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ORIGINAL ARTICLE

Redefining Multidisciplinary Care: Evidence-Based Approaches for Advanced Healthcare and Rehabilitation

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ABSTRACT

Advanced healthcare and rehabilitation increasingly require coordinated multidisciplinary approaches to address complex, chronic, and disabling conditions.

The objective of this paper was to review evidence-based multidisciplinary care (MDC) models, with specific emphasis on Indian studies relevant to healthcare and rehabilitation sciences.

A narrative review of Indian and global literature was conducted using PubMed, Scopus, and Google Scholar. Studies focusing on multidisciplinary healthcare, rehabilitation, chronic disease management, and integrated care in Indian settings were included.

Indian studies demonstrate that MDC improves clinical outcomes, functional recovery, patient adherence, and continuity of care. Lifestyle-based multidisciplinary interventions reduced progression to diabetes by nearly 30%, while integrated PCOS and mental health models enhanced comorbidity detection and service utilization. Rehabilitation-oriented team models improved functional outcomes and long-term self-management.

Multidisciplinary care represents an effective and scalable strategy for advanced healthcare and rehabilitation in India. Strengthening interprofessional collaboration, digital integration, and community-based rehabilitation is essential for sustainable impact.

KEYWORDS

• Multidisciplinary care • Rehabilitation sciences • Integrated healthcare • Indian studies • Evidence-based practice

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INTRODUCTION

The rising prevalence of chronic diseases, functional impairments, and complex psychosocial conditions presents a significant challenge to modern healthcare systems. Traditional single-discipline approaches are increasingly insufficient to address the multidimensional needs of patients requiring long-term care and rehabilitation. Consequently, healthcare systems worldwide are shifting toward integrated and collaborative models of service delivery.

Multidisciplinary Care (MDC) is a structured, collaborative approach that integrates medical, rehabilitation, psychological, and social expertise to deliver coordinated, patient-centred care. Rather than functioning in isolation, professionals work collectively to ensure comprehensive management of health conditions. This approach aligns with global frameworks advocating integrated, people-centred health services and has become central to chronic disease management and rehabilitation sciences.

In India, rapid epidemiological transition, increasing non-communicable diseases (NCDs), disability burden, and growing mental health awareness necessitate structured multidisciplinary models. Embedding MDC across primary, secondary, and tertiary levels of care is critical for strengthening healthcare delivery and improving rehabilitation outcomes. This paper explores the principles, Indian evidence base, and implementation pathways of multidisciplinary care in advanced healthcare and rehabilitation sciences.

METHODS

A narrative review methodology was adopted. Literature published between 2000 and 2024 was retrieved from peer-reviewed databases, including PubMed, Scopus, and Google Scholar.

Inclusion criteria comprised:

Indian empirical studies

Policy reports

Systematic reviews addressing multidisciplinary or integrated healthcare and rehabilitation.

Grey literature from national health programs was also reviewed. Findings were synthesized thematically across healthcare domains and outcome categories.

RESULTS

Indian Evidence on Multidisciplinary Care

Indian studies demonstrate consistent benefits of multidisciplinary approaches across chronic disease management and rehabilitation settings.

The Indian Diabetes Prevention Programme reported a 28.5% relative risk reduction in diabetes progression through multidisciplinary lifestyle intervention ($p \leq 0.05$).

Integrated PCOS clinics identified metabolic comorbidities in approximately 35–40% and psychological distress in 25–30% of patients, improving comprehensive management.

Community-based mental health programs using multidisciplinary and task-sharing models showed up to a twofold increase in service utilization.

Table 1: Summary of Indian Studies on Multidisciplinary Care

Author (Year)	Study Design	Setting	Health Condition / Focus	Key Findings
Ramachandran *et al.* (2006)[9]	Randomized controlled trial	Community-based (India)	Prediabetes prevention	Multidisciplinary lifestyle intervention significantly reduced progression to type 2 diabetes
Joshi *et al.* (2020)[8]	Observational cohort study	Tertiary care hospital	Polycystic Ovary Syndrome (PCOS)	Integrated MDC improved identification of metabolic and psychological comorbidities
Rao *et al.* (2023)[7]	Health systems analysis	National-level (India)	Integrated healthcare delivery	Indian Model of Integrated Healthcare improved continuity and coordination of care
Patel *et al.* (2018)[10]	Commission report & mixed methods	Community & national	Mental health care	Multidisciplinary and task-sharing approaches improved access and outcomes
Agarwal *et al.* (2015) [11]	Systematic review	Community & primary care	Digital health integration	mHealth-supported MDC enhanced service delivery in low-resource

Outcomes Relevant to Rehabilitation Sciences

Multidisciplinary approaches were associated with: Improved functional recovery and self-management

Treatment adherence rates of approximately 70%

Enhanced patient engagement

Improved continuity of care

Table 2: Outcomes of Multidisciplinary Care in Indian Studies

Outcome Domain	Indicators Measured	Evidence from Indian Studies
Clinical outcomes	Glycemic control, symptom reduction, comorbidity detection	Significant improvement in metabolic parameters and early diagnosis of comorbidities [8,9]
Patient-centred outcomes	Quality of life, satisfaction, adherence	Improved patient engagement and treatment adherence in MDC models [8,10]
Health system outcomes	Continuity of care, service utilization	Reduced fragmentation and better referral linkages reported in integrated models [7]
Preventive outcomes	Disease progression, lifestyle modification	Effective prevention of diabetes and NCD progression through team-based care [9]
Access to care	Reach, affordability, equity	Community-based multidisciplinary mental health programs improved access in underserved populations [10]

Multidisciplinary Team Composition

Rehabilitation-oriented MDC models commonly include:

Physicians
Physiotherapists
Occupational therapists
Psychologists
Nurses
Dietitians
Community health workers

Clear role delineation and effective interprofessional communication were identified as key determinants of success.

Table 3: Multidisciplinary Team Composition in Indian Healthcare and Rehabilitation

Healthcare Setting	Disciplines Involved	Primary Roles
Tertiary care hospitals	Physicians, nurses, psychologists, dietitians, physiotherapists	Diagnosis, treatment planning, rehabilitation, counselling
PCOS specialty clinics	Gynecologists, endocrinologists, dermatologists, nutritionists, mental health professionals	Comprehensive management of reproductive, metabolic, and psychological aspects[8]
Community NCD programs	Medical officers, dietitians, exercise specialists, health educators	Lifestyle modification, disease prevention, follow-up care[9]
Mental health services	Psychiatrists, psychologists, social workers, community health workers	Assessment, therapy, community outreach, stigma reduction[10]
Digital health–enabled care	Clinicians, IT specialists, data managers, community workers	Care coordination, monitoring, teleconsultation, data integration[11]

DISCUSSION

Evidence from Indian healthcare settings supports the effectiveness of multidisciplinary care in improving clinical, preventive, and rehabilitation outcomes. The findings align with global integrated care frameworks emphasizing collaborative, patient-centred approaches.

Indian MDC models demonstrate adaptability through:

Task-sharing strategies

Community-based rehabilitation

Digital health integration

However, implementation challenges remain, including limited interprofessional training, workforce constraints, and inconsistent institutional adoption. Strengthening policy-level integration of multidisciplinary frameworks within national healthcare and rehabilitation systems is essential to address these gaps.

Implications for Advanced Healthcare and Rehabilitation

Rehabilitation-centred care pathways should integrate physical, psychological, and social components.

Interprofessional education must be strengthened within rehabilitation sciences curricula.

Digital health platforms should be leveraged for monitoring, follow-up, and care coordination.

Community-based rehabilitation models should be scaled to improve access and equity in underserved populations.

6. LIMITATIONS

This review included heterogeneous study designs and limited randomized rehabilitation trials. There is a need for more longitudinal and controlled research focusing specifically on functional and rehabilitation-related outcomes in Indian settings.

CONCLUSION

Multidisciplinary care is an evidence-based and patient-centred strategy that enhances advanced healthcare and rehabilitation outcomes. Indian evidence supports its effectiveness across chronic disease management, mental health services, and rehabilitative care delivery. Strategic policy support, structured interprofessional collaboration, and digital integration are essential for scaling multidisciplinary care within India's healthcare system.

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