Patient Preference and Adherence

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REVIEW

Application of the Gratitude Intervention in the Healthcare Field: Scoping Review

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Purpose: To review the application of gratitude intervention measures in healthcare and to provide a reference for their clinical implementation and effective promotion.

Methods: A computerized search of PubMed, Web of Science, Embase, CINAHL, and CNKI databases was performed, covering studies published up to January 2025. Relevant studies on the application of gratitude interventions in healthcare were screened, and the review was conducted using the Arksey and O'Malley scoping review framework and reported in accordance with the PRISMA-ScR guideline.

Results: A total of 34 studies were included in the analysis, covering three types of health issues: mental disorders or stress (50%), chronic diseases (26%), and tumors (24%). Gratitude interventions, primarily delivered by researchers and healthcare staff, include gratitude recording (76%), gratitude expression (50%), gratitude videos (6%), gratitude meditation (24%), gratitude sharing (15%), with gratitude recording and gratitude expression being the most commonly used. The application methods of gratitude interventions include online (n = 18, 53%), offline (n = 12, 35%), and a combination of both (n = 4, 12%). Although the study populations, intervention types, frequencies, durations, and evaluation methods varied across studies, gratitude interventions demonstrated varying degrees of improvement in patients' psychological status, physical health, quality of life, social support, interpersonal relationships, and other outcomes.

Conclusion: A range of gratitude intervention strategies can be applied in healthcare settings to support mental and physical well-being. Gratitude recording and gratitude expression appear to be the most feasible options for routine practice, but the heterogeneity of the current evidence suggests that implementation should be tailored cautiously. Future research should focus on developing standardized intervention procedures, optimizing telemedicine-based delivery, and evaluating long-term effects.

Keywords: gratitude interventions, well-being, mental health, physical health, scoping review

Introduction

World Health Organization (WHO) data show that over the past decade, global health expenditure has continued to increase. By 2030, health spending in Brazil, Russia, India, and China is expected to increase by 7.4%, 5.2%, 3.5%, and 10.4%, respectively.[1] Therefore, promoting physical and mental health offers major advantages for individuals and society and remains a core public health objective.[2,3] Improving physical and mental health can reduce health care costs,[4] increase labour productivity,[5] and improve social functioning.[6] It can also improve quality of life,[7] support academic performance and daily productivity,[8] and strengthen self-efficacy.[9]

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The updated Comprehensive Mental Health Action Plan 2013–2030 by WHO advocates early intervention for individuals with mental health problems.[10] China has issued the "Healthy China 2030" Planning Outline, aiming to promote healthy lifestyles, enhance health education, improve the health literacy of the entire population, and foster autonomous and self-disciplined healthy behaviors.[11] Despite the implementation of numerous policies and guidelines intended to enhance overall health, physical and mental health challenges remain substantial. According to WHO, approximately one-eighth of the global population is affected by psychological disorders.[12] A study conducted with more than 2000 healthcare professionals revealed that approximately 38% of participants reported moderate-to-severe symptoms of occupational burnout.[13] Cardiovascular disease, cancer, diabetes, and chronic respiratory disease, the core noncommunicable diseases, collectively account for approximately 74% of global mortality, amounting to an estimated 41 million deaths each year.[14] Among individuals aged 5 to 19 years, the rate of obesity has climbed to 5.6%, representing an eight-fold increase compared with 1975.[14] The WHO report also shows that, on average, only 50% of the measures for the prevention and control of noncommunicable diseases have been implemented across countries.[14] The unsatisfactory implementation of these policies can be attributed to their predominant reliance on external constraints while insufficiently fostering individuals' intrinsic motivation toward health.[15] In addition, the successful implementation of policies depends on support from communities and families; however, interpersonal alienation undermines the sustainability of health initiatives.[16] Consequently, augmenting an individual's intrinsic motivation and strengthening their interconnectedness with the external environment are crucial for effective physical and mental health management.

In this context, gratitude interventions represent a promising strategy for mitigating the shortcomings inherent in existing health policies.[17,18] Gratitude practices, such as gratitude journaling and expressive letter writing, function as autonomous psychological interventions that can simultaneously enhance intrinsic motivation and facilitate the reconstruction of social bonds.[19,20] Research indicates that gratitude activates brain areas involved in moral cognition, such as the anterior cingulate cortex, and social reward processing, including the ventral striatum. This neural activation may help explain how gratitude encourages autonomous health behaviors.[21] A meta-analysis of 38 randomized controlled trials (RCTs) further demonstrated that gratitude interventions significantly enhance self-efficacy and social connectedness, both of which are essential mediators in maintaining health-related behavioral changes.[22] In addition, Currie et al conducted a scoping review focused on gratitude interventions for adults with chronic health conditions, highlighting the clinical relevance of this field while also indicating that a broader synthesis across healthcare settings is still needed[23] Gratitude interventions also align with WHO's advocacy for cost-effective mental health strategies. This scoping review therefore synthesizes the current applications of gratitude interventions in healthcare settings, clarifies existing problems and challenges in their clinical application, and provides an evidence map to inform future development and cautious clinical application.

Materials and Methods

The main research questions of this study were:

1. What specific measures are involved in gratitude interventions within the healthcare field, and are these measures adaptable to different health needs?
2. How are the gratitude intervention measures implemented in clinical practice?
3. What outcome indicators are involved in the gratitude interventions studies in the health field, and how are these indicators collected?
4. Who is implementing gratitude interventions, and what methods are adopted for implementing gratitude interventions? (eg., Online? or Offline?)

This scoping review was conducted using the Arksey and O'Malley framework and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) guideline.[24]

Literature Search

Systematic searches were conducted in PubMed, Web of Science, CINAHL, Embase, and CNKI, and an additional focused grey literature search was undertaken to identify further eligible articles. Cross-referencing employed diverse search-term combinations. Search terms included the keywords "grateful" OR "gratitude" OR "gratefulness". Inclusion and exclusion criteria followed the PCC framework of the Joanna Briggs Institute,[25] which encompasses three components: P (Population), C (Concept), and C (Context). For the population, this review considered individuals from all demographic groups. For the purposes of this study, the concept referred exclusively to gratitude interventions. As for context, studies evaluating physiological or mental health indicators were included. Studies using pre-post assessments, randomized controlled trials (RCTs), quasi-experiments, mixed-method approaches, and prospective cohort designs were considered eligible for inclusion. No publication date restrictions were applied, but only English- or Chinese-language studies were included.

Study Selection

All articles were screened based on the predetermined criteria described above. All retrieved literature was imported into EndNote, where duplicate records were systematically removed. Consensus between two independent reviewers was required to advance studies through title and abstract screening. Only articles approved by both authors during full-text screening were included in the review. Through collaborative consensus, the three reviewers formulated the summary matrix. All members of the research team were familiar with the literature-screening procedure and had completed evidence-based nursing training.

Data Extraction

A pre-tested standardized extraction form ensured consistent data collection by one researcher, independently verified by two experts. The extracted data comprised general details (such as year, country, methodology, aim, population, and sample size) as well as the effects of gratitude interventions, including intervention types, duration, frequency, outcomes, and key findings.

Results

A total of 1043 records were retrieved from database searches, with an additional 3 records identified through grey literature searches. Following a systematic screening process, 34 studies met the inclusion criteria. A PRISMA 2020 flow diagram was used to summarize the study selection process[26] (Figure 1).

Characteristics of the Included Studies

Among the 34 studies, over 80% (29/34) were published within the past decade. As shown in Figure 2A, the majority of research was conducted in the United States (n = 17, 50%) and China (n = 8, 24%), followed by Ireland (n = 2, 6%). In terms of study design, 24 studies (71%) were RCTs, 9 (26%) were quasi-experimental studies, and 1 (3%) employed a mixed-methods approach (Figure 2B). Sample sizes ranged from 10 to 479 participants, encompassing both children and adults, as well as patients and healthy individuals. General information and intervention details (measures, duration, frequency) are summarized in Tables S1 and S2, respectively.

Types of Health Areas for Treating Patients

The gratitude interventions were primarily employed in three health areas: mental illness or stress (n = 17, 50%), chronic illness (n = 9, 26%), and tumors (n = 8, 24%).

Interventions

The gratitude interventions can be categorized into five primary types: gratitude recording (n = 26, 76%), gratitude expression (n = 17, 50%), gratitude videos (n = 2, 6%), gratitude meditation (n = 8, 24%), and gratitude sharing (n = 5, 15%). Additionally, 15 articles implemented two or more of these gratitude intervention strategies concurrently. The specific strategies of gratitude interventions are presented in Table 1.

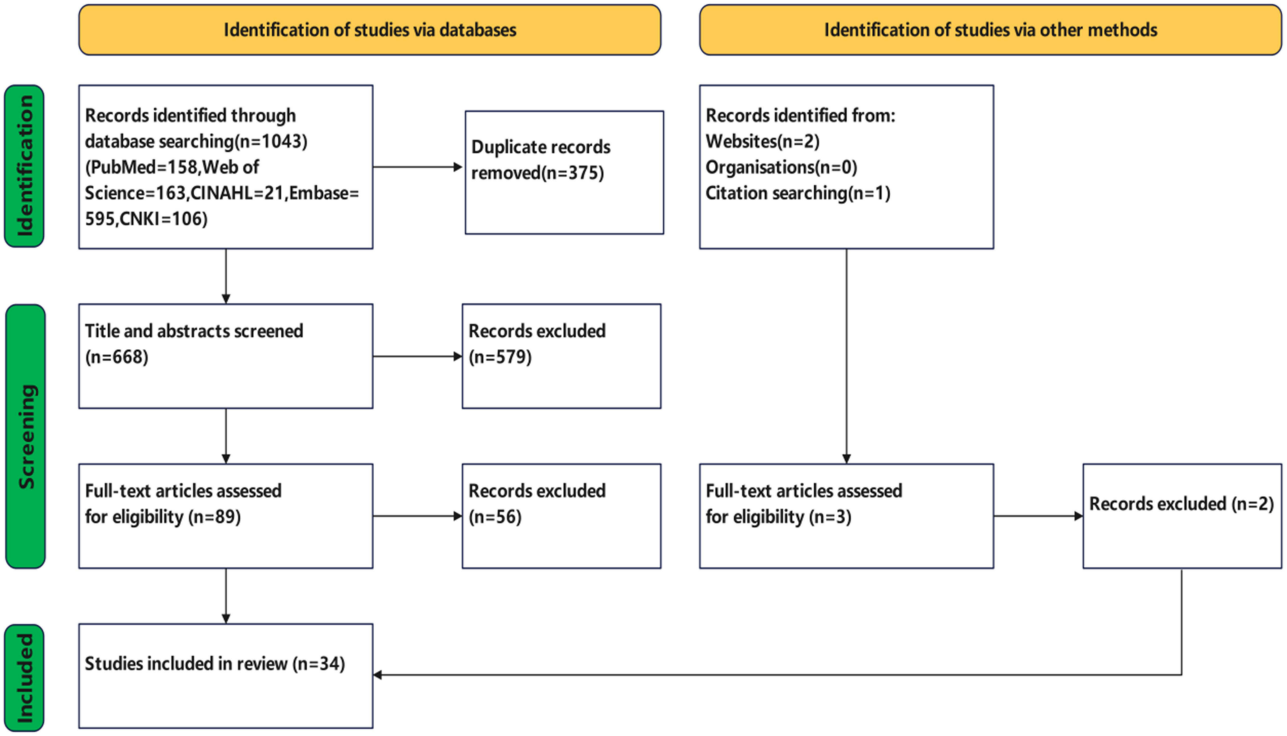

Figure 1 PRISMA 2020 flow diagram of study selection for this scoping review. The flow diagram summarizes the identification, screening, eligibility, and inclusion stages of study selection for this scoping review.

Differences in the frequency and duration of gratitude interventions across articles are shown in Table 2. The most frequent intervention frequency for gratitude recording was once daily, which occurred 6 times; the most common intervention duration was 4 weeks, occurring 4 times. For gratitude expression, the most frequent intervention frequencies were once daily and once weekly, both appearing 6 times; the most common intervention duration was 6 weeks, occurring 5 times. In terms of gratitude videos, the intervention frequency was weekly, appearing twice; the intervention duration was 12 weeks, also appearing twice. For gratitude meditation, the most common intervention frequency was once daily, occurring 3 times; the most frequent intervention duration was 4 weeks, appearing twice. Regarding gratitude sharing, the intervention frequency was weekly, occurring 5 times; the most common intervention duration was 4 weeks, appearing twice.

Intervention providers were described in all articles, including researchers or clinical staff (n = 22, 65%), trained researchers (n = 6, 18%), psychologists (n = 4, 11%), instructors (n = 1, 3%), and multidisciplinary teams (n = 1, 3%).

The methodologies employed for gratitude interventions included online (n = 18, 53%), offline (n = 12, 35%), and hybrid online-offline approaches (n = 4, 12%). Specifically, the online intervention strategies included telephone (n = 6, 33%), websites (n = 5, 28%), phone-text messaging (n = 2, 11%), Email (n = 2, 11%), video conferencing (n = 2, 11%), and mobile applications (n = 1, 6%).

Outcomes and Measurement Methods

The majority of studies indicated that gratitude interventions produced varying degrees of improvement in patients' psychological status, physical health, quality of life, social support, interpersonal relationships, and other outcomes. The specific outcome indicators and assessment tools are presented in Table S3. The most frequently utilized assessment tools were the Gratitude Questionnaire-6 (GQ-6) (n = 13) for gratitude, the Hospital Anxiety and Depression Scale (HADS) (n = 6) for anxiety and depression, the Positive and Negative Affect Schedule (PANAS) (n = 11) for positive and negative affect, the Satisfaction With Life Scale (SWLS) (n = 11) for life satisfaction, and the Revised Life Orientation Test (LOT-R) (n = 6) for optimism (Figure 3). Outcomes were measured using a variety of methods, including surveys (n = 34,

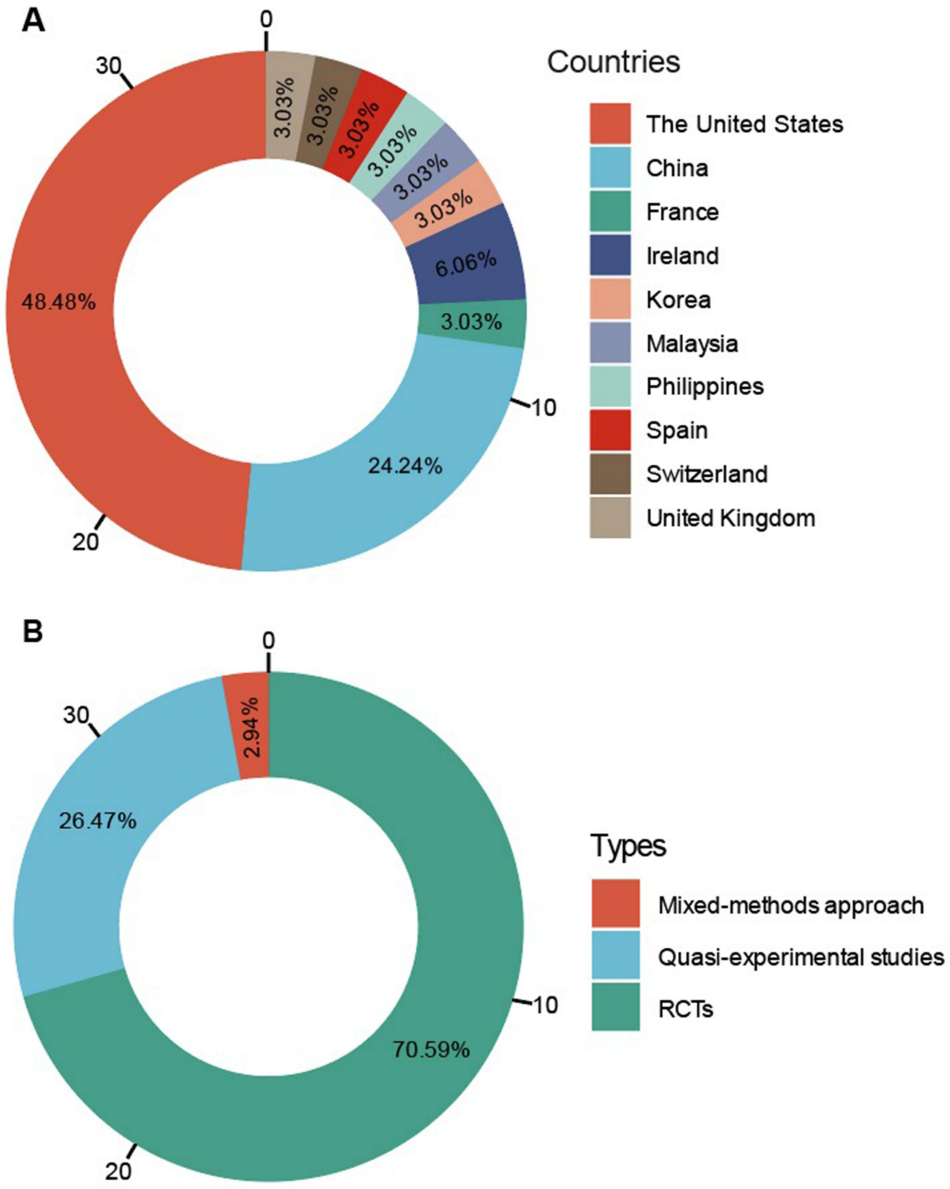

Figure 2 Distribution characteristics of 34 studies. (**A**) Distribution characteristics of different countries and regions. (**B**) Distribution characteristics of different research designs.

100%), observations (n = 5, 15%), self-report (n = 3, 9%), imaging examinations (n = 2, 6%), biological sample testing (n = 2, 6%), laboratory examination (n = 1, 3%), and physiological data recording (n = 1, 3%) (Table S3).

Discussion

In summary, gratitude intervention strategies are varied and can be tailored to address specific health requirements. These interventions primarily include gratitude recording, gratitude expression, gratitude videos, gratitude meditation, and gratitude sharing. Among these, gratitude recording and gratitude expression are the most extensively used because of their simplicity and cost-effectiveness, making them particularly suitable for implementation in resource-limited settings. Daily documentation of gratitude can facilitate patients' reflection on the positive dimensions of their lives, thereby fostering a constructive mindset. Expressing gratitude directly to others not only enhances patients' emotional experiences but also strengthens interpersonal relationships and improves the quality of social support networks. Gratitude interventions may be valuable for mental health and chronic disease management, and several studies reported

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Table 1 Forms and Contents of Gratitude Interventions

Intervention Forms	Intervention Contents
Gratitude record	Recording 3–5 things for which you are grateful on a daily basis. They can be expressed in a single sentence, a paragraph or a diary entry.
Gratitude expression	Expressing gratitude to those who have helped you can be done through various means such as sending text messages, making phone calls, using WeChat, writing blessing cards, expressing verbally, visiting in person.
Gratitude videos	Watching the inspirational video clips with themes such as "Gratitude towards Society", "Gratitude towards Family", and "Gratitude towards Friends", and write your reflections after watching them.
Gratitude meditation	In a quiet environment, guided by soft music, slowly recall a specific event that you are grateful for in the past, and focus on a scene to gradually unfold it. Try to recall the scene and your feelings at that time in your mind and record them.
Gratitude sharing	Sharing and exchanging with each other the events of gratitude in daily life, learning experiences and feelings, the process and feelings of achieving a certain goal, and the feelings of completing a certain task.

Table 2 Gratitude Interventions Frequency and Duration

Intervention Forms	Intervention Frequency	Intervention Duration
Gratitude record	1 time/day to 1 time/week	7 days to 12 weeks
Gratitude expression	1 time/day to 1 time/3 weeks	57 min to 10 weeks
Gratitude videos	1 time/week	12 weeks
Gratitude meditation	1 time/day to 1 time/week	3 weeks to 12 weeks
Gratitude sharing	1 time/week	4 weeks to 12 weeks

improvements in general health and quality of life. However, considerable variability exists among studies regarding population characteristics, intervention strategies, implementation frequency, duration, and assessment tools. This variability may limit the comparability and generalizability of research findings. Gratitude interventions were primarily administered by research and clinical personnel; however, it was not explicitly stated whether these individuals had received formal training. This lack of information may have implications for intervention standardization and the precision of outcome assessments. Gratitude interventions can be delivered through online platforms such as telephone,

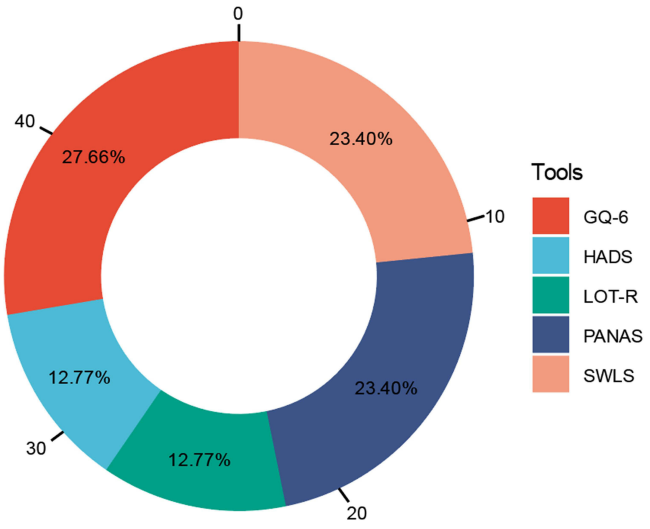

Figure 3 Frequency of use of assessment tools. The Gratitude Questionnaire-6 (GQ-6) accounted for 27.66%, the Hospital Anxiety and Depression Scale (Hads) for 12.77%, the Positive and Negative Affect Schedule (PANAS) for 23.40%, the Satisfaction With Life Scale (SWLS) for 23.40%, and the Revised Life Orientation Test (LOT-R) for 12.77%.

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text messages, and websites, through offline methods, or through hybrid approaches. This flexibility allows them to cater to the diverse needs of patients in different contexts while maintaining high levels of compliance.

Several psychological mechanisms may underlie the efficacy of gratitude interventions in reducing stress and enhancing well-being. First, in terms of neuroendocrine regulation, the experience of gratitude can reduce stress hormones and modulate nervous system function, thereby mitigating psychological stress.[21,27] Second, through the broadening of positive emotions, gratitude can stimulate and expand an individual's positive emotional experiences and enhance psychological resilience.[28,29] Third, repeated gratitude practice may strengthen psychological resilience by helping individuals cope more effectively with setbacks and challenges in life.[30,31] Together, these mechanisms may explain the beneficial effects of gratitude interventions on psychological and mental health.

While most studies have reported positive effects of gratitude interventions, a limited number have yielded divergent findings. For instance, in a randomized controlled trial, mindfulness practices such as breathing exercises and body scans alleviated depressive symptoms and enhanced sleep quality in infertile women, whereas gratitude interventions did not produce significant effects on these outcomes.[32] These results may be attributable to insufficient adherence to the gratitude intervention. Factors such as limited educational attainment, monotonous daily routines, and marital discord, including domestic violence, likely impeded participants' ability to consistently document gratitude-related content.[33] Another study showed that, compared with a positive psychology intervention, a cognition-focused intervention resulted in significant improvements in depressive symptoms and suicidal thoughts, as well as increased optimism and gratitude. This phenomenon may be attributable to the high-risk profile of the patients included in that study, who exhibited persistent moderate depression, hopelessness, and suicidal ideation. These conditions may impede patients' ability to effectively participate in positive psychological interventions that require self-motivation and planning abilities, such as composing gratitude letters.[34] The population targeted by gratitude interventions presents specific limitations, with age, educational attainment, and illness severity serving as critical factors influencing efficacy.[23,35]

Limitations

A scoping review seeks to systematically identify, map, and categorize the existing literature without formally appraising the methodological quality of the included studies. Consequently, this review is designed to describe the range and characteristics of existing evidence rather than to establish the effectiveness of any single gratitude intervention. In addition, the included studies were heterogeneous in terms of populations, intervention formats, duration, outcome measures, and follow-up periods, which limits direct comparison across studies. Most outcomes were assessed using self-report instruments and short-term follow-up, so the durability of reported benefits remains uncertain. Finally, the review was restricted to English- and Chinese-language publications and may also be affected by publication bias, which should be considered when interpreting the clinical implications of these findings.

Recommendations for Clinical Practice and Future Research

Considering the extensive use and notable efficacy of gratitude recording and gratitude expression, these practices should be prioritized in clinical settings while remaining flexibly tailored to individual patient needs. Future research should concentrate on the development of personalized gratitude intervention programs that offer more targeted interventions by evaluating the specific characteristics and needs of individual patients.

Before gratitude interventions are implemented, standardized training and evaluation of implementers are essential. Only individuals who successfully complete the evaluation should participate in research implementation. Alternatively, the intervention may be administered by professionals with expertise in psychology or related disciplines.

Diversified gratitude intervention strategies offer patients greater flexibility, allowing multiple approaches to be integrated or combined with therapies such as cognitive behavioral therapy and mindfulness training to enhance therapeutic outcomes.

Utilizing telemedicine technology to administer gratitude interventions may broaden accessibility and promote greater patient participation and compliance. Future efforts should focus on optimizing telemedicine platform functions and developing more user-friendly, interactive applications for gratitude interventions.

Currently, most studies concentrate on evaluating the short-term effects of gratitude interventions. Future research should prioritize investigation of their long-term effects. Establishing a long-term follow-up mechanism would enable tracking of changes in patients' psychological states, quality of life, and other relevant outcomes after intervention, thereby facilitating a more comprehensive assessment of the enduring impact of gratitude interventions.

Conclusions

This scoping review mapped the current use and reported benefits of gratitude intervention strategies within the healthcare field, suggesting their potential to support patients' physical and psychological well-being. However, the current evidence base is characterized by heterogeneity, limited long-term follow-up, and the absence of formal quality appraisal in this review. Accordingly, these findings should be interpreted as an evidence map to inform future protocol development and clinical exploration rather than as definitive guidance for routine implementation. Future research should prioritize standardized intervention procedures, rigorous comparative designs, and long-term evaluation.

Abbreviations

WHO, World Health Organization; BRICS, Brazil, Russia, India, China, and South Africa; RCTs, Randomized Controlled Trials; PRISMA-ScR, Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews; PCC, Population, Concept, Context; CNKI, China National Knowledge Infrastructure; GQ-6, Gratitude Questionnaire-6; HADS, Hospital Anxiety and Depression Scale; PANAS, Positive and Negative Affect Schedule; SWLS, Satisfaction With Life Scale; LOT-R, Revised Life Orientation Test; HSCT, Hematopoietic Stem Cell Transplantation; IVF, In Vitro Fertilization; PP, Positive Psychology; CF, Cognition-Focused; BMG, Brief Mindfulness Group; CG, Control Group; HF, Heart Failure; CBM, Couple-Based Meditation; FOR, Fear of Recurrence; WELL-B, Well-Being Essentials for Learning Life-Balance; GJG, Gratitude Journals Group; BMG, Breathing and Mindfulness Group; EW, Expressive Writing; CES-D, Center for Epidemiological Studies Depression Scale; NIRS, Near-Infrared Spectroscopy; OLBI, Oldenburg Burnout Inventory; EMPOWER, Enhance Meaning and Purpose through Optimizing Wellness, Engagement, and Reflection; VIA-Youth, Values in Action Youth Inventory; GAC, Gratitude Adjective Checklist; GRAT, Gratitude, Resentment, and Appreciation Test; MAAS, Mindfulness Attention Awareness Scale; GAD-7, Generalized Anxiety Disorder-7; STAI, State-Trait Anxiety Inventory; SAS, Self-rating Anxiety Scale; BAI, Beck Anxiety Inventory; PHQ-9, Patient Health Questionnaire-9; BDI, Beck Depression Inventory; SDS, Self-rating Depression Scale; EDS, Edinburgh Depression Scale; CDI, Childhood Depression Inventory; AHS, Adult Hope Scale; BSI-18, Brief Symptom Inventory-18; NIH PROMIS, NIH Patient-Reported Outcomes Measurement Information System; DT, Distress Thermometer; SHS, Subjective Happiness Scale; MUNSH, Memorial University of Newfoundland Scale of Happiness; QOLLTI-F V2, Quality of Life in Life-Threatening Illness-Family Carer Version 2; SF-36, Short Form Survey-36; MQoL-r, McGill Quality of Life Questionnaire-Revised; FACT-BMT, Functional Assessment of Cancer Therapy - Bone Marrow Transplant; FACIT-Sp, Functional Assessment of Chronic Illness Therapy - Spiritual Well-Being; SPBS, Self-Perceived Burden Scale; FoP-Q-SF, Fear of Progression Questionnaire-Short Form; WOMAC, Western Ontario MacMaster Osteoarthritis Index; PROMIS-PF-20, Patient-Reported Outcomes Measurement Information System - Physical Function; MFSI-SF, Multidimensional Fatigue Symptom Inventory - Short Form; LTEQ, Leisure-Time Exercise Questionnaire; PSQI, Pittsburgh Sleep Quality Index; QIDS-SR_{16}, Quick Inventory of Depressive Symptomatology - Self-Report; BPI, Brief Pain Inventory; EQ-02, Equivital EQ-02 LifeMonitor; MBSRQ-AS, Multidimensional Body-Self Relations Questionnaire - Appearance Scales; CSI-4, Couple Satisfaction Index; PN-RQ, Positive–Negative Relationship Quality scale; 2-Way SSS, 2-Way Social Support Scale; PAIR, Personal Assessment of Intimacy in Relationships Inventory; hCG, human Chorionic Gonadotropin; PI-18, Primal Inventory-18; MHLC, Multidimensional Health Locus of Control scale.

Data Sharing Statement

Not relevant to the present study.

Ethics Approval and Consent to Participate

Not relevant to the present study.

Consent for Publication

Not relevant to the present study.

Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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Disclosure

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