Nieuwenhuijsen et al., 2010). This bidirectional relationship highlights the need to conceptualize depression not only as an individual clinical disorder but also as a workplace management issue. Organizational reforms that regulate workload, promote supportive leadership practices, and embed employee mental health protections within institutional structures may therefore represent critical components of national depression prevention strategies.

Workplace Management of Depressive Disorder

Depression in Pakistan must be understood not only as an individual psychiatric condition but also as a phenomenon embedded within organizational and occupational systems. Workplace management practices significantly influence psychological well-being by shaping environmental stress exposure, role clarity, workload regulation, leadership culture, and performance expectations (Theorell et al., 2015; Rugulies et al., 2017; Siegrist, 2016).

Workplace management encompasses the structural and physical environment in which employees operate. Factors such as overcrowding, inadequate lighting and ventilation, excessive noise exposure, prolonged working hours, irregular shift schedules, and limited rest opportunities contribute to sustained stress activation. Chronic exposure to adverse physical and psychosocial work conditions has been associated with sleep disturbance, emotional exhaustion, and depressive symptomatology (Harvey et al., 2017; Virtanen et al., 2018).

Leadership quality plays a measurable role in employee mental health. Meta-analytic evidence suggests that supportive and transformational leadership styles are associated with better psychological well-being, whereas destructive or authoritarian leadership is linked to increased depressive symptoms and emotional strain (Montano et al., 2017; Skakon et al., 2010). Lack of autonomy, unclear expectations, and insufficient recognition may foster helplessness and reduced perceived control—cognitive patterns closely aligned with depressive symptom dimensions (Karasek & Theorell, 1990; Rugulies et al., 2017).

Workplace management also involves workload distribution, productivity monitoring systems, and performance accountability frameworks. Depression, in turn, impairs concentration, decision-making capacity, and productivity, creating a bidirectional relationship between workplace demands and psychological functioning (Lerner & Henke, 2008; Evans-Lacko & Knapp, 2016). In environments where performance is measured primarily through output metrics without adequate psychological

safeguards, presenteeism and cognitive inefficiency may become normalized, reinforcing stress exposure and undermining both employee well-being and institutional performance. Intervention research further supports the role of workplace management in mental health outcomes (Joyce et al., 2016; Niedhammer et al., 2021). These findings suggest that workplace reform represents not merely a contextual variable but a modifiable determinant in depression prevention and management strategies.

Treatment and Management of Major Depressive Disorder in Pakistan

A review of selected studies revealed that psychotherapy and pharmacotherapy are the most

common treatment approaches in Pakistan, and they were consistently associated with significant decreases in depression symptoms. Nonetheless, fundamental impediments to their scalability remain, such as restricted availability, side effects, patient non-adherence, and pricing. Table 5 further shows that, despite a small number of research studies, traditional, herbal, and spiritual treatments were found to play an important impact, particularly in rural and underprivileged groups on the therapeutic process of depression treatment in Pakistan. These alternative treatments often serve as a critical resource in settings where formal psychiatric care is inaccessible or culturally incongruent.

Table 5

Treatment and Management of Depression in Reviewed Studies

Intervention Type	Treatment Outcomes	No. of Studies (out of 50)	Examples of representative studies
Psychotherapy, including • Eye Movement Desensitization and Reprocessing • Cognitive Behavioral Therapy • Behavioral Activation Therapy • Interpersonal Therapy • Others	Significant reduction in depressive symptoms and were found good for long term management of depression. However, issues of availability and affordability existed	22	(Khan, Madihie, et al., 2025); (Naeem et al., 2015); (Dawood et al., 2023); (Nusrat et al., 2016)
Pharmacotherapy including • Selective Serotonin Reuptake Inhibitors • Serotonin-Norepinephrine Reuptake Inhibitors • Tricyclic Antidepressants • Atypical Antidepressants, e.g., Mirtazapine	Symptom improvement and fast acting, however, issues of side effects were common	24	(Syed et al., 2019); (Azhar et al., 2024); (Khalid et al., 2012); (Hashmi, Khawaja, et al., 2016)

Traditional, Herbal and Spiritual	Worked well in rural areas where Psychotherapy or Pharmacotherapy were not widely available	04	(Adil et al., 2025)
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Discussion on Results

The findings of this narrative review confirm that Major Depressive Disorder (MDD) represents a substantial and persistent mental health burden in Pakistan. Elevated prevalence was observed across diverse populations, particularly among university students, perinatal women, individuals with chronic medical conditions, healthcare professionals, and urban residents. These findings are consistent with broader South Asian epidemiological trends indicating high depressive symptom burden across the region (Hossain et al., 2021; Arafat et al., 2022). However, the Pakistani context introduces additional structural vulnerabilities, including socioeconomic instability, health system limitations, and occupational stress exposures, which may further intensify risk.

The dimensional presentation of depression in Pakistan closely mirrors internationally recognized diagnostic frameworks. Core affective symptoms (sadness, anhedonia), cognitive distortions (guilt, impaired concentration), and somatic/neurovegetative manifestations (sleep disturbance, fatigue, appetite change) were consistently reported. This convergence suggests that depression in Pakistan is not culturally divergent in symptom structure, but rather embedded within contextual stress ecology. Notably, somatic features frequently appear prominent, which may reflect culturally shaped help-seeking patterns or primary care presentations. Suicidality, although less frequently quantified, remains clinically significant and warrants improved systematic reporting.

Beyond symptom patterns, this review underscores the role of workplace management as an underexamined yet influential determinant of depressive symptomatology. High prevalence among occupational cohorts—particularly healthcare workers and teachers—suggests that

organizational stressors, workload intensity, leadership quality, and institutional resource constraints may contribute meaningfully to psychological burden. International occupational health research consistently demonstrates associations between job strain, effort–reward imbalance, and depressive outcomes (Rugulies et al., 2017; Theorell et al., 2015). Within Pakistan’s public sector institutions, where workforce shortages and administrative burden are common, workplace management structures may function as chronic stress amplifiers. This highlights the necessity of integrating organizational reform into depression prevention frameworks rather than relying solely on individual-level treatment.

With regard to management strategies, both psychotherapy and pharmacotherapy demonstrate efficacy in reducing depressive symptoms. However, pharmacotherapy remains more widely utilized in clinical practice. Although antidepressants have robust evidence for acute symptom reduction (Cipriani et al., 2018), their real-world effectiveness is often constrained by side effects, cost barriers, treatment discontinuation, and limited follow-up continuity. In contrast, culturally adapted psychotherapeutic interventions show promising outcomes but face scalability challenges due to workforce limitations.

Importantly, evidence supports the superiority of combined treatment approaches for moderate to severe depression (Guidi & Fava, 2021). Sequential or integrated models combining pharmacological stabilization with structured psychotherapy may offer sustained remission benefits. Yet in Pakistan, systemic constraints—particularly workforce shortages and limited integration into primary care—restrict the implementation of such models at scale.

Overall, the findings suggest that depression in Pakistan is shaped by a multi-level interaction of

individual vulnerability, occupational stress exposure, and structural health system constraints. Addressing the burden of MDD therefore requires a comprehensive strategy that integrates clinical treatment with workplace management reform and health system strengthening. Without addressing institutional and organizational determinants, advances in pharmacological and psychotherapeutic efficacy are unlikely to translate into population-level reductions in depressive burden.

Implications of Study

1. Workplace and Clinical practice in Pakistan and broadly in South Asia should prioritize the sequential integration of evidence-based psychotherapy with pharmacotherapy. Treatment planning should be guided by symptoms severity stratification.
2. To address systemic gaps health gaps in Pakistan, health policy must prioritize the integration of mental healthcare services into primary care. Strategic initiatives should include task-shifting through the training of lay counsellors, leveraging digital and hybrid service delivery models, and ensuring equitable coverage in rural and underserved areas.
3. Findings of this study revealed a significant equity concern is the research skew toward urban, female, and highly educated populations. Future research and service delivery must intentionally include underrepresented groups, such as rural communities, men, older adults, LGBTQ+ individuals, and ethnic minorities.

Limitations and Future Research Recommendations

1. The first limitation is the significant heterogeneity in measurement tools, diagnostic criteria, and sampling frames. This makes cross-study comparison difficult. To address this, future research should prioritize large, representative cohort studies that use standardized diagnostic measures.
2. The second limitation was the pervasive sampling bias, with an overreliance on convenience samples. Correcting this requires a

future effort to include these underserved groups to ensure findings are generalizable across Pakistan.

3. A third critical limitation is the lack of longitudinal data. Consequently, in future there is a clear need for longitudinal research with long-term follow-ups (i.e., ≥ 12 months).

4. The final limitation involved the less reporting of economic outcomes, which hinders the assessment of intervention impact and scalability. Future research must, therefore, consistently report these key metrics.

Conclusion

His narrative review establishes that Major Depressive Disorder (MDD) is a highly prevalent and multidimensional mental health condition in Pakistan, affecting diverse demographic and occupational groups. Its clinical presentation encompasses affective, cognitive, somatic, and neurovegetative dimensions, frequently co-occurring with anxiety and functional impairment. These findings reaffirm that depression is not a singular or uniform disorder but rather a spectrum of interrelated emotional and physiological manifestations shaped by contextual stressors.

Importantly, the evidence synthesized in this review suggests that depression in Pakistan must be understood within a broader structural and organizational framework. Beyond individual vulnerability, workplace management practices, institutional stress environments, and health system constraints play a meaningful role in shaping risk exposure, symptom persistence, and recovery trajectories. High prevalence among occupational cohorts highlights the influence of workload pressure, leadership quality, environmental design, and resource limitations as modifiable determinants of mental health outcomes.

While both psychotherapy and pharmacotherapy demonstrate significant efficacy, their population-level impact remains constrained by systemic barriers including workforce shortages, maldistribution of services, affordability challenges, and limited integration into primary care. The continued reliance on traditional and

spiritual practices further underscores the importance of cultural acceptability and community-based engagement in mental health strategy.

These findings collectively advocate for a hybrid, multi-tiered model of depression care that integrates biomedical treatment, culturally adapted psychotherapies, workplace management reform, and community-level support systems. Strengthening institutional governance structures, enhancing workforce capacity, and embedding occupational mental health safeguards within policy frameworks are critical components of sustainable reform.

In delineating the epidemiological, clinical, organizational, and policy dimensions of MDD in Pakistan, this review contributes to a more comprehensive understanding of depression as both a medical and structural challenge. Progress in reducing depressive burden will depend not only on clinical innovation but also on institutional accountability, workforce development, and culturally responsive health governance. The path forward requires alignment of scientific rigor with systemic reform to ensure that depression care in Pakistan is accessible, contextually grounded, and equitable.

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