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Clinical Applications of Eye Movement Desensitization and Reprocessing (EMDR): Global Evidence, African Adaptations, and Implications for Cameroon

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ABSTRACT

Eye movement desensitization and reprocessing (EMDR) is an evidence-based treatment for posttraumatic stress disorder (PTSD), yet its global research distribution and applicability in low-resource settings remain uneven. This review synthesized 65 empirical studies examining EMDR across diagnostic categories and geographic contexts, with specific attention to African and Cameroonian evidence. High-quality randomized controlled trials conducted primarily in high-income European countries, including the Netherlands, support EMDR as a first-line treatment for PTSD and as a transdiagnostic, memory-focused intervention. Evidence extends to complex trauma and selected non-PTSD conditions. Geographic asymmetry characterizes the literature. African studies are limited in number and methodological rigor. Structural inequities in funding, training access, and publication visibility likely contribute to this disparity. Emerging research from Cameroon demonstrates feasibility and signals potential effectiveness but remains preliminary. Group protocols and supervised task-shifting models show promise for scaling EMDR delivery in resource-constrained contexts. Rigorous feasibility, implementation, and randomized trials are needed to strengthen the regional evidence base. Expanding contextually grounded EMDR research in Cameroon and across Africa represents both a scientific priority and an equity imperative in global mental health.

KEYWORDS: *EMDR therapy, posttraumatic stress disorder, Cameroon, cultural adaptation, narrative review.*

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INTRODUCTION

Background

Trauma- and stress-related mental health conditions constitute a major and persistent global public health concern. Exposure to violence, armed conflict, natural disasters, accidents, and interpersonal trauma affects millions annually and contributes substantially to the global burden of post-traumatic stress disorder (PTSD), depression, anxiety, and related psychosocial morbidities (World Health Organization [WHO], 2022). Psychological distress often remains untreated, particularly in low-resource settings. Untreated trauma-related conditions are associated with functional impairment, socioeconomic instability, chronic physical illness, and elevated mortality risk, including suicide (American Psychological Association [APA], 2025). These consequences exert sustained pressure on health systems that already face limited specialist mental health capacity.

Eye Movement Desensitization and Reprocessing (EMDR) is a structured, eight-phase psychotherapy developed to facilitate adaptive processing of distressing memories through bilateral stimulation, typically in the form of guided eye movements (APA, 2025). Since its development in the late 1980s, EMDR has evolved from a trauma-specific intervention into a widely studied modality with expanding clinical scope. Theoretical models propose that maladaptively stored memories contribute to persistent emotional and cognitive dysregulation. EMDR aims to reprocess these memory networks to

reduce symptom intensity and restore adaptive functioning (Scelles & Bulnes, 2021).

Global Evidence on EMDR Clinical Applications

Evidence supporting EMDR for PTSD is extensive. More than 30 randomized controlled trials (RCTs) have demonstrated its efficacy in adults and children (de Jongh et al., 2024). Major international guidelines, including those from the WHO, the APA, and the United Kingdom's National Institute for Health and Care Excellence (NICE), recommend EMDR as an empirically supported intervention for PTSD (Beauvais et al., 2026). Meta-analytic findings confirm that EMDR reduces PTSD symptoms significantly relative to control conditions and performs comparably to trauma-focused cognitive behavioral therapy (TF-CBT) (Lepri, 2025; Yunitri et al., 2020). Several trials indicate that symptom reductions can occur within relatively few sessions, suggesting potential efficiency advantages in time-limited contexts (Beauvais et al., 2026).

Beyond PTSD, research has explored EMDR applications across a range of conditions in which maladaptive memory processing appears to maintain symptomatology. Systematic reviews report moderate effect sizes for anxiety and panic disorders (Yunitri et al., 2020). Meta-analytic evidence suggests significant reductions in depressive symptoms following EMDR, particularly in severe presentations (Seok & Kim, 2024). Emerging studies also examine applications in persistent complex bereavement disorder, chronic pain, personality disorders, and somatic symptom presentations (Hofman et al., 2025; Spicer, 2024). These findings suggest potential transdiagnostic utility when traumatic or emotionally charged memories contribute to symptom expression (Scelles & Bulnes, 2021).

Nevertheless, the evidentiary strength varies considerably across diagnostic categories. Studies addressing non-PTSD conditions frequently demonstrate methodological heterogeneity, smaller samples, and limited follow-up periods (Yunitri et al., 2020). Protocol adaptations differ across studies, complicating cross-trial comparison. Consequently, while EMDR is established for PTSD, its broader transdiagnostic application remains an area of active empirical development rather than settled consensus (Scelles & Bulnes, 2021). This variability underscores the importance of context-sensitive evaluation before clinical integration into new settings.

Regional Context: Africa

The African continent experiences substantial exposure to conflict, displacement, poverty-related stressors, infectious disease burden, and humanitarian crises. These structural conditions contribute to elevated trauma exposure and psychological distress (Igbokwe et al., 2024; Musisi & Kinyanda, 2020). Despite this burden, access to specialized evidence-based psychotherapies remains limited in many regions due to workforce shortages, financing constraints, and centralized service models.

Research on EMDR within African settings is expanding but remains limited relative to high-income countries. Regional initiatives, including professional networks such as the EMDR Africa Association and continent-wide conferences, reflect growing professional engagement and capacity building (EMDR Africa, n.d.; EMDR Africa Conference, 2025). Empirical studies conducted in African populations, including work with orphaned children exposed to trauma in Kenya, indicate that both standard and adapted EMDR protocols may reduce trauma symptoms (Nduku et al., 2022).

African scholarship emphasizes that effective implementation requires cultural and contextual adaptation rather than direct transplantation of Western protocols (Mbazzi et al., 2021). A qualitative study involving therapists from five African countries identified recurrent themes in adaptation practices. Clinicians reported modifying language to align with collectivist communication norms, incorporating culturally resonant resources such as music, prayer, or communal rituals, and frequently substituting eye movements with tactile bilateral stimulation when eye movements were culturally unfamiliar or uncomfortable (Mbazzi et al., 2021). These adaptations highlight the importance of embedding EMDR within local explanatory models of distress and community support systems.

Although preliminary findings suggest feasibility and potential effectiveness, African evidence remains characterized by small-scale studies and limited controlled trials. Systematic investigation of implementation feasibility, outcome durability, and adaptation fidelity remains insufficient. These gaps constrain generalizability across the continent's diverse sociocultural contexts.

Local Evidence: Cameroon

Cameroon faces a growing burden of common mental health disorders, including depression, anxiety, and PTSD (Ngwa et al., 2024). Sociopolitical instability, armed conflict in certain regions, displacement, and structural health system limitations exacerbate psychological vulnerability. Healthcare workers and civilians alike experience elevated exposure to trauma. A recent systematic review reported high prevalence rates of mental health conditions among students, teenage mothers, and people living with HIV (Ngwa et al., 2024).

Mental health services in Cameroon remain under-resourced and centralized, with limited numbers of trained professionals and restricted access to evidence-based psychotherapies (Demassosso, 2021). Within this context, empirical evaluation of EMDR has been scarce historically. However, emerging research provides preliminary insight. A 2025 quasi-experimental study evaluating EMDR among intensive care unit (ICU) healthcare professionals reported substantial reductions in PTSD symptoms and sustained remission at three-month follow-up (Kibuh et al., 2025). This study represents one of the first controlled investigations of EMDR in a Cameroonian healthcare setting and suggests feasibility in resource-limited environments.

Isolated case reports and clinical observations indicate potential applicability in other populations, including parents of children with disabilities and individuals experiencing post-accident stress (Bouyap, 2023, 2019). However, controlled evaluations across community settings, child populations, survivors of gender-based violence, and conflict-affected communities remain absent. Workforce shortages, training gaps, and limited service integration contribute to this evidence scarcity. The existing literature therefore signals promise while revealing substantial research and implementation gaps.

Rationale

EMDR was developed by Francine Shapiro in 1987 to facilitate adaptive information processing of traumatic memories (APA, 2025). Its global evidence base for PTSD is extensive and includes multiple RCTs across diverse populations (de Jongh et al., 2024). Major professional bodies recognize its efficacy, although some debate persists regarding its mechanisms relative to exposure-based therapies and the specific contribution of bilateral stimulation (Jeffries & Davis, 2012). The APA currently classifies EMDR as probably effective rather than unequivocally first-line across all contexts (APA, 2025). Ongoing theoretical discussion reinforces the importance of empirical validation in varied clinical environments.

The therapeutic scope of EMDR continues to expand. Recent meta-analyses confirm reductions in depressive symptoms and anxiety presentations (Seok & Kim, 2024; Yunitri et al., 2020). Innovative adaptations such as the Group Traumatic Episode Protocol (GTEP) have demonstrated reductions in PTSD and complex PTSD (CPTSD) symptoms among forcibly displaced populations (Chauliac et al., 2025). Trials exploring adjunctive use in panic disorder and other anxiety presentations further illustrate its evolving application (Endhoven et al., 2023). Despite these developments, methodological heterogeneity and limited long-term follow-up in non-PTSD research highlight the need for continued evaluation (Scelles & Bulnes, 2024).

African contexts require deliberate cultural adaptation and feasibility assessment. Direct protocol transfer without contextual modification risks reduced engagement and limited effectiveness (McDermott et al., 2024; Mbazzi et al., 2021). Professional networks and training initiatives across the continent demonstrate growing interest in culturally informed EMDR implementation (Luber, 2025). However, systematic evaluation of adaptation strategies and outcomes remains limited.

Cameroon represents a particularly urgent case for evidence synthesis. The country faces elevated trauma exposure and constrained mental health infrastructure (Lo-oh, 2024; Ngwa et al., 2024). Structured EMDR development lags behind some neighboring contexts, and controlled research remains minimal (Luber, 2025). Preliminary findings among healthcare professionals are promising but isolated (Kibuh et al., 2025). Broader empirical evaluation across community and clinical populations is lacking.

Theoretical Foundations of EMDR

Eye Movement Desensitization and Reprocessing (EMDR) is grounded in the Adaptive Information Processing (AIP) model. The theory posits that psychological distress arises when traumatic or adverse experiences are inadequately processed and stored in maladaptive memory networks (Leeds, 2023). According to the AIP framework, these unprocessed memories retain the original affective, cognitive, and somatic components of the experience (Shapiro, 2018). Subsequent triggers may activate these networks, resulting in persistent symptoms such as intrusive recollections, hyperarousal, and negative self-beliefs.

EMDR therapy aims to facilitate adaptive reprocessing of these memory networks through structured bilateral stimulation integrated within an eight-phase treatment protocol. Bilateral stimulation is theorized to support associative linkage between maladaptively stored memories and more adaptive information (Rousseau et al., 2020), thereby reducing emotional intensity and restructuring dysfunctional cognitions (Kienast et al., 2024). The AIP model provides a unifying explanatory mechanism across diverse clinical applications, including PTSD, anxiety disorders, depression, and complex trauma (Hase et al., 2025).

This theoretical grounding is relevant when evaluating protocol adaptations and implementation strategies across varied cultural and resource contexts. Adaptations that preserve the core principles of memory reprocessing may retain therapeutic effectiveness even when delivery format, session structure, or contextual framing varies (Khan & Madihie, 2025). The present review therefore interprets findings both in terms of clinical outcomes and in relation to theoretical fidelity and contextual modification.

A comprehensive narrative synthesis integrating global evidence, African adaptation scholarship, and Cameroon-specific findings is therefore warranted. Such integration can clarify the strength and limits of existing evidence, identify contextually appropriate implementation strategies, and inform clinical training and policy development within Cameroon. This review seeks to bridge the gap between established global knowledge and its responsible translation into a specific under-researched national context.

Methods

Study Design and Reporting Framework

This review adopted a structured narrative synthesis design informed by PRISMA 2020 reporting guidance (Page et al., 2021). The review did not aim to conduct a quantitative meta-analysis or calculate pooled effect sizes. Instead, it sought to integrate heterogeneous evidence across study designs, populations, and contexts. Structured narrative synthesis is appropriate when the literature includes diverse methodologies and outcome measures that preclude statistical aggregation but require systematic and transparent integration (Lisy & Porritt, 2016; Centre for Reviews and Dissemination, 2009). The review therefore combined systematic search procedures with interpretive synthesis consistent with narrative review methodology (Sukhera, 2022).

Search Strategy

The search strategy was designed to maximize transparency, breadth, and reproducibility while remaining feasible within the scope of a structured narrative review. PubMed/MEDLINE served as the primary electronic database because of its comprehensive biomedical indexing and inclusion of PubMed Central full-text repositories. The search combined Medical Subject Headings (MeSH) and title/abstract keywords related to EMDR and psychological conditions including PTSD, anxiety, depression, and psychological distress. Full database-specific search strings and Boolean operators are presented in Appendix A.

Citation tracking supplemented the database search to enhance comprehensiveness. Backward snowballing involved reviewing reference lists of all included studies and relevant systematic reviews. Forward citation tracking was conducted using Google Scholar's "Cited by" function to identify more recent publications. This approach is recommended to mitigate database-specific indexing limitations and enhance retrieval completeness in narrative syntheses (Sukhera, 2022).

Targeted grey literature searches were conducted through Google Scholar and relevant organizational websites, including the WHO, EMDR International Association (EMDRIA), and EMDR Africa. Grey literature was included when it provided empirical findings or practice-relevant implementation data. All retrieved records were exported into reference management software, and duplicates were removed prior to screening.

The study selection process followed PRISMA 2020 guidance to enhance transparency in identification, screening, and inclusion procedures (Page et al., 2021). A total of 1,299 records were identified across database and grey literature searches. Titles and abstracts were screened against predefined eligibility criteria. Potentially eligible full-text articles were assessed independently for inclusion. Reasons for exclusion at the full-text stage were documented and are summarized in the PRISMA flow diagram (Figure 1). The flow diagram provides a visual representation of the identification, screening, eligibility, and inclusion process.

Eligibility Criteria

Eligibility criteria were predefined to delineate the scope of evidence and ensure consistent study selection (McKenzie et al., 2024; Page et al., 2021). Criteria were structured around population, intervention, outcomes, study design, context, and publication characteristics. Studies were eligible if they examined individuals experiencing trauma-related, stress-related, or other psychological conditions, including but not limited to PTSD, anxiety disorders, depression, or general psychological distress. No restrictions were placed on age, sex, or clinical setting to capture diverse applications across populations.

Eligible interventions included standard EMDR therapy and documented protocol adaptations, including culturally modified and group-based formats. Studies were included if EMDR constituted the primary therapeutic modality or if its independent contribution to outcomes could be identified. Interventions consisting solely of eye movements without the structured EMDR protocol were excluded

to maintain conceptual fidelity. Outcomes of interest included psychological symptom reduction, diagnostic remission, emotional regulation, functional improvement, and implementation indicators such as feasibility or acceptability. Studies reporting exclusively physiological biomarkers without linked clinical outcomes were excluded.

The review prioritized RCTs, quasi-experimental designs, cohort studies, case-control studies, systematic reviews, and meta-analyses. Qualitative and mixed-methods studies were included when they provided data relevant to implementation, adaptation, or contextualization. Expert opinions, editorials, protocols without results, and single-case reports lacking standardized measures were excluded unless seminal in conceptual development. The contextual focus included global studies establishing foundational evidence and studies conducted in African countries and Cameroon to capture regional adaptations and implementation experiences. Studies conducted exclusively in high-income settings without broader applicability were screened for relevance to global or low-resource contexts.

Only English-language publications were included due to feasibility constraints. The publication window was restricted from January 1995 to December 2025 to align with EMDR's formal development and dissemination period. Detailed inclusion and exclusion criteria are summarized in Table 1.

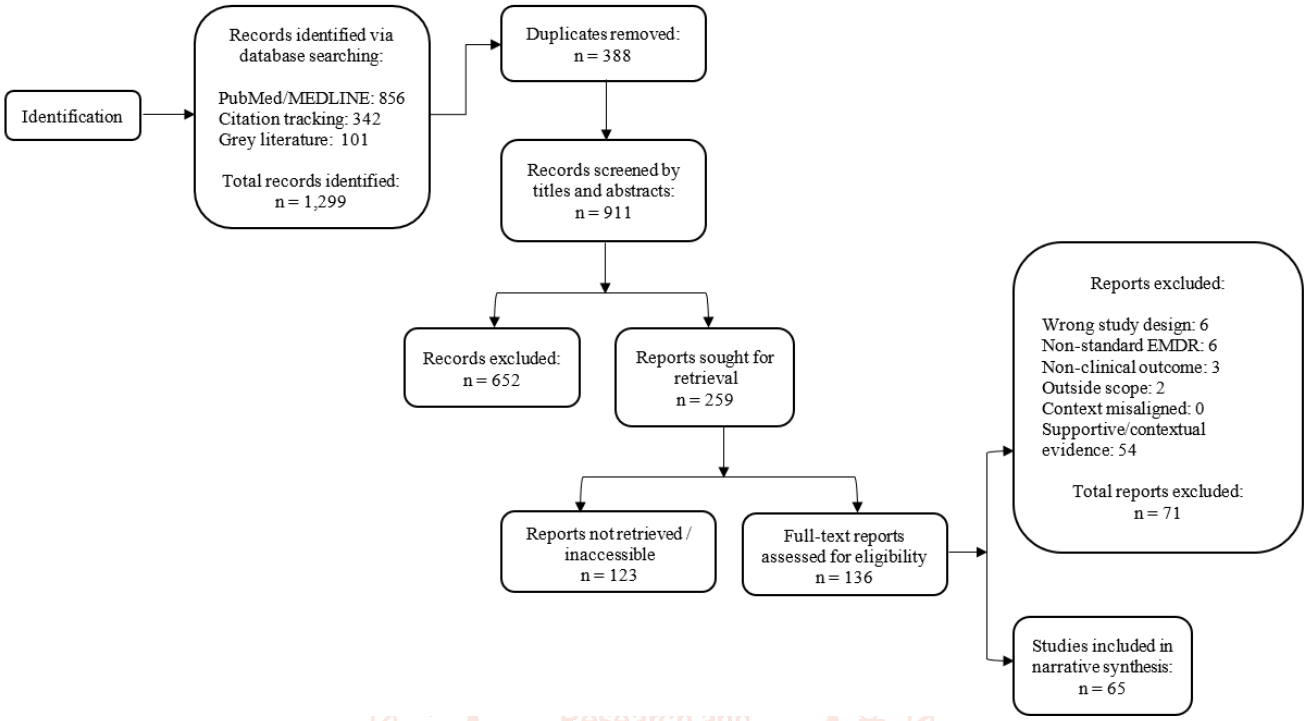
Table 1 Inclusion and Exclusion Criteria for Screening the Studies

Category	Inclusion Criteria	Exclusion Criteria	Rationale & Notes
Study Design	Randomized controlled trials (RCTs), quasi-experimental studies, cohort studies, case-control studies, systematic reviews, meta-analyses.	Expert opinions, editorials, narrative reviews (unless seminal), study protocols without results, single-case reports without standardized measures.	Focuses on empirical evidence and synthesized findings. Seminal reviews may be included for background context.
Population	Children, adolescents, or adults receiving EMDR for trauma/stress-related disorders, depression, anxiety, or psychological distress. No geographic restrictions.	Studies on non-psychological conditions (e.g., chronic pain as primary outcome) where EMDR is not used for psychological sequelae.	Ensures clinical relevance to mental health applications of EMDR.
Intervention	Standard EMDR therapy, including adaptations for specific populations or group settings.	Therapies using only eye movements without the full EMDR protocol, or studies where EMDR is a minor component of a broader package.	Maintains intervention fidelity for meaningful synthesis.
Context	Primary Focus: Studies conducted in African countries, Cameroon, or low-resource/humanitarian settings. Secondary Focus: Global studies providing foundational evidence on efficacy, mechanisms, or clinical guidelines.	Studies from high-income settings with no relevance or generalizability to global/low-resource contexts (determined during screening).	Addresses the core review aim while incorporating necessary comparative evidence.
Outcomes	Clinical outcomes (symptom reduction, diagnosis remission), process outcomes (adherence, dropout), or implementation outcomes (feasibility, acceptability).	Studies reporting only physiological biomarkers (e.g., cortisol, brain imaging) without linked clinical/behavioral outcomes.	Prioritizes patient-centered and clinically meaningful results.
Publication	Published in English (feasibility constraint). Published between January 1995 and December 2025. Peer-reviewed journals or publicly available grey literature (theses, NGO reports).	Non-English publications. Publications before 1995. Unpublished internal documents or inaccessible data.	Ensures a manageable scope while acknowledging language bias. Aligns with EMDR's formal development timeline.

Study Selection

After duplicate removal, titles and abstracts were screened against eligibility criteria. Full-text articles meeting preliminary criteria were assessed independently by two reviewers. Disagreements were resolved through discussion and consensus. Reasons for exclusion at the full-text stage were recorded systematically. The selection process is detailed in the PRISMA flow diagram (Figure 1), which outlines the progression from identification to final inclusion.

Figure 1: The PRISMA flow diagram detailing the identification, screening, and inclusion process.



Data Extraction

Data extraction was conducted using a standardized extraction tool developed specifically for this review's objectives (Page et al., 2021; Büchter et al., 2020). Standardization enhances consistency and reduces extraction bias, particularly when studies vary in design and reporting structure. The extraction instrument was piloted on a subset of studies to refine clarity and ensure relevance of variables (Li et al., 2024). Extracted data included bibliographic details, geographic setting, study design, participant characteristics, clinical conditions, EMDR protocol type, delivery format, number of sessions, comparator conditions where applicable, and reported adaptations. Outcome data were recorded as reported in each study, including measurement instruments, time points, and follow-up durations. Outcomes were preserved in their original form to maintain contextual meaning and avoid distortion associated with forced aggregation (Page et al., 2021).

Two reviewers extracted data independently to reduce transcription errors and subjective interpretation bias (Büchter et al., 2020). Discrepancies were reconciled through discussion. Documentation of resolution decisions was maintained to ensure transparency. The complete extraction framework is presented in Appendix C. The complete extraction dataset for all 65 included studies is presented in Supplementary Table S1. Detailed documentation of intervention formats and protocol adaptations is provided in Supplementary Table S2 to preserve transparency while maintaining readability within the main manuscript.

Synthesis Approach

Narrative synthesis was employed to integrate findings across heterogeneous study designs and contexts. Statistical meta-analysis was not feasible due to variability in protocols, outcome measures, follow-up durations, and population characteristics. Narrative synthesis allows structured textual integration of diverse evidence and supports interpretation of patterns, relationships, and contextual influences (Lisy & Porritt, 2016; Centre for Reviews and Dissemination, 2009).

The synthesis proceeded in three analytical stages. First, extracted data were organized to identify clusters by psychological condition, geographic region, and intervention format. Second, relationships within and across studies were examined to explore how outcomes varied by population characteristics, protocol adaptations, and

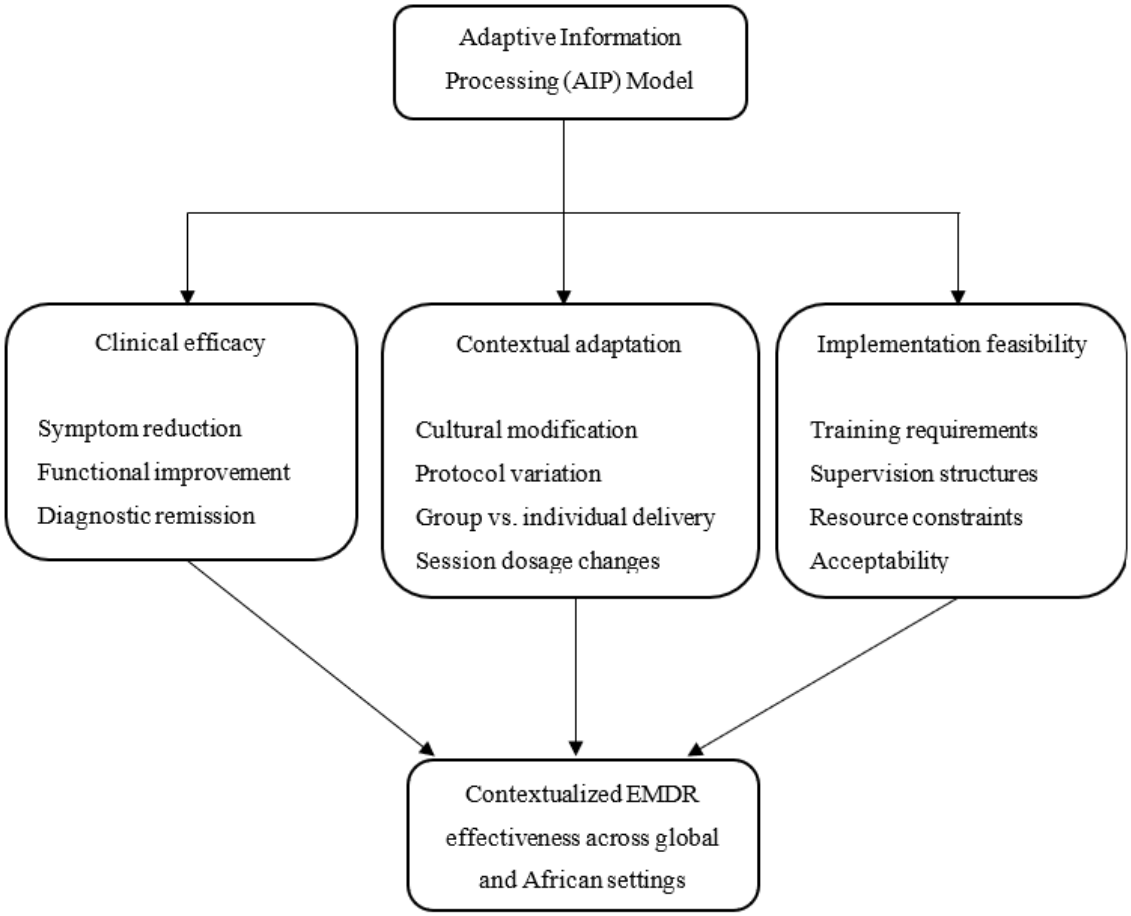
contextual constraints. Third, interpretive evaluation assessed the robustness and coherence of observed patterns, considering methodological quality and consistency of findings.

Findings were grouped conceptually rather than statistically. Emphasis was placed on comparative interpretation across global, African, and Cameroon-specific evidence. Representative studies were presented in the Results section to illustrate patterns while avoiding redundancy. RCTs and methodologically rigorous investigations were prioritized for detailed discussion. These representative studies are summarized in Table 3 and comparative outcome patterns across populations and study designs are synthesized in Table 4 in the results section. A methodological summary across study types is also provided in Table 3. Detailed quality appraisal across all domains is available in Supplementary Table S3.

Analytical Framework

The synthesis was guided by an integrated analytical framework linking three domains, including clinical efficacy, contextual adaptation, and implementation feasibility. Clinical efficacy refers to the extent to which EMDR demonstrates symptom reduction and functional improvement under controlled or observational conditions (Seok & Kim, 2024). Contextual adaptation refers to modifications in protocol structure, cultural framing, delivery format, or session dosage designed to enhance contextual fit (Mbazzi et al., 2021). Implementation feasibility refers to practical considerations including training requirements, supervision models, resource constraints, and acceptability within specific health systems (WHO, 2013). These domains were examined as interrelated rather than independent constructs. Evidence of efficacy was interpreted alongside the nature and extent of protocol adaptations. Implementation findings were evaluated in relation to whether adaptations preserved theoretical fidelity to the AIP model. This integrated framework enabled structured comparison across global, African, and Cameroon-specific studies while maintaining conceptual coherence. Figure 2 illustrates the integrated analytic approach the review applied.

Figure 2 Integrated Analytical Framework Linking EMDR Efficacy, Adaptation, and Implementation



Note. The framework illustrates the integrated analytic approach used in this review. Clinical efficacy was interpreted alongside protocol adaptations and implementation feasibility. All domains were evaluated in relation to fidelity to the Adaptive Information Processing model. The model guided synthesis across global, African, and Cameroon-specific contexts.

Quality Appraisal

Methodological quality was appraised to inform interpretive weighting of findings (Higgins et al., 2024; Page et al., 2021). Although narrative reviews do not require formal scoring systems, structured appraisal enhances credibility and guards against overinterpretation. Quantitative studies were evaluated for internal validity, including randomization procedures, allocation concealment, blinding, handling of missing data, and control for confounding variables. Appraisal principles were informed by the Cochrane Risk of Bias (CoB) framework (Higgins et al., 2024). Observational studies were assessed for sample representativeness and appropriateness of analytic strategies. Qualitative and mixed-methods studies were evaluated for credibility, transparency of analytic procedures, contextual description, and reflexivity (Lisy & Porritt, 2016; Patton, 2015). Two reviewers appraised study quality independently, and discrepancies were resolved through consensus. Quality assessments informed the narrative synthesis by distinguishing robust findings from those requiring cautious interpretation. Procedural details of the appraisal framework are provided in Appendix B. A comprehensive domain-level appraisal matrix for all included studies is provided in Supplementary Table S3.

Ethical Considerations

This review analyzed publicly available literature and did not involve human participant recruitment or primary data collection. Ethical approval was therefore not required (British Educational Research Association [BERA], 2024). Ethical responsibility in secondary research centers on accurate representation, transparency, and avoidance of selective reporting. Study findings were reported faithfully to avoid distortion or exaggeration (Cahil et al., 2024; Singhal et al., 2025). Conflicting findings were acknowledged to reduce confirmation bias. All sources were cited in accordance with publication ethics standards to ensure proper attribution (Committee on Publication Ethics [COPE], 2025). Where digital tools were used to assist in text organization or drafting, outputs were critically reviewed and validated by the authors to mitigate risks of inaccuracy or bias (COPE, 2025; Bjelobaba et al., 2024). No identifiable personal data were reproduced. The review adhered to principles of transparency, intellectual integrity, and responsible scholarship.

Statement of Limitations

The structured narrative design provides interpretive depth but does not achieve the procedural standardization of a registered systematic review. Flexibility in synthesis may reduce replicability relative to meta-analytic designs (Durai, 2021). Although explicit eligibility criteria and PRISMA-guided reporting were applied, interpretive emphasis may vary if replicated by other researchers (Ghosh & Choudhury, 2025). The primary database search was conducted in PubMed/MEDLINE. Citation tracking and grey literature searches were used to mitigate retrieval bias. However, studies indexed exclusively in other databases may not have been captured. English-language restriction introduces potential language bias. Regional publications in French or other African languages may be underrepresented.

Heterogeneity in study design, outcome measures, and protocol adaptations precluded quantitative synthesis. Narrative interpretation cannot provide pooled effect estimates or formal certainty grading. Quality appraisal informed interpretive weighting but did not employ formal certainty frameworks such as GRADE. Rapid expansion of EMDR research also introduces temporal limitations. Studies published after December 2025 are not included. Interpretations should therefore be considered within the evolving evidence landscape. Despite these limitations, the structured and transparent approach employed here supports credible synthesis while acknowledging constraints inherent to narrative methodology.

Results

Overview of Included Evidence

The synthesis incorporated 65 studies representing diverse geographical regions, populations, and clinical conditions. The distribution of studies revealed a heavily concentrated evidence base in Europe and North America, emerging expansion across parts of Asia and the Middle East, minimal representation from Africa outside the Central African Republic (CAR), and nascent development within Cameroon. Table 1 presents an overview of the concentration and hierarchy of evidence informing the review. Several investigations spanned multiple regions or methodological classifications, so aggregate counts reflect best-fit categorization rather than mutually exclusive totals.

Table 2 Geographic Distribution, Target Populations, and Study Designs of Representative Studies

Region	Randomized Controlled Trials	Quasi-Experimental	Observational / Cohort	Qualitative / Mixed	Total Studies
Europe	28	3	5	4	40
North America	5	2	2	1	10
Middle East	3	1	1	0	5
South America	2	1	1	0	4
Asia	1	1	1	0	3
Oceania	1	0	0	0	1
Africa (excl. Cameroon)	1	0	0	0	1
Cameroon	0	1	2	0	3
TOTAL	41	9	12	5	67*

Note. *Total exceeds 65 due to studies spanning multiple regions or designs; numbers reflect best-fit categorization.

Three dominant themes emerged across the dataset. First, there was strong and consistent support for EMDR in the treatment of posttraumatic stress disorder (PTSD). Second, the application of EMDR beyond PTSD has expanded considerably, though with greater heterogeneity in methodological rigor and outcome consistency. Third, the literature demonstrated increasing procedural innovation, particularly in delivery format and contextual adaptation. Methodological quality varied substantially. A core subset of RCTs demonstrated high internal validity. A larger proportion of studies consisted of quasi-experimental, uncontrolled, or feasibility designs. Sample sizes were frequently modest, and long-term follow-up was inconsistently reported. Table 3 summarizes 12 representative studies selected to illustrate the geographic distribution, clinical indications, and methodological diversity of the included evidence. The full extraction table for all 65 studies is provided in Supplementary Table S1. A comprehensive quality appraisal matrix is available in Supplementary Table S3.

Table 3 Representative Global and Cameroon EMDR Studies by Region, Population, and Design

Author (Year)	Country / Region	Population	Primary Condition	Study Design	Intervention Format	Follow-up	Evidence Tier
van den Berg et al.	Netherlands	Adults with psychosis	PTSD	RCT	Standard EMDR	6–12 months	Tier 1 (High Rigor)
Matthijssen et al.	Netherlands	Adults	PTSD	RCT	Standard EMDR	12 months	Tier 1
Meentken et al.	Netherlands	Children/ adolescents	PTSD	RCT	Standard EMDR	3–6 months	Tier 1
Khan et al.	Pakistan	Adults	PTSD	RCT (comparative)	EMDR vs TF-CBT	3–6 months	Tier 1
van Woudenberg et al.	Netherlands	Adults (complex PTSD)	PTSD	Intensive program	Condensed EMDR format	6 months	Tier 1
Rossi et al.	Italy	Borderline personality disorder	Trauma-related symptoms	Quasi-experimental	Standard EMDR	Post-treatment	Tier 2
Perez et al.	Mexico	Disaster-exposed population	PTSD symptoms	Uncontrolled	EMDR-IGTP (group)	Short-term	Tier 2
McGowan et al.	USA/UK	Adults	PTSD/ anxiety	Observational	Online EMDR	Post-treatment	Tier 2
Dozio et al.	Central African Republic	Conflict-exposed children	PTSD	RCT (cluster)	G-TEP (group)	3 months	Tier 1 (African)
Bouyap	Cameroon	Adults with addiction	PTSD	Case series	Standard EMDR	Short-term	Tier 3 (Exploratory)
Bouyap	Cameroon	Parents of children with disabilities	Psychological distress	Case series	Standard EMDR	Short-term	Tier 3

Kibuh et al.	Cameroon	ICU healthcare workers	PTSD	Quasi-experimental	Standard EMDR	3 months	Tier 2 (Emerging Local)

Global Evidence on EMDR Use

Primary Clinical Indication: PTSD

Posttraumatic stress disorder constituted the central focus of the global EMDR literature. Across RCTs, quasi-experimental studies, and intensive treatment programs, EMDR consistently produced large reductions in PTSD symptom severity across adult, adolescent, and child populations. Evidence was robust in European RCTs employing rigorous designs, manualized protocols, blinded assessment, and validated clinician-administered measures. These trials demonstrated large within-group effect sizes and sustained symptom remission at follow-up. Remission rates tended to exceed 60% in adult-onset trauma populations. However, not all trials reported detailed allocation concealment procedures, and fidelity monitoring was described inconsistently outside major multi-site studies. Long-term follow-up beyond one year remained uncommon. These factors moderate confidence in durability.

Head-to-head comparisons positioned EMDR as non-inferior to TF-CBT and prolonged exposure (PE). No clinically meaningful differences emerged between EMDR and comparator trauma-focused therapies across multiple trials. In some cases, EMDR demonstrated faster initial symptom reduction. Complexity moderated outcomes. Trials involving refugees, asylum seekers, and multi-traumatized populations yielded more variable findings. These studies often had smaller samples, higher attrition, and contextual instability that likely influenced outcomes. Trauma chronicity and developmental timing appeared to moderate treatment response rather than refute efficacy. The highest-confidence evidence supports EMDR as an effective trauma-focused intervention for PTSD overall. This conclusion is grounded primarily in RCTs with appropriate methodological safeguards.

Transdiagnostic and Comorbid Applications

Beyond PTSD, EMDR has been applied to diverse clinical populations. Evidence in these domains is promising but less uniform. Comorbid PTSD with psychotic disorders represents one of the more rigorously studied expansions. Controlled trials demonstrated that EMDR can be delivered safely to individuals with schizophrenia-spectrum disorders without symptom exacerbation, with large PTSD symptom reductions. Nevertheless, sample sizes were often modest, and follow-up periods were short. Studies involving borderline personality disorder, eating disorders with trauma histories, and complex trauma presentations suggest that trauma processing may reduce broader psychopathology when traumatic memories underpin symptom expression. Most of these studies were quasi-experimental or uncontrolled, limiting causal inference. Applications to major depressive disorder (MDD) and generalized anxiety disorder (GAD) produced mixed but encouraging outcomes. Benefits appeared strongest when distress was memory-linked clearly. Studies targeting biological or situational distress primarily showed more variable effects. The global literature therefore reflects a widening clinical scope. The strength of evidence decreases as application moves further from trauma-anchored psychopathology. Methodological rigor also decreases outside core PTSD trials.

Mechanisms of Change

Emerging research has begun to examine mediators of therapeutic change. One mechanistic study summarized in Supplementary Table S1 challenged the assumption that reductions in memory vividness drive symptom improvement. Instead, decreases in subjective distress and modifications in encapsulated negative beliefs were more strongly associated with subsequent PTSD symptom reduction. Although limited in number, such findings introduce important theoretical nuance and suggest that affective-cognitive restructuring processes may play a more central role than perceptual vividness reduction alone.

Study Designs and Evidence Hierarchy

The methodological profile of the global evidence reflects a two-tiered structure. High-quality RCTs from Europe and North America represent the most methodologically rigorous contributions. These trials employed structured diagnostic interviews, intention-to-treat analyses, fidelity monitoring, and follow-up assessments. A larger body of quasi-experimental and uncontrolled studies contributed feasibility and implementation insights. These studies frequently reported large pre–post improvements but lacked control conditions. Small samples and incomplete reporting of attrition and adverse events were common. Table 4 synthesizes outcome patterns across study designs and populations. Randomized trials consistently demonstrated moderate to large effect sizes. Uncontrolled designs reported similar directional findings but with greater methodological uncertainty. A

detailed methodological appraisal across domains of design quality, sample adequacy, intervention fidelity, outcome validity, and reporting completeness is presented in Supplementary Table S3.

Table 4 Strength and Scope of Evidence by Clinical Condition

Clinical Condition	Volume of Studies	Dominant Study Designs	Consistency of Findings	Overall Strength of Evidence
PTSD (Adults)	High	Multiple RCTs	Highly consistent symptom reduction	Strong
PTSD (Children/Adolescents)	Moderate	RCTs + quasi	Generally consistent	Strong–Moderate
Complex PTSD	Moderate	RCTs + intensive programs	Consistent but fewer trials	Moderate–Strong
PTSD + Psychosis	Moderate	RCTs	Consistent, safe delivery	Moderate–Strong
Borderline Personality Disorder	Emerging	RCT + adjunct trials	Promising	Moderate
Major Depressive Disorder	Limited–Moderate	Mixed	Variable	Moderate
Anxiety Disorders	Limited	Small trials	Mixed findings	Limited–Moderate
Cancer-Related Trauma	Limited	Small trials	Promising	Emerging
Perinatal Trauma	Limited	Small RCTs	Promising	Emerging
Low Self-Esteem	Limited	RCT	Mixed comparative results	Limited
Occupational Trauma / Healthcare Workers	Emerging	RCT + quasi	Consistent improvement	Moderate
Addiction (Cameroon)	Very Limited	Case series	Promising but uncontrolled	Exploratory

Procedural Innovations and Adaptations

A defining feature of the global evidence base is procedural flexibility. Group-based EMDR protocols enabled large-scale delivery in disaster and humanitarian contexts. These studies reported substantial symptom reduction, although most relied on uncontrolled designs and short-term follow-up. Telehealth delivery expanded during the COVID-19 period. Online EMDR demonstrated symptom reduction comparable to in-person formats. However, many telehealth studies lacked comparator groups and long-term data. Population-specific modifications included drawing-based processing, simplified protocols for intellectual disability, and culturally adapted imagery for displaced populations. These adaptations illustrate procedural elasticity while maintaining core principles. A comprehensive overview of protocol diversity and adaptation formats is provided in Supplementary Table S2.

African Evidence (Excluding Cameroon)

Evidence from Africa outside Cameroon was limited to the CAR. This geographic concentration reveals a substantial continental research gap. The CAR randomized trial evaluating EMDR G-TEP among conflict-exposed children demonstrated large reductions in PTSD symptoms maintained at follow-up. This study represents one of the few high-quality African RCTs in the EMDR literature. Nonetheless, structural challenges were evident. Cultural validation of assessment tools was limited. Security instability affected follow-up. Task-shifting to paraprofessionals required intensive supervision. The absence of evidence from most African countries underscores a major research gap between trauma burden and intervention research.

Cameroon-Specific Evidence

Emerging Clinical Evaluations

Cameroon-specific evidence comprised three studies representing early-stage intervention research. Two small case series suggested clinically meaningful improvement but lacked statistical analysis, diagnostic interviews, and formal fidelity assessment. These reports function primarily as feasibility indicators. The strongest local evidence derived from a quasi-experimental study involving ICU healthcare professionals. Participants receiving EMDR demonstrated large PTSD symptom reductions compared to controls. Despite impressive effect sizes, absence of randomization, reliance on self-report measures, and lack of independent blinded assessment limit causal inference. Table 5 provides a visual highlight of the emerging but early-stage evidence base in Cameroon.

Table 5 Characteristics of EMDR Studies Conducted in Cameroon

Study	Population	Design	Sample Size	Outcome	Key Findings	Major Limitations
Bouyap (2019)	Addiction + PTSD	Case series	Small	Self-report	Symptom reduction	No control group
Bouyap (2023)	Parents of children with disabilities	Case series	Small	Self-report	Maintained improvement	Small sample
Kibuh et al. (2025)	ICU healthcare workers	Quasi-experimental	134	PCL-5	100% remission at 3 months	No randomization

Methodological Gaps and Research Deficits

No RCTs have been conducted in Cameroon. Structured diagnostic interviews have not been employed. Treatment fidelity has not been formally evaluated. Long-term follow-up is absent. Vulnerable populations remain unstudied. The Cameroon evidence base represents a high-need, early-development stage of research.

Discussion

EMDR as a Transdiagnostic Memory-Focused Intervention

This review synthesized evidence from 65 studies evaluating EMDR across diagnostic categories and geographic regions. The findings support the position that EMDR has evolved beyond a disorder-specific treatment for PTSD. Evidence now supports a broader transdiagnostic application targeting maladaptively encoded traumatic memories. Randomized controlled trials conducted primarily in the Netherlands demonstrated that EMDR achieves outcomes comparable to trauma-focused cognitive behavioral therapy across adult and pediatric PTSD populations. These trials reported acceptable dropout rates and sustained symptom reduction at follow-up. This consistency strengthens EMDR's status as a first-line trauma-focused intervention.

Moderators of Treatment Response: Trauma Chronicity, Dose, and Context

The pattern of findings suggests that variability in outcomes across studies reflects differences in trauma chronicity and intervention dose rather than inconsistency in therapeutic effect. Trials involving adult-onset trauma demonstrated more rapid and stable remission, whereas individuals with childhood-onset or prolonged interpersonal trauma frequently required extended or intensive treatment formats to achieve comparable gains. This distinction reframes heterogeneity in effect sizes as a function of memory network complexity and cumulative exposure burden. EMDR efficacy therefore appears moderated by trauma chronicity, supporting a precision-oriented interpretation of treatment delivery rather than a uniform dosage model.

Research also indicates that EMDR can be delivered safely to clinically complex populations. Trials involving individuals with psychotic disorders reported no exacerbation of psychotic symptoms during trauma processing. Studies that included participants with borderline personality features documented significant improvement and tolerable dropout rates. These findings challenge earlier assumptions that trauma-focused therapies destabilize severe mental illness. The evidence instead suggests that unresolved trauma contributes to broader psychopathology across diagnostic categories. EMDR appears to operate at a mechanistic level by targeting memory networks implicated in multiple disorders.

Mechanism of Change and Theoretical Implications

Emerging mechanism research further refines this interpretation. Although EMDR is often described as operating through reduction in memory vividness, recent evidence suggests that decreases in subjective distress and modification of encapsulated negative beliefs may be more strongly associated with subsequent symptom improvement. This finding complicates simplified accounts of perceptual desensitization and instead positions EMDR within a broader affective-cognitive restructuring framework. Theoretical models may therefore require refinement to account for the relative contribution of belief change, emotional regulation, and memory reconsolidation processes.

Studies examining eating disorders further reinforce this interpretation. Research combining EMDR with enhanced cognitive behavioral therapy for anorexia nervosa demonstrated reductions in dissociation and general psychopathology beyond standard treatment alone. These findings suggest that trauma processing may address maintaining mechanisms in a subset of patients whose primary diagnosis is not PTSD. EMDR therefore functions as a memory-focused intervention with cross-diagnostic utility rather than a therapy confined to trauma-specific presentations.

The extension of EMDR into non-PTSD domains also reveals clearer boundary conditions. Trials in which presenting distress lacked a direct and processable memory linkage have demonstrated more variable or null effects. These findings suggest that EMDR's

transdiagnostic utility remains contingent upon coherent case conceptualization anchored in maladaptively encoded experiences. The therapy's breadth should therefore not be interpreted as diagnostic generalism, but rather as mechanism-driven applicability across conditions in which trauma-related memory networks maintain symptom expression.

Geographic Asymmetry and Structural Determinants of Evidence Production

The evidence base displays marked geographic asymmetry. High-income European countries dominate the randomized trial literature. Research from African contexts remains limited in number and predominantly observational in design. Structural constraints likely explain this imbalance. Global mental health funding remains concentrated in Europe and North America. Research infrastructure and grant access support large-scale trials in those regions. Training pathways are largely anchored in Europe through organizations such as the EMDR Europe Association. African clinicians frequently encounter financial and logistical barriers to certification and supervision. English-language indexing systems also reduce the visibility of Francophone African scholarship.

Evidence from the CAR demonstrates that methodological rigor is achievable in low-resource settings. A large cluster randomized trial of group EMDR protocols delivered by trained paraprofessionals reported substantial symptom reductions among conflict-exposed children. This finding indicates that infrastructure limitations do not inherently prevent high-quality research. Cameroonian studies remain at an earlier developmental stage. The quasi-experimental investigation involving intensive care healthcare workers reported high remission rates but lacked randomization. Two case series documented feasibility and patient-reported improvement. These studies provide preliminary support but cannot establish causal inference. The developmental trajectory resembles early EMDR research phases observed in Europe approximately two decades ago. Cameroon therefore appears positioned at the beginning of an evidence-building process rather than outside it.

Implementation and Health System Integration in Cameroon

Implementation feasibility represents a central analytic consideration. Group EMDR protocols offer efficiency advantages in systems with limited specialist availability. Therapist time constitutes a critical resource in such settings. Group delivery multiplies reach without proportional increases in workforce capacity. Task-shifting models present an additional strategy. The CAR trial demonstrated effective delivery by paraprofessionals operating under structured supervision. Replication in Cameroon would require standardized training, ongoing supervision, fidelity monitoring, and referral mechanisms for complex cases. Empirical evidence supporting task-shifted EMDR within Cameroon is not yet available. Feasibility trials should therefore precede widespread implementation.

Heterogeneity as Adaptive Implementation Rather Than Methodological Weakness

The diversity of delivery formats documented across the literature warrants careful interpretation. Methodological heterogeneity, including group protocols, online formats, intensive programs, and culturally adapted procedures, might initially appear to weaken internal consistency. However, this variation more plausibly reflects adaptive elasticity within a structured therapeutic framework. Core procedural elements remain intact while surface-level modifications enhance contextual fit. Heterogeneity in this sense represents responsive implementation rather than conceptual fragmentation, indicating that EMDR possesses structural properties compatible with scalability across diverse systems of care.

Cultural adaptation requires systematic development. Existing Cameroonian studies acknowledged cultural beliefs and conducted sessions in local languages. Adaptation largely remained at the level of linguistic translation. International research with displaced Syrian and Timorese populations illustrates broader adaptation strategies, including religious imagery, family engagement, and community-based recruitment. Theoretical questions remain regarding cross-cultural invariance of EMDR's proposed mechanisms. Research examining whether memory reconsolidation processes operate similarly across cultural contexts would strengthen the scientific foundation for adaptation. Implementation efforts must balance fidelity to core EMDR procedures with culturally meaningful modification.

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rather than conceptual fragmentation, indicating that EMDR possesses structural properties compatible with scalability across diverse systems of care.

Health system integration in Cameroon requires phased development. Consolidation of existing practice within tertiary centers represents a practical starting point. Formal supervision partnerships and standardized outcome monitoring would strengthen clinical governance. Pilot randomized trials in priority populations could generate preliminary efficacy estimates. Task-shifting trials should follow once supervisory infrastructure is established. Economic evaluation should accompany these efforts. Brief, time-limited protocols may offer cost advantages in settings where specialist time is scarce. Context-specific cost-effectiveness analyses are necessary to inform policy decisions.

Methodological Constraints and Evidence Gaps

Five limitations warrant consideration. Publication bias may inflate apparent treatment effectiveness. English-language database restriction likely underrepresents Francophone African research. Narrative synthesis introduces interpretive subjectivity despite structured extraction procedures. Study heterogeneity limited direct comparison of effect magnitudes across regions. Sparse African data constrain regional generalizability and may amplify the influence of isolated trials.

Additional limitations emerge from variability in measurement strategy. Many studies relied predominantly on self-report instruments, with fewer employing structured clinician-administered diagnostic interviews. Small sample sizes in several trials limited subgroup analysis, particularly in complex trauma populations. Long-term follow-up beyond one year remains sparse, constraining conclusions regarding durability of remission. These methodological constraints do not negate observed effects but moderate confidence in extrapolation across contexts and time horizons.

Equity and Future Directions in Global EMDR Research

The cumulative evidence demonstrates robust EMDR efficacy across diverse psychological conditions in high-income settings and promising feasibility in selected African contexts. Geographic disparities in the literature reflect structural inequities in research funding, training access, and publication visibility rather than demonstrated clinical ineffectiveness. Cameroonian studies provide an initial empirical foundation. Rigorous trials, culturally grounded adaptation frameworks, and implementation research are necessary to translate emerging evidence into sustainable integration. Addressing these gaps represents both a scientific priority and an equity imperative in global mental health.

Conclusion

This review synthesized evidence from 65 studies examining EMDR across diagnostic categories and geographic regions, with particular attention to African and Cameroonian contexts. The findings confirm that EMDR is supported by a substantial body of randomized controlled trials in high-income settings, particularly in the Netherlands, where methodological rigor, long-term follow-up, and protocol standardization strengthen confidence in its efficacy. Evidence supports EMDR as a first-line treatment for posttraumatic stress disorder and as an emerging transdiagnostic intervention targeting maladaptively encoded traumatic memories.

The review also highlights pronounced geographic inequities in the distribution of evidence. African research remains limited in volume and methodological strength, with Cameroon represented by three early-stage studies. These studies demonstrate feasibility and signal potential effectiveness but do not yet provide causal confirmation through randomized designs. Structural factors, including funding inequities, limited access to certified training through organizations such as the EMDR Europe Association, and publication visibility barriers, likely contribute to this imbalance. The disparity reflects systemic constraints rather than demonstrated ineffectiveness of EMDR in African settings.

Implementation pathways in low-resource contexts appear promising but require structured evaluation. Group EMDR protocols and supervised task-shifting models offer scalable strategies for extending trauma-focused care in systems with severe workforce shortages. Cultural adaptation remains underdeveloped in the Cameroonian literature and warrants systematic attention to ensure contextual relevance while preserving treatment fidelity. Rigorous feasibility studies, pilot randomized trials, long-term follow-up assessments, and economic evaluations are necessary to inform sustainable integration within national health systems.

Cameroon stands at an early but important stage in the development of EMDR research and practice. Existing studies provide foundational evidence upon which a structured research and implementation agenda can build. Strategic investment in training, supervision infrastructure, culturally grounded adaptation, and methodologically rigorous evaluation could position EMDR as a viable component of trauma-informed mental health care in Cameroon. Advancing this agenda would address both scientific

gaps and broader equity concerns in global mental health knowledge production.

EMDR demonstrates strong empirical support in high-income contexts and emerging promise in African settings. Closing the geographic evidence gap requires coordinated efforts among researchers, policymakers, and international partners. Such efforts would contribute to a more equitable global mental health landscape and expand access to evidence-based trauma care for populations disproportionately affected by adversity and conflict.

Supplementary Materials

Supplementary Table S1. Full characteristics of all 65 included studies.

Supplementary Table S2. Protocol diversity and intervention characteristics across settings. Supplementary Table S3. Detailed methodological quality appraisal matrix.

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