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Review

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Community based rehabilitation in a developing country: A descriptive analysis of gaps, challenges and opportunities for implementation

Taslim Uddin[1], Md. Akhtaruzzaman[2], Fatema Newaz[3], Arafatur Rahman[4], Abul Kalam Azad[5]

[1]Department of Physical Medicine and Rehabilitation, Bangladesh Medical University, Dhaka, Bangladesh
[2]Directorate General of Health Services, Non Communicable Disease Control Program, Dhaka, Bangladesh
[3]Department of Physical Medicine and Rehabilitation, Kumudini Medical College Hospital, Tangail, Bangladesh
[4]Directorate General of Health Services, Planning, Monitoring & Research, Dhaka, Bangladesh
[5]Department of Physical Medicine and Rehabilitation, Bangladesh Medical University, Dhaka, Bangladesh

Abstract

Objectives: Despite policy commitments to disability inclusion, access to rehabilitation in Bangladesh remains limited, particularly among rural and low-income populations. Rising non-communicable diseases, population ageing, and refugee-related service pressures intensify demand for long-term accessible rehabilitation services. Community-based rehabilitation (CBR) offers a system-level strategy to improve equitable access; however, implementation remains fragmented and insufficiently integrated into national health planning. In this review, we discuss the current status of CBR in Bangladesh, identifies system gaps, and outlines policy priorities for scale-up.

Materials and methods: A descriptive mixed-methods design combined a narrative review of national policies, World Health Organization (WHO) position papers, and reports from government, non-governmental organizations (NGO), with semi-structured key informant interviews involving policymakers, rehabilitation professionals, NGO representatives, and community service providers. Data were mapped to the WHO's six health-system building blocks and analyzed thematically to assess healthcare infrastructure, workforce, financing, service delivery, governance, and assistive technology.

Results: Rehabilitation resources in Bangladesh remained centralized and underfunded with less than 1% of the health budget allocated to rehabilitation and critical shortages of trained personnel concentrated in urban centers. Existing CBR programs were predominantly NGO-driven with heterogeneous models, limited geographic coverage, and weak linkage to primary healthcare. Governance fragmentation, absence of a national CBR policy, inadequate disability data systems, and limited assistive technology provision further constrained implementation. However, opportunities existed to leverage 13,000 community clinics, task-sharing approaches by partner organizations, and tele-rehabilitation to expand services.

Conclusion: Community-based rehabilitation in Bangladesh is implementable, despite being constrained by weak policy integration, limited human resource capacity, and fragmented governance. A national CBR policy aligned with universal health coverage is needed to embed rehabilitation within primary healthcare, develop a regulated workforce with task-sharing models, strengthen assistive technology systems, and establish sustainable financing mechanisms. Coordinated multi-sectoral governance and public-private partnerships are essential to scale equitable, community-level rehabilitation and support long-term health system resilience.

Keywords: Bangladesh, community-based rehabilitation, developing country, primary healthcare, public-private partnership, rehabilitation, task-sharing.

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Correspondence: Taslim Uddin, MD. Department of Physical Medicine and Rehabilitation, Bangladesh Medical University, Dhaka. Bangladesh.

E-mail: taslimpmr@gmail.com

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Bangladesh has made notable progress in selected public health indicators over recent decades; however, these gains have not translated into equitable access to rehabilitation services for persons with disabilities (PWDs), particularly in rural communities. Despite improvements in maternal health, infectious disease control, and life expectancy, Bangladesh remains off track in achieving several health-related Sustainable Development Goals (SDGs) by 2030.[1] Persistent structural challenges, including limited public health financing, political instability, recurrent natural disasters, and governance inefficiencies, continue to constrain the development of an integrated and equitable health system.[1]

Healthcare access in Bangladesh is characterized by pronounced geographic and socioeconomic disparities. Approximately 87,000 villages, many located in remote and low-lying regions with limited transportation infrastructure, are home to nearly 70% of the population.[2] Most rural residents rely on daily wage labor, making travel to urban centers for medical or rehabilitation services economically prohibitive. These barriers disproportionately affect individuals requiring ongoing care, including those living with stroke, cardiovascular disease, diabetes, spinal cord injury, and other chronic conditions affecting adults and marginalized populations. Inadequate follow-up and the absence of decentralized rehabilitation services contribute to preventable complications, functional decline, and avoidable disability among children, older adults, and PWDs.

Bangladesh is also undergoing a rapid epidemiological and demographic transition that intensifies demand for rehabilitation and long-term care. Currently, non-communicable diseases (NCDs) account for 67% of all deaths, with nearly one in five adults aged 30 to 70 years at risk of premature mortality due to NCDs.[3] By 2025, approximately 10% of the population will be aged 60 years or older, further increasing the need for accessible rehabilitation, assistive technologies, and community-based care models.[4] The protracted influx of Rohingya refugees has added additional strain on already limited community-level health and rehabilitation services, exposing weaknesses in service coordination and system resilience.[5]

Community-based rehabilitation (CBR) offers a strategic approach to addressing these gaps. Starting in 1974, CBR is a multi-sectoral development strategy designed to enhance the functioning, participation, empowerment, and social inclusion of PWD and their families through coordinated interventions across health, education, livelihood, social inclusion, and empowerment domains.[6-8] When embedded within national health planning, CBR enables task-sharing, strengthens referral pathways, and leverages local resources to extend rehabilitation services to underserved populations.

Global policy frameworks increasingly recognize rehabilitation as an essential component of health systems. The World Health Organization (WHO) resolution on Strengthening Rehabilitation and the Rehabilitation 2030 initiative advocate for the integration of rehabilitation across all levels of care, explicitly acknowledging CBR as a mechanism to improve equity and access.[9] In Bangladesh, however, CBR implementation remains fragmented, largely driven by non-governmental organizations (NGOs) through short-term, charity-based initiatives with limited geographic coverage and weak integration into national systems.[10,11]

In this review, we discuss the current landscape of CBR in Bangladesh, identify structural gaps using the WHO health system building blocks as an analytical framework, and highlight opportunities for strengthening and scaling CBR implementation. By integrating stakeholder insights, we inform health planning and support the development of sustainable, system-level rehabilitation strategies applicable to Bangladesh and comparable low- and middle-income countries (LMICs).

MATERIALS AND METHODS

We employed a descriptive mixed-methods design to assess the current status, system-level gaps, and implementation opportunities for CBR in Bangladesh. A convergent approach integrated findings from document review and qualitative key informant interviews (KIIs), enabling

triangulation of policy intent and implementation experience in a context with limited peer-reviewed evidence.

A written informed consent was obtained from each participant. The study protocol was approved by the Institutional Review Board (IRB) of Bangabandhu Sheikh Mujib Medical University (Date: 28.04.2023, Registration No. 267). The study was conducted in accordance with the principles of the Declaration of Helsinki.

Search strategy

A narrative, policy-oriented document review was conducted between July 2024 and June 2025 to examine existing disability and rehabilitation policies, strategies, and CBR programs in Bangladesh. Due to the scarcity of empirical studies on CBR, the review prioritized grey literature, including national laws, sectoral policies, government reports, evaluations of NGO and donor programs, and technical guidance documents.

Information obtained from government repositories, organizational websites, and international agencies, including the WHO, the World Bank, and the International Labour Organization. Documents were included if they addressed disability, rehabilitation services, health system organization, workforce development, health financing, assistive technologies, or community-based service delivery. A standardized data extraction matrix captured document scope, objectives, and key findings. Extracted data were organized and analyzed using the WHO health system building blocks framework to facilitate systematic comparison across system components.

Key informant interviews

Semi-structured KIIs were conducted with a purposive sample of stakeholders involved in CBR policy development, planning, service delivery, financing, or evaluation. Participants included policymakers, public health officials, rehabilitation professionals, NGO representatives, and community-based service providers.

An interview guide was developed based on the WHO's six health system building blocks[12] including service delivery, health workforce, health information systems, access to essential medicines and assistive technologies, health financing, and leadership and governance. Interviews explored perceived strengths, implementation barriers, coordination mechanisms, and opportunities for integrating and scaling CBR within existing health and social systems. Interviews were conducted face-to-face, audio-recorded with consent, and transcribed verbatim. This document integrates KII findings with existing literature, organized in line with the WHO Health System Framework.

Data analysis and framework alignment

Data from the document review and KIIs were analyzed using thematic analysis. An initial deductive framework based on the WHO health system building blocks was applied and refined inductively to capture context-specific themes. Findings were triangulated to identify convergence and divergence between policy design and implementation practice.

Synthesized results were mapped against global rehabilitation frameworks, including World Health Assembly Resolution 76.6, the WHO Rehabilitation 2030 initiative,[13] and the Package of Rehabilitation Interventions,[14] to assess alignment and identify system-level gaps relevant to scaling CBR in Bangladesh.

RESULTS

Health system context and rehabilitation readiness

The healthcare system of Bangladesh operates through a complex multi-sectoral arrangement involving government institutions, the private sector, NGOs, and donor agencies. While the country has achieved incremental population health gains reflected in a life expectancy of 72.3 years and a Universal Health Coverage (UHC) service coverage index of 52, the system remains structurally weak and underfinanced, particularly for rehabilitation.[15] Less than 1% of the national health budget is allocated to health and rehabilitation services, indicating a persistent misalignment between population health needs and resource allocation.[16] This underinvestment constrains service availability,

workforce development, and system integration, limiting Bangladesh's readiness to operationalize rehabilitation as part of UHC.

Governance structure and primary healthcare platform

The Ministry of Health and Family Welfare (MOHFW) is the principal authority for health service delivery, operating through the Directorate General of Health Services and the Family Planning wing, while urban primary care falls under the Ministry of Local Government, Rural Development and Cooperatives.[17,18] This fragmented governance structure complicates integrated planning for rehabilitation across the care continuum.

A major structural strength is the nationwide network of more than 13,000 community clinics, each designed to serve approximately 6,000 individuals, with good examples of private-public partnerships.[18,19] These clinics function as the backbone of primary healthcare (PHC) delivery and employ a participatory governance model involving community land contribution and management. However, findings indicate that rehabilitation services are almost absent at this level, representing a missed opportunity to integrate CBR within an existing PHC platform capable of supporting early identification, referral, follow-up, and basic rehabilitation interventions at the doorstep of the community.

Workforce and rehabilitation capacity constraints

Rehabilitation capacity in Bangladesh is severely constrained by workforce shortages, skill-mix imbalances, and urban concentration. Approximately 75% of physicians, nurses, and technologists are based in urban areas, leaving rural and peripheral facilities chronically understaffed.[19] Vacancy rates are particularly high at the frontline, with 62% of Family Welfare Visitor posts unfilled.

Table 1 demonstrates a pronounced mismatch between overall health workforce numbers and rehabilitation-specific capacity. Despite large numbers of general physicians and nurses, the country employs fewer than 200 government physiatrists, with services largely confined to tertiary medical colleges and selected district hospitals.[20] Among the allied rehabilitation professionals, occupational therapists, speech and language therapists, prosthetists and orthotists, and rehabilitation nurses are critically scarce and predominantly urban-based.[21,22] Furthermore, the unregulated, heterogeneous production of physiotherapists has led to role ambiguity and governance challenges.

As shown in Table 2, rehabilitation infrastructure, training institutions, assistive technology (AT) provision, and professional regulation remain fragmented and

Table 1. Current Health workforce in Bangladesh[18]

Available Registered HWF in the country		HWF under MOHFW	
MBBS	93,051	Physicians	26,619
Nurses	83,376	Nurses	35,828
Technologists			
Lab technology	13,896		
Dental technology	4,536		
Physiotherapy	2,848		
Occupational therapy	246		
Prosthetics and orthotics	40		
BDS	11,573	Dentists	829
DMF	23,374	Sub-Assistant Community Medical Officer (SACMO)	7,927
Family Welfare Visitor	7,211	Midwifes	1,145
Homeopathic, Ayurvedic, and Unani	55,000 approx.	Alternating Medical care providers	1,053
Skilled Birth Attendant	9303		

HWF, helath work force; MOHFW, Ministry of Health and Family Welfare; MBBS, bachelor of medicine and bachelor of surgery; BDS, bachelor of dental surgery; DMF, diploma medical faculty.

Table 2. Current status of rehabilitation infrastructure

Domain	Current status
Rehabilitation centers (Govt)	PMR units in the University Hospital, major medical colleges, and selected district hospitals
Rehabilitation centers (NGO/Private)	CRP, BRAC, CDD, Friendship, and others; donor-supported
Assistive technology infrastructure	Limited, sporadic distribution via NGOs and pilot government projects
Training institutions (PMR)	PMR MD/MS programs in four public medical colleges
Training institutions (Therapists)	Diploma/BSc/MSc programs in selected public/private institutions
Professional regulation	Bangladesh Rehabilitation Council was formed, but is not fully operational

NGO, non-governmental organizations, PMR, Physical Medicine and Rehabilitation; CRP, centre for the rehabilitation of paralyzed; BRAC, Bangladesh Rural Advancement Committee; CDD, centre for the disability development.

Table 3. Summary of Key Informant Interviews on CBR Implementation in Bangladesh

Stakeholder	Role/Involvement in disability or CBR	Types of CBR services	Main gaps in implementation	Opportunities for strengthening CBR	Challenges in implementing CBR	Recommendations to improve CBR
CDD	Capacity building, mobile/home-based rehab, inclusive development, and advocacy.	Inclusive education, livelihood training, mobile rehab, assistive devices, awareness, capacity building.	Lack of trained workforce, weak policy integration, poor stakeholder coordination, lack of rehab services in govt hospitals.	Integration with government systems, NGO-Govt partnerships, digital platforms.	Infrastructure barriers, underfunded services, device shortage, stigma.	National CBR policy, budget, cross-sector coordination, awareness campaigns.
NCDC	Coordinates and supervises disability services under DGHS.	Inclusive and disability-friendly healthcare services.	Workforce shortage, weak policy/ governance, low funding and engagement.	Government commitment, GO-NGO collaboration.	Stigma, weak referral systems, lack of multi-sector coordination.	Effective leadership, PPP models, community engagement.
DRRA	Rights-based CBR model promoting CBID and advocacy.	All 5 domains of CBR matrix; emphasizes inclusion, partnership, sustainability.	Workforce shortage, stigma, policy gaps, funding issues, poor M&E/data.	Legal/policy support, PHC integration, youth engagement, disability movement.	Stakeholder fragmentation, stigma, weak monitoring, poor infrastructure.	National curriculum, workforce training, policy integration, data systems, inclusive policy participation.
JPUF	Government agency under MoSW ensuring social rehab via legal mandates.	Rehab aligned with WHO CBR matrix and national laws; supports IGA, community-based rehab.	Lack of rehab centers at union level, weak CBR training for medical interns, fragmented MDT approach.	Collaboration between BRC and BM&DC, licensing health professionals under both.	Physician dominance, lack of integration, poor rural access.	Specialized rehab degrees (e.g. MD/FCPS), rehab in govt health setups, mobile rehab, MDT teams.
CRP	Pioneer in holistic, person-centered disability rehab and CBR since 1996.	Health, inclusive education, livelihood (TVET & IGA), social inclusion, empowerment.	No national CBR policy; donor-dependent funding; workforce shortage; weak coordination; data gaps; gender-based exclusion.	Integration into govt policy, local govt and DPO support, SDG/CRPD alignment, digital tools, youth/women empowerment.	Policy vacuum, medical dominance, stigma, inaccessible infrastructure, lack of govt funding, poor data systems.	National CBR policy, funding allocation, inclusive infrastructure, workforce capacity-building, awareness campaigns, textbook reform, empowerment training, national disability database.

CBR, community-based rehabilitation; NGO, non-governmental organizations; CDD, Centre for Disability in Development; DGHS, directorate general of health services; GO, government organizations; PPP, public-private partnership; NCDC, Non-Communicable Disease Control; CBID, community based inclusive development; PHC, primary healthcare; DRRA, disabled rehabilitation and research association; MoSW, Ministry of Social Welfare; WHO, The World Health Organization; IGA, income generating activity; MDT, multidisciplinary team; BRC, Bangladesh Rehabilitation Council; BM&DC, Bangladesh Medical and Dental Council; CRP, Centre for the Rehabilitation of Paralyzed; FCPS, Fellow of the College of Physicians and Surgeons; JPUF, Jatiyo Protibondhi Unnayan Foundation; TVET, Technical and Vocational Education Training; DPO, Disabled Person Organization; SDG, Sustainable Development Goals; CRPD, Convention on the Rights of the Persons with Disability.

underdeveloped. These constraints collectively undermine Bangladesh's capacity to implement the WHO Rehabilitation 2030 agenda and to scale CBR beyond isolated projects.

Role of NGOs and the private sector

Non-governmental organizations play a disproportionately large role in delivering community-level health and rehabilitation services, with over 2,500 registered organizations implementing health-related programs nationwide.[23] They often fill service gaps through outreach, mobile clinics, and disability-inclusive programming; however, coordination with public sector systems remains weak. Public-private partnership (PPP) models exist but lack local task shifting, crowdfunding, and beneficiary involvement, robust regulatory frameworks, long-term financing mechanisms, and performance monitoring.[19,24] High out-of-pocket expenditure 72.99% of total health spending further limits access to rehabilitation and exacerbates inequities.[25]

Disability and rehabilitation policy landscape

In Bangladesh, despite a growing disability burden reflected in a 10.58% increase in crude disability prevalence between 2022 and 2023 rehabilitation remains weakly prioritized within national health policy.[26] While legislative instruments such as the Rights and Protection of Persons with Disabilities Act (2013) and the PWD Welfare Act (2001) provide a legal foundation,[27] implementation gaps persist, particularly regarding empowerment, service delivery, and PHC integration.

Public-sector rehabilitation services are largely hospital-centric, with limited multidisciplinary practice and minimal linkage to PHC or UHC mechanisms.[28] The establishment of the Bangladesh Rehabilitation Council represents progress toward professional regulation, but operationalization remains incomplete.[29] NGO contributions are substantial yet insufficiently integrated into national planning frameworks.[23,30]

Current status of CBR implementation

Community-based rehabilitation in a limited scale is delivered through a fragmented mix of government led initiatives and NGO-driven programs. The Ministry of Social Welfare oversees CBR through partnerships with the Centre for Disability in Development (CDD) and Jatiyo Protibondhi Unnayan Foundation (JPUF), while innovative service delivery models such as mobile therapy units and floating hospitals extend services to remote areas.[17,31] In addition, NGO-led programs, including Bangladesh Rural Advancement Committee (BRAC), Centre for the Rehabilitation of Paralyzed (CRP), Friendship, Enable Bangladesh, address multiple CBR matrix domains, including health, education, livelihood, and empowerment[32-34] in a limited and fragmented way.

Table 3 summarizes systemic challenges reported by key stakeholders, including the absence of a national CBR policy, workforce shortages, weak governance, poor data systems, beneficiary engagements, and fragmented financing. These findings are synthesized in Box 1, which maps core implementation barriers against actionable system-level recommendations. Accordingly, while Bangladesh possessed a rich ecosystem of CBR actors, the absence of coordinated health planning, financing, and governance mechanisms prevented CBR from functioning as an integrated component of the national rehabilitation system.

DISCUSSION

Community-based rehabilitation was developed to address the limitations of institution-based care and is increasingly recognized as a necessary strategy to reduce inequities in access to rehabilitation in LMICs. In developing countries, it primarily benefits PWD, their families, and the broader community through strengthened inclusive systems and locally driven support mechanisms. Persons with disabilities benefit from improved access to mobility, rehabilitation services, and participation opportunities, while families gain knowledge and skills to provide home-based support and facilitate inclusion. Community-based rehabilitation also enhances community awareness and reduces stigma by engaging local volunteers and community

members in inclusive practices. Schools and teachers benefit from capacity-building initiatives that promote inclusive education for children with developmental and learning disabilities, whereas employers and local businesses are supported to create livelihood opportunities through skills development and job placement. Community leaders and grassroots organizations further contribute by fostering inclusive social participation, and community health workers play a critical role in early identification, referral, and basic rehabilitation support.

In Bangladesh, where rurality, poverty, dense population and workforce shortages constrain service delivery, CBR remains essential but insufficiently integrated into the health system. Consistent with the CBR management cycle situation analysis, planning, implementation, and evaluation this study identifies partial progress alongside persistent system-level gaps across health, social inclusion, and governance domains.[35,36]

From an implementation feasibility perspective, Bangladesh possesses several enabling conditions for CBR expansion, including innovative service delivery models such as mobile therapy units, local task shifting, crowdfunding and social business approaches that have demonstrated reach, community acceptance, and financial viability in resource poor settings.[17,19] However, feasibility is constrained by critical workforce shortages, particularly in rehabilitation and mental health, with only 1.17 mental health workers per 100,000 population.[28] Despite the presence of over 13,000 community clinics, the absence of trained personnel, defined rehabilitation roles, and referral mechanisms limits operational readiness at the PHC level.[18]

In terms of scalability, stakeholder findings reinforce earlier calls to integrate rehabilitation into PHC.[36] Community health workers affiliated with BRAC and JPUF have shown potential to support outreach and follow-up,[32,37] yet their roles in structured rehabilitation remain underutilized. Scaling CBR will require systematic task-sharing, standardized training, and formal integration within existing PHC platforms. Similarly, AT provision, currently fragmented and largely NGO-led, presents scalability challenges. While user satisfaction with devices has been reported, systemic issues related to sizing, maintenance, and continuity persist,[38] underscoring the need for a coordinated national AT strategy. Public-private partnerships can enhance the reach, quality, and sustainability of CBR by integrating government policy and outreach with private funding, technology, and specialized training.[19] Task shifting enables trained community workers, teachers, and family members to provide basic rehabilitation services under periodic supervision by specialists, thereby expanding coverage and maintaining continuity despite limited professional resources. Concurrently, local crowdfunding mobilizes small contributions from community members, businesses, and social institutions to support assistive devices, accessibility modifications, and low-cost rehabilitation activities. Taken together, these strategies foster community ownership, reduce reliance on centralized systems, and promote scalable, sustainable improvements in rehabilitation outcomes at the grassroots level.[37]

Sustainability remains the most significant challenge. Although rights-based legislation such as the Rights and Protection of Persons with Disabilities Act (2013) and the Mental Health Act (2018) provides a legal foundation, implementation is undermined by weak inter-ministerial coordination, limited budgetary allocation, inadequate data systems, and low awareness of entitlements.[35,36] Structural barriers including stigma, inaccessible infrastructure, and limited employment pathways continue to restrict long-term social and economic inclusion, particularly for women with disabilities and wheelchair users. Aligning rehabilitation planning with the WHO's International Classification of Functioning, Disability and Health (ICF) and the Rehabilitation 2030 agenda is essential to strengthen monitoring, accountability, and system coherence.[13,38]

These multi-level benefits highlight CBR as a practical strategy to address service gaps, strengthen community participation, and improve access to rehabilitation within resource-constrained settings. Such an integrated approach aligns with existing

evidence demonstrating that CBR improves inclusion, participation, and access to services by linking health, education, livelihood, and social components, while addressing implementation gaps in LMICs.[39]

Policy implications

To translate feasibility into scale and sustainability, Bangladesh requires a national CBR policy integrated within UHC and broader health system planning. Priority actions include: (1) embedding basic rehabilitation services and referral pathways within community clinics; (2) developing a national rehabilitation workforce strategy with regulated cadres and task-sharing models which enables trained community workers, teachers, and family members to provide basic rehabilitation services under periodic supervision by specialists, thereby expanding coverage and maintaining continuity despite limited professional resources; (3) establishing a national AT policy with financing, procurement, and maintenance mechanisms; and (4) strengthening governance through a multi-sectoral coordination body aligned with Convention on the Rights of Persons with Disabilities, SDGs, and Rehabilitation 2030. Leveraging formal partnerships with experienced NGOs and expanding tele-rehabilitation can further enhance reach and efficiency.

In conclusion, a national, policy-driven approach is required to transition CBR in Bangladesh from fragmented, NGO-led initiatives to an integrated component of the health system. Priorities include establishing a national CBR policy aligned with UHC, embedding basic rehabilitation services within PHC, developing a regulated workforce with task-sharing models, and creating sustainable financing and AT strategies. Strengthened multi-sectoral governance, coordinated public private partnerships, and integrated data and referral systems are essential to scale equitable, community-level rehabilitation and ensure long-term system sustainability.

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Data Availability

The datasets generated and/or analyzed during the current study are available from the corresponding author on reasonable request.

AI Disclosure

The authors declare that artificial intelligence (AI) tools were not used, or were used solely for language editing, and had no role in data analysis, interpretation, or the formulation of conclusions. All scientific content, data interpretation, and conclusions are the sole responsibility of the authors. The authors further confirm that AI tools were not used to generate, fabricate, or 'hallucinate' references, and that all references have been carefully verified for accuracy.

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