Meditio - Medicine

Open Access

Review Article

Positive Psychology Interventions in Immune Thrombocytopenic Purpura and Other Autoimmune Hematological Disorders: A Systematic Review

Pedro Vazquez-Marin[1]* and Sofía Carrasco-Naranjo[2]

[1]*Department of Education, University of Bath, UK*

[2]*Department of Medicine, University of Sevilla, Spain*

***Corresponding author:** Pedro Vazquez-Marin, Department of Education, University of Bath, United Kingdom, E-mail: education@pedrovazquez.es*

Abstract

Background: Autoimmune hematological disorders, including immune thrombocytopenic purpura (ITP), autoimmune hemolytic anemia (AHAI) and Evans syndrome, are characterized by intricate clinical trajectories and significant emotional and psychosocial burdens. Despite mounting evidence on the psychological distress experienced by these patients, the application of positive psychology interventions (PPIs) in this population remains largely unexplored.

Objective: The present study aims to undertake a systematic review and synthesis of the extant literature concerning the utilization of positive psychology-aligned interventions in patients diagnosed with autoimmune hematological disorders. The primary objective is to elucidate the psychological impact of these interventions, the types of interventions employed, the contextual implementation thereof, and to identify any research gaps.

Methodology: A systematic review was conducted in accordance with the PRISMA 2020 guidelines. A comprehensive search strategy was employed, utilizing six major databases (PubMed, Scopus, Web of Science, PsycINFO, CINAHL, and Google Scholar). This strategy encompassed a combination of terms related to positive psychology, autoimmune hematological disorders, and psychological outcomes. The inclusion criteria encompassed peer-reviewed studies published from 2015 onwards, involving interventions related to positive psychology, and reporting emotional, psychological or quality-of-life outcomes in patients with ITP, AHAI or Evans syndrome. The quality of the studies was assessed using design-appropriate tools (RoB 2, ROBINS-I, CASP, AXIS, JBI, COSMIN, SANRA), and the certainty of the evidence was graded using the GRADE approach.

Results: Following a comprehensive review of the available literature, 33 studies were deemed to meet the inclusion criteria. To the best of our knowledge, no PPIs have been explicitly implemented. However, several of the included components were implicit, and these comprised resilience, emotional well-being, and

subjective quality of life. The interventions employed in this context were found to be heterogeneous, with the majority being conducted within clinical settings. There appeared to be limited attention paid to cultural or community adaptation in these interventions. The qualitative findings indicated that coping strategies, patient agency, and relational support were identified as key psychological resources. Nevertheless, the absence of structured, theory-driven PPI frameworks limits the ability to draw strong conclusions on their effectiveness.
Conclusions: A critical gap in the literature exists with regard to explicit applications of PPIs in autoimmune hematological disorders. The extant evidence suggests that the integration of positive psychology principles, such as meaning-making, gratitude, resilience, and personal strengths, has the potential to enhance patient well-being and complement medical treatment. It is imperative that further research is conducted in order to develop, implement and evaluate culturally sensitive, evidence-based PPIs that are tailored to the unique challenges of this patient population.

Keywords

Positive psychology; Immune thrombocytopenic purpura; Autoimmune hematological disorders: Quality of life; Psychological well-being; Systematic review

Received: 26 April 2025 | **Accepted:** 11 June 2025 | **Published:** 20 June 2025

Citation: Vazquez-Marin P, Carrasco-Naranjo S. Positive Psychology Interventions in Immune Thrombocytopenic Purpura and Other Autoimmune Hematological Disorders: A Systematic Review. Meditio Med. 2025;1(1):1001.

Introduction

Clinical context: ITP and other autoimmune hematological disorders

Immune thrombocytopenic purpura (ITP) is a rare autoimmune disorder characterized by a significant reduction in platelet count as a result of increased peripheral destruction and impaired platelet production due to anti-platelet autoantibodies [1]. Although many patients may remain asymptomatic, the clinical spectrum of ITP varies from mild mucocutaneous hemorrhages to severe hemorrhagic complications, including life-threatening intracranial hemorrhage [2]. Treatment usually includes corticosteroids, intravenous immunoglobulin (IVIG), thrombopoietin receptor agonists (TPO-RA) and, in some cases, splenectomy. However, treatment is often prolonged, with relapses and significant side effects contributing to a complex disease burden.

Beyond ITP, other autoimmune hematological conditions, such as autoimmune hemolytic anemia (AHAI) and Evans syndrome, in which patients present with a combination of ITP and AHAI, are equally challenging. These disorders involve the destruction of red blood cells and/or platelets by the immune system, often resulting in chronic anemia, fatigue and bleeding [3]. Not only are these diseases rare and difficult to diagnose at an early stage, but their chronic and fluctuating nature contributes to prolonging uncertainty for patients.

In many cases, these autoimmune hematological diseases affect people across a broad age spectrum, from children to older adults, with varying prognoses and varying levels of impact on daily functioning. Patients often face an unpredictable clinical trajectory, marked by relapses, hospitalizations and the need for lifelong monitoring and treatment adjustments. As a result, many people experience a sustained psychological toll that goes beyond the physical burden of the disease.

Studies have shown that people with ITP and other autoimmune hematological diseases often report a decrease in health-related quality of life (HRQoL), even in the absence of overt hemorrhagic symptoms [4].

Psychological manifestations such as anxiety, depressive symptoms, emotional exhaustion and loss of self-efficacy are common. The unpredictability of symptoms, the possibility of severe bleeding or fatigue, and the frequent need for long-term immunosuppressive treatments contribute to a burden that goes far beyond physical health [2,5]. Feelings of vulnerability and lack of control over one's health, intensified by the invisible nature of platelet counts, can create a disconnect between internal disease activity and external perception. In addition, patients often report a perceived lack of understanding or support from their social or medical environment, further exacerbating emotional distress [6,7].

This cumulative burden - clinical, emotional and social - underscores the need to approach these conditions not only medically, but also from a holistic perspective that addresses psychological resilience and overall patient well-being. The chronicity, rarity and psychosocial implications of hematological autoimmune diseases create a unique clinical setting in which positive psychological resources can serve as protective factors and therapeutic targets.

It is within this framework that positive psychology emerges as a promising avenue of intervention, with the aim not only of reducing distress, but also of actively cultivating well-being, meaning and inner strength in the lives of people affected by these complex and often misunderstood conditions.

Positive psychology in the context of autoimmune hematological diseases

Positive psychology focuses on enhancing well-being and fostering positive emotions, traits and institutions [8]. Its interventions, such as gratitude journaling, strengths-based exercises and meaning-focused therapies, have been shown to be effective in improving psychological outcomes in diverse populations [9].

In the field of chronic diseases, positive psychology interventions (PPIs) have shown promise in improving mental health and quality of life. For example, a systematic review highlighted that PPIs effectively improve well-being and reduce psychological distress in patients with chronic pain [10]. Similarly, in patients undergoing hematopoietic stem cell transplantation (HSCT), PPIs have been associated with improved health outcomes, including reduced levels of depression and anxiety [11].

Several recent studies have documented that autoimmune hematological diseases, such as immune thrombocytopenic purpura (ITP), present significant psychological challenges due to their chronic and unpredictable nature. Patients with these conditions often experience a decrease in health-related quality of life (HRQoL), even in the absence of overt hemorrhagic symptoms. For example, an international survey revealed that patients with ITP reported reduced quality of life, attributed to factors such as fatigue, anxiety and depression, beyond simply low platelet counts [12]. In addition, a recent study found that 72% of ITP patients experienced anxiety and 82% depression, which negatively impacted their cognitive function and fatigue levels [13].

Despite the potential benefits, there are very few studies specifically examining the application of PPIs in patients with autoimmune hematological disorders. Given the significant psychological burden associated with these conditions and the promising results of PPIs in other chronic diseases, it is imperative to explore this intersection [14].

While clinical research has traditionally focused on pharmacological and immunological treatment pathways, the need for integrative approaches that also address psychological well-being is increasingly recognized [1]. In parallel, the field of positive psychology has provided a robust framework for improving mental health and quality of life through interventions aimed at fostering personal strengths, optimism, gratitude and resilience [15].

This systematic review aims to synthesize the existing literature on the effects of PPIs on psychological outcomes in patients with autoimmune hematological disorders. By evaluating the current evidence, we aim to identify effective strategies to improve health-related quality of life and to inform future research and clinical practice in this area.

In parallel, the field of positive psychology has provided a robust framework for improving mental health and quality of life through interventions aimed at fostering personal strengths, optimism, gratitude and resilience [15]. These interventions have demonstrated measurable benefits in diverse populations with chronic diseases such as cancer, cardiovascular disease and autoimmune diseases such as multiple sclerosis [10,11].

Despite this promising body of evidence, to date there has been no systematic review that specifically synthesizes the impact of positive psychology interventions (PPIs) on psychological outcomes in patients with autoimmune hematological disorders. This systematic review aims to fill this critical knowledge gap by identifying and evaluating the evidence on the use of PPIs in people diagnosed with autoimmune hematological diseases. In doing so, it aims to inform future comprehensive care strategies and lay the groundwork for the inclusion of positive psychological principles in the clinical and psychosocial management of these patients.

Research Questions

1. What impact do interventions aligned with positive psychology have on the emotional well-being, resilience, and quality of life of patients with autoimmune hematological disorders such as ITP, Evans syndrome, or autoimmune hemolytic anemia?
2. What types of interventions linked to positive psychology have been used in these patients and in what clinical, social or cultural contexts have they been developed?
3. What subjective experiences, perceptions and coping strategies do patients describe in relation to their illness and the interventions they have received?
4. What gaps exist in the current literature on the integration of positive psychology in the treatment of these disorders and what directions are proposed for future research?

Methodology

Study design

To achieve the objective of this research and address the specific questions posed, a systematic review was conducted using a clear and replicable search strategy, in which studies were excluded or included based on predefined criteria [16]. This systematic review was designed in accordance with the PRISMA 2020 guidelines [17].

Eligibility criteria

The eligibility criteria were developed following the PICO framework (Population, Intervention, Comparison, Outcome), a widely recognized structure for formulating clinical research questions and structuring systematic reviews [18].

- **Population (P):** Studies including participants diagnosed with autoimmune hematological disorders, such as immune thrombocytopenic purpura (ITP), Evans syndrome, or autoimmune hemolytic anemia (AHAI).
- **Intervention (I):** Studies evaluating interventions aligned with positive psychology principles, such as gratitude practices, strengths-based interventions, meaning-centered therapy, or other well-being enhancement programs.
- **Comparison (C):** Studies were eligible regardless of whether they included a comparison group. Both controlled and uncontrolled designs were considered.
- **Outcomes (O):** Studies reporting psychological outcomes, including resilience, emotional well-being, self-efficacy, coping, anxiety, depression, or health-related quality of life (HRQoL).

Additional inclusion criteria:

- Studies employing quantitative, qualitative, or mixed-methods designs.
- Studies published in peer-reviewed journals.
- Studies published from 2015 onwards.
- Studies published in English or Spanish.

Exclusion criteria included:

- Studies not reporting relevant psychological outcomes.
- Commentaries, editorials, or non-research formats.
- Studies published before 2015.
- Studies with methodological flaws leading to high risk of bias across all assessment domains.

Search strategy

The search was carried out in six electronic databases: PubMed, Scopus, Web of Science, PsycINFO, Google Scholar and CINAHL. The selection of databases for this systematic review was informed by a set of criteria that encompassed subject coverage, disciplinary relevance, and international representativeness. This approach was adopted to ensure a meticulous and rigorous exploration of the extant scientific literature.

It is evident that PubMed has been selected as the foremost global biomedical database, with its comprehensive coverage of literature in medicine, hematology and clinical psychology, thus establishing itself as an indispensable source for the study of autoimmune hematological disorders [19].

The selection of Scopus and Web of Science was made on the basis of their multidisciplinary nature and coverage of high-impact peer-reviewed scientific literature. These databases facilitate broad and effective searches in the medical and social sciences, thereby enabling the identification of studies that address both the clinical and psychosocial aspects of the diseases under review [20,21]. Google Scholar was utilized as a complementary source to capture recent studies not indexed in other databases which is especially valuable for maintaining a more inclusive and representative view [19].

In order to incorporate the psychological dimension in a specialized manner, PsycINFO was used, a database recognized for its depth of coverage in clinical and positive psychology and mental health, which is key to identifying studies on psychological interventions applied to chronic diseases [19].

CINAHL was included due to its pertinence in the domain of nursing and allied health sciences, offering studies centered on emotional support, quality of life, and the well-being of patients with chronic and autoimmune conditions [22].

This strategic combination of biomedical, psychological and multidisciplinary databases facilitates a comprehensive approach to the biopsychosocial complexity of autoimmune hematological disorders, as well as contemporary approaches that integrate positive psychology into clinical care.

A combination of controlled vocabulary (e.g. MeSH terms) and free-text terms were used, structured as follows:

("positive psychology" OR "character strengths" OR gratitude OR "well-being intervention" OR "meaning-centered therapy" OR "strength-based intervention")

AND

("immune thrombocytopenic purpura " OR ITP OR "autoimmune hematologic disorder*" OR "autoimmune blood disorder*" OR "Evans syndrome")

During the initial design of the search strategy, a third block of terms was included to identify studies reporting psychological outcomes:

AND

("resilience" OR "emotional well-being" OR "psychological well-being" OR "quality of life" OR anxiety OR depression OR "self-efficacy")

However, pilot tests in Web of Science and PubMed using the full search string yielded no results, suggesting that this block of outcome-related terms may have been too restrictive. As a result, and in order to retrieve a broader set of potentially eligible studies, the final search strategy changed AND to OR this third block along with the first block. This resulted in the following:

("positive psychology" OR "character strengths" OR gratitude OR "well-being intervention" OR "meaning-centered therapy" OR "strength-based intervention" OR "resilience" OR "emotional well-being" OR "psychological well-being" OR "quality of life" OR anxiety OR depression OR "self-efficacy")

AND

("immune thrombocytopenic purpura " OR ITP OR "autoimmune hematologic disorder*" OR "autoimmune blood disorder*" OR "Evans syndrome")

Instead, the relevance of the results was assessed during the screening phase by manual review of abstracts and full texts.

Selection and screening

All retrieved records were managed and screened using Excel and Mendeley Cite. Two reviewers screened papers by title and abstract including in the table title, author, year, journal, abstract, eligible (Yes, no, maybe), reasons for exclusion and comments. A table with titles, author, year, inclusion/exclusion criteria (divided into Wellbeing-based interventions, medical condition: hematological autoimmune disease and Outcome related to emotional/psychological wellbeing), decision, reason for exclusion and commentary was used independently for the review of the full papers. The full texts of potentially eligible studies were then independently assessed in duplicate. For the second full text review, a table was developed with titles, author, year, inclusion/exclusion criteria (divided into Wellbeing-based interventions, medical condition: hematological autoimmune disease and Outcome related to emotional/psychological wellbeing), decision, exclusion/inclusion reason, Implied relationship to positive psychology (as the results did not yield data for explicit positive psychology interventions) and commentary. Any disagreements were resolved by discussion or arbitration by a third reviewer.

Data extraction

Data were extracted independently by two reviewers using a standardized extraction form in Excel. Extracted data included: Study characteristics (authors, year, title, journal, country, abstract, design, sample size, instrument, objective, intervention characteristics and control conditions, as well as methods employed).

A pilot extraction of five studies was conducted to ensure consistency. Discrepancies were resolved by consensus.

Qualitative synthesis

Due to the heterogeneity of the included studies and the lack of standardized outcome measures across trials, conducting a formal meta-analysis was not possible. Conversely, a narrative synthesis was conducted employing an inductive, iterative approach. The initial phase of the study involved the categorization of studies according to key psychosocial dimensions that were the focus of investigation (e.g., emotional well-being, quality of life, coping strategies). A systematic comparison of the primary findings from these studies was then conducted.

The identification of themes and patterns was achieved through a meticulous examination of the full texts, with the extraction of central constructs and the noting of recurrent elements across studies. The present process was guided by the principles of integrative review methodology, allowing for the combination of empirical findings with theoretical insights. Despite the absence of a codified coding framework or software, meticulous attention was accorded to consistency in reporting and conceptual coherence, with the objective of safeguarding the contextual richness inherent in each study.

Ethical considerations of included studies

Despite the absence of a systematic extraction of data on ethical approvals during the selection process, the majority of the included studies explicitly stated that they had obtained approval from an institutional review board or ethics committee, and that informed consent had been obtained from participants or their legal guardians. In studies of a retrospective design or case reports, ethical statements were less consistently reported, likely due to the use of de-identified data or secondary sources. It is noteworthy that all of the articles under review were published in peer-reviewed academic journals, which generally mandate adherence to ethical standards in human research.

Quality assessment and risk of bias

Bias risk assessment:

The assessment of risk of bias in the screening process of the studies included in this review was assessed using tools appropriate to the design of each study. Randomized controlled trials were assessed using RoB 2 (Risk of Bias), a recommended tool for this type of study [23]. Non-randomized studies were assessed with ROBINS-I (Risk of Bias in Non-randomized Studies - of Interventions) [24], and qualitative studies were analysed using the CASP (Critical Appraisal Skills Program) tool (Critical Appraisal Skills Program, 2018). In addition, additional tools were used such as the AXIS Tool for assessing cross-sectional studies [25], the Joanna Briggs Institute (JBI) tools [26], COSMIN for assessing the quality of measurement instruments [27], and SANRA for assessing narrative review articles [28]. These tools allowed for a thorough assessment of the methodological quality and risk of bias in the selected studies, ensuring the validity and reliability of the results obtained.

Quality assessment:

To assess the overall quality of the evidence in the studies included in this review, we used the GRADE (Grading of Recommendations Assessment, Development and Evaluation) approach, which is widely recognized for its transparency and methodological rigor [29]. This system ranks the certainty of findings according to five key domains.

1. Risk of bias: Each study was assessed according to its design and potential biases analyzed in the risk of bias assessment phase.
2. Inconsistency: This domain assesses whether the results of studies are consistent with each other.
3. Indirectness: We assessed whether the results of the studies were directly relevant to the research questions.
4. Imprecision: This criterion assesses sample size and variability of results.
5. Other factors: This domain refers to the presence of other factors that could have affected the quality of the evidence, such as conflicts of interest.

Finally, an overall rating was assigned to each study based on the combination of all the above domains. Studies were classified into three categories: High (evidence is reliable and provides a solid basis for conclusions), Moderate (evidence has some limitations, but is still useful for decision-making), Low (evidence has important limitations, which reduces confidence in the results [30].

This quality assessment allows the reliability of the studies included in the review to be interpreted, providing a sound basis for the conclusions presented. Studies with high quality offer greater confidence in the results, while those with low quality suggest the need for caution in interpreting their findings.

Screening process

The screening process for this systematic review was carried out in several phases in order to ensure that the selected studies were relevant, of high quality and directly applicable to the research objectives. The different phases of the screening process are described below:

Phase 1. Database search:

In Phase 1, a comprehensive search was conducted in several relevant academic databases, such as Web of Science, PubMed, PsycINFO, Google Scholar, Scopus and CINAHL.

The search strategy was explicit and replicable, using the predefined search terms, with the exception of the year of publication, as the reviewers considered positive psychology to be a relatively young field, so studies that met the main inclusion criteria were retained, regardless of their year of publication. This initial search yielded 1148 articles.

Phase 2. Screening by title and abstract:

Each study was assessed against criteria that addressed relevant aspects of positive psychology and its impact on emotional well-being. In addition, related outcomes were considered, especially those impacting emotional well-being, a key area of positive psychology. Studies had to demonstrate that their interventions or approaches affect this or similar dimensions, as stated in the search terms. Once the studies had been assessed against these criteria and their results, the reviewers made the decision to include or exclude studies. Decisions were based on meeting key criteria such as whether the study addressed positive psychology or associated concepts such as emotional well-being, resilience or self-compassion, and whether it focused on patients with autoimmune hematological disorders, such as ITP. In case of exclusion, provided a clear reason, such as: lack of focus on positive psychology or well-being, exclusion of emotional or psychological aspects in favor of exclusively economic or clinical approaches, or non-alignment with the stated inclusion criteria (except date of publication or type of intervention).

This process of screening titles and abstracts allowed the number of studies to be reduced to the most relevant ones, ensuring that only those that met the fundamental criteria were included in the full reading phase, where a more thorough assessment of their methodology and results would be carried out.

Phase 3. First full reading screening:

In Phase 3, we proceeded to the elimination of duplicates, removing 5 duplicate studies from the 83 selected in Phase 2, leaving a total of 78 studies. After full reading of the remaining studies, 33 were found to meet the established criteria and were published as of 2015. Studies that did not adequately align with approaches to autoimmune hematological disorders or emotional well-being were excluded. Although no explicit studies on positive psychology interventions were found, several studies indirectly addressed key concepts of positive psychology, such as improved emotional well-being, resilience and subjective quality of life. Due to the presence of these elements, it was decided to conduct a full second reading to identify possible implicit references to positive psychology or psychological well-being interventions [31].

Phase 4. Second full reading screening:

The second full-reading screening aimed to ensure that all selected studies were relevant and of high quality. This phase ensured that the included studies were consistent with the objectives of the review and that the results obtained were as representative and reliable as possible.

The complete screening process and the decisions taken at each stage are summarized in the systematic review flowchart, presented in Figure 1.

Results of the Systematic Review

As illustrated in Table 1, the following articles were selected after the second reading of the full text.

The review of the included studies reveals a fragmented but emerging picture of the impact of positive psychology-aligned interventions in patients with autoimmune hematological disorders such as primary immune thrombocytopathy (PIT), Evans syndrome and autoimmune hemolytic anemia. Although none of the research reviewed directly implements intervention programs based on positive psychology, many of the studies present implicit components related to this discipline, mainly focusing on resilience, subjective well-being and quality of life.

Several studies highlight the importance of emotional well-being in these patients, although they approach it from clinical or functional perspectives. For example, Mathias et al. [32,33] highlight that the subjective perception of emotional and functional status is profoundly influenced by the coping tools that patients develop, particularly in contexts of chronic and long-term diagnosis. Similarly, Giordano et al. [34], through a narrative methodology, identify how young patients integrate their illness experience into the construction of meaning, a key component of resilience. These studies suggest that emotional well-being is not only a side effect of medical treatment, but a variable that deserves specific attention in comprehensive clinical assessment.

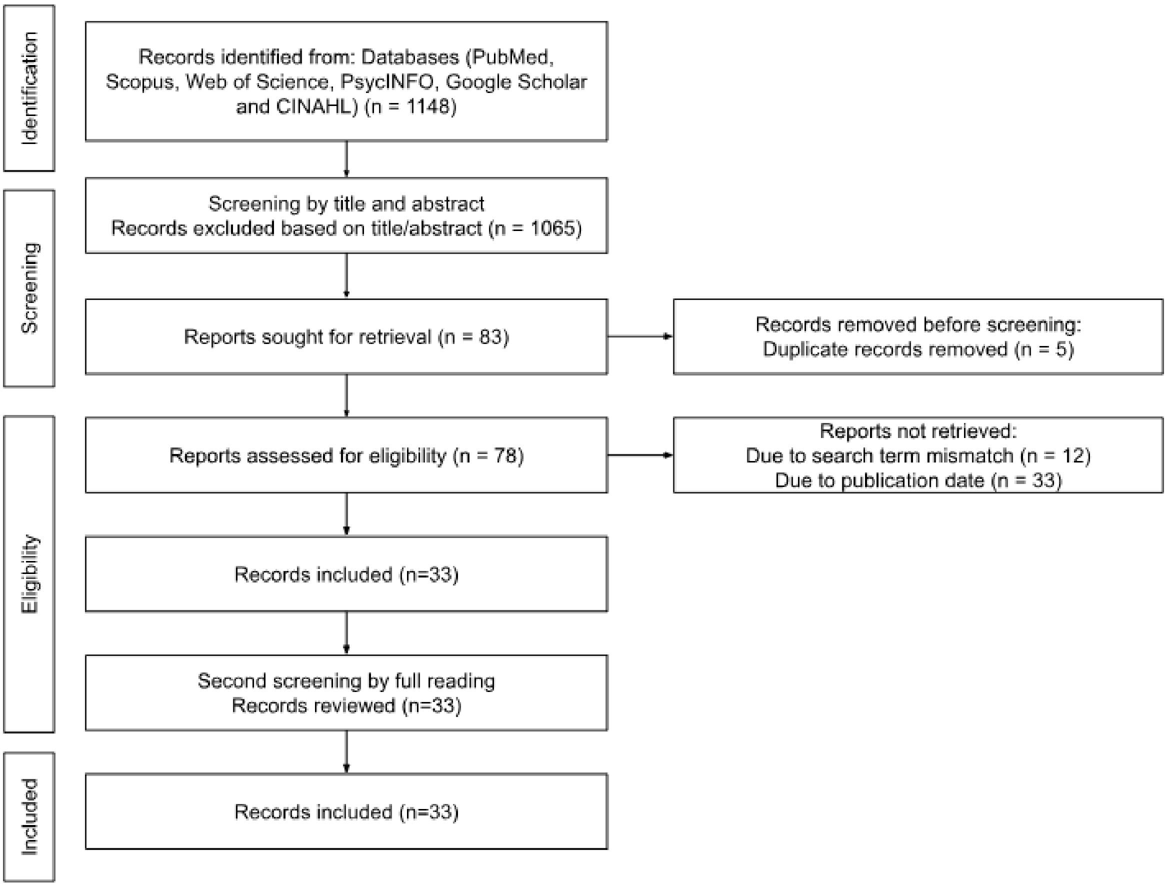

Figure 1: PRISMA flow diagram of the study selection process.

The types of interventions that are indirectly linked to positive psychology are varied. Some studies, such as Özbay and Hilkay Karapinar [35], assess quality of life and social functioning in pediatric patients, with a particular interest in their ability to maintain routines, attachments and balanced emotional development. Although not labelled as emotional strengthening interventions, these strategies infer a positive focus on preserved capacities rather than deficits. Other studies, such as Suntsova et al. [36], also address the emotional dimension through quality-of-life questionnaires, highlighting the importance of family support and future expectations as modulators of the psychological impact of the diagnosis.

From a contextual perspective, the studies reviewed are mainly conducted in clinical settings, but several of them incorporate cultural and community factors. For example, Caocci et al. [37] and Zhang et al. [38] explicitly mention differences in the perception of treatment and recovery according to socio-cultural settings, while Anderson et al. [39] and Gao et al. [40] address the role of the healthcare environment and doctor-patient communication as key elements in sustaining emotional well-being during treatment. This contextual approach makes it visible that positive psychology tools can benefit from cultural and relational adaptation to complement traditional biomedical intervention.

With regard to qualitative findings on lived experiences, some studies explore the subjective dimension in greater depth. Towner et al. [41] and Tomiyama et al. [42] highlight that the management of uncertainty and fear associated with illness is a cross-cutting component of patients' narratives. How patients cope with the therapeutic process is deeply linked to their belief systems, emotional supports and perception of control. Along these lines, Auteri et al. [43] and Chakrabarti et al. [44] note that patients who perceive some degree of agency in clinical decision-making tend to show higher levels of subjective well-being and less emotional symptomatology, findings that relate to active coping mechanisms, one of the key areas in positive psychology.

Likewise, Neier et al. [45], Khelif et al. [46] and McBride et al. [47] refer to patients' perception of the effects of treatment and its influence on their well-being, highlighting the need to integrate emotional experience into the assessment of therapeutic efficacy. The results of these studies provide evidence that subjective components, such as hope, perception of support or sense of competence, influence resilience and should be considered within a more holistic approach to treatment.

However, the review reveals significant gaps in the formal integration of positive psychology into medical treatments for these disorders. No studies are identified that structure their interventions around theoretical models of character strengths, gratitude, optimism or sense of aliveness, which is an important omission given the demonstrated impact of these variables in other chronic conditions. Although studies such as Singh et al. [48], Bradbury et al. [49], Klein et al. [50] and Hughes et al. [51] demonstrate the value of measuring quality of life and mental health in parallel to clinical efficacy, the absence of psychoeducational or therapeutic interventions specifically aimed at cultivating positive emotions, meaningful relationships or personal goals limits the scope of the psychosocial approach in these patients.

In light of these shortcomings, it is recommended that future research should develop and implement programs based explicitly on positive psychology, adapted to the characteristics of the chronic hematological patient. This could include group interventions focused on personal strengths, gratitude exercises, positive emotion diaries or optimism training, which have shown efficacy in other pathologies. In addition, it would be appropriate to include qualitative and longitudinal assessment tools to capture the evolution of emotional well-being beyond medical discharge. The incorporation of community and family frameworks, as suggested in studies by Englund [52], Kumar et al. [53], Viana et al. [54] and van Dijk et al. [55], could facilitate a more systemic view of the therapeutic process, in which psychological well-being is not considered an epiphenomenon, but a central clinical objective.

Discussion

The findings of this systematic review highlight the growing need to incorporate a more holistic approach to the treatment of autoimmune hematological disorders such as ITP, Evans syndrome and autoimmune hemolytic anemia. As stated in the theoretical framework, these pathologies have a high emotional and psychosocial burden, which is often not adequately addressed by conventional clinical practice focused exclusively on hematological parameters. In this context, the included studies offer a preliminary basis on which to begin to build a research agenda more resolutely oriented towards the integration of positive psychology as a therapeutic complement.

Despite the utilization of the term "positive psychology interventions" (PPIs) throughout this review, it is crucial to acknowledge that not all included studies explicitly delineate their interventions as such. A significant proportion of these studies primarily concentrate on constructs central to positive psychology, including well-being, resilience, optimism, and meaning. However, these studies are often framed within broader psychosocial or clinical paradigms.

In this context, the term PPI is applied operationally to refer to interventions that promote psychological strengths or enhance subjective well-being, regardless of whether they are formally categorized within the positive psychology literature. This inclusive approach facilitates a more comprehensive synthesis of evidence and reflects the translational overlap between clinical psychology, health psychology and positive psychology in chronic illness care.

First, the results suggest a general agreement on the centrality of emotional well-being, health-related quality of life (HRQoL) and resilience as critical dimensions in the clinical evolution of patients. Several studies, such as those by Mathias et al. [32,33] and Giordano et al. [34], show that even in the absence of severe physical symptoms, patients have significant levels of anxiety, perceived vulnerability and emotional impairment. These observations reaffirm the findings of Ghanima et al. [12] and Mulas et al. [13], reinforcing the argument that psychological distress is not only an indirect consequence of the disease, but a structural component of the ITP patient experience.

In line with the positive psychology paradigm, several works, although not explicitly ascribed to the approach, have explored dimensions that can be interpreted as relevant elements of this discipline. Özbay and Hilkay Karapınar [35] highlight, for example, the importance of the social environment and the perception of support in the experience of pediatric patients. Similarly, studies such as Suntsova et al. [36], Zhang et al. [38] and Caocci et al. [37] highlight the influence of contextual factors - such as family support, social stigma or perceived medical information - on coping with illness and emotional stability.

A particularly significant finding of this review is the recurrent allusion, in numerous studies, to coping mechanisms that reflect the dynamics of positive psychology interventions, such as cognitive restructuring, the generation of hope, the development of meaning or the strengthening of locus of control. Thus, research such as Towner et al. [41], Tomiyama et al. [42], Chakrabarti et al. [44], Auteri et al. [43] and Anderson et al. [39] provide qualitative evidence showing how patients construct subjective strategies to cope with uncertainty, fear of relapse and emotional isolation, aspects that, from a positive perspective, can be enhanced by programs aimed at cultivating positive emotions and personal values.

Furthermore, the assessment of HRQoL as a study variable - present in works such as Khelif et al. [46], Jiang et al. [56], McBride et al. [47], Kruse et al. [57], Neier et al. [45] and Bradbury et al. [49]- allows us to observe a common pattern: the perception of well-being is not necessarily correlated with traditional clinical indicators, but with subjective dimensions such as autonomy, sense of vitality and social recognition, all of which are key elements of positive psychology.

Another relevant contribution is offered by studies such as those of Singh et al. [48], Gao et al. [40], Hussein et al. [58], Tang et al. [59] and Cooper et al. [60], which emphasize how the side effects of treatments (such as fatigue or insomnia), and the experience of recurrence or chronification of the disease, produce a progressive deterioration in the emotional state of patients. Against this background, the findings of Viana et al. [54], Klein et al. [50], Hughes et al. [51], Shimano et al. [61], Englund [52] and Kumar et al. [53] underline the need for approaches that not only mitigate physical symptoms, but also strengthen internal psychological resources that support overall recovery.

Conclusions

Although none of the studies reviewed formally implement positive psychology interventions, the body of evidence allows us to infer the potential impact of approaches explicitly designed from this perspective. The most studied dimensions - resilience, perception of control, meaning, quality of life - coincide with the objectives of many PPIs already validated in other clinical contexts. The absence of specific studies that integrate techniques such as strengths work; gratitude journaling or meaning-based therapy reveals a substantial gap in the psychosocial approach to this population.

This gap is particularly relevant considering that the chronicity, rarity of diagnosis and low visibility of symptoms make hematological autoimmune diseases a fertile ground for positive intervention. The fact that patients, as reflected in multiple studies included here, autonomously develop emotional coping strategies suggests that PPIs could not only optimize these resources, but also systematize them for structured clinical application.

Finally, we believe that this review adds value to the existing literature by bringing together and systematizing for the first time the scattered evidence linking, albeit indirectly, elements of positive psychology with psychosocial outcomes in patients with ITP and other autoimmune hematological diseases. In a field dominated by biomedical approaches, the inclusion of studies focusing on the subjective experience of illness, such as those discussed in this review, represents a step towards a more humanized, person-centered medicine with the potential to flourish even in complex clinical contexts.

Limitations, Recommendations for Future Research, and Practical Implications

Limitations

This systematic review has several limitations that should be considered when interpreting the results. First, we identified a significant paucity of studies that explicitly applied positive psychology interventions in patients with autoimmune hematological disorders, which restricts the ability to assess their direct impact. Most of the included studies addressed dimensions such as resilience or quality of life, but without a structured intervention framework specific to positive psychology.

Furthermore, considerable methodological variability was observed among the reviewed studies, including small sample sizes, non-randomized designs and lack of longitudinal follow-up, which limits the validity and generalizability of the findings. Heterogeneity in intervention strategies also makes systematic comparison between studies difficult.

Another relevant limitation is the limited attention to the cultural and community context in the implementation of the interventions, which reduces the applicability of the results to diverse populations. In addition, most studies focused on general variables such as quality of life and emotional well-being, without specifically addressing other relevant dimensions of psychological well-being, such as self-efficacy or meaning in life.

Finally, the lack of longitudinal studies prevents us from assessing the sustainability of the potential benefits of interventions in the long term. Future studies should address these gaps to consolidate a robust body of evidence on the role of positive psychology in the complementary treatment of these illnesses.

Recommendations for future research

To address the identified gaps, controlled clinical trials exploring the effectiveness of specific positive psychology interventions, such as gratitude practice, personal strengths reinforcement, and mindfulness meditation, in the context of autoimmune hematological disorders are recommended. These studies should seek not only to assess the effects of positive psychology interventions on emotional well-being and resilience, but also their interaction with standard medical treatments, such as corticosteroids or immunosuppressants, used in the treatment of these conditions.

Furthermore, it would be crucial to explore the mechanisms underlying the effects of positive psychology on these patients, such as feelings of control over their illness and reduced emotional stress, in order to better understand how these interventions could be used effectively in the clinical setting.

Finally, it is recommended that future studies consider cultural diversity and community context when designing positive psychology interventions, as experiences of illness and stress management may vary significantly between different socio-cultural groups (López et al., 2019).

Practical implications and intervention models

Based on the findings of this review, two conceptual models appear particularly suitable for guiding the development of positive psychology interventions (PPIs) in patients with autoimmune hematological disorders: the PERMA model (Seligman, 2011) and the Positive Psychotherapy (PPT) framework [15].

The PERMA model outlines five core elements of psychological well-being—Positive emotions, Engagement, Relationships, Meaning, and Accomplishment—which can serve as pillars for designing structured interventions. Similarly, PPT provides a therapeutic framework that integrates positive psychology principles into clinical practice, focusing on character strengths, hope, and resilience.

In clinical settings, these models can be operationalized through brief, low-intensity programs. Examples include: group-based interventions fostering gratitude and social connection; individual exercises on identifying personal strengths and setting meaningful goals; or brief narrative approaches to help patients reframe their illness experience. These approaches are particularly suitable for patients dealing with chronic or unpredictable medical conditions, where emotional resilience and sense-making play a central role in quality of life.

References

1. Neunert C, Terrell DR, Arnold DM, Buchanan G, Cines DB, Cooper N, et al. American Society of Hematology 2019 guidelines for immune thrombocytopenia. Blood Adv. 2019;3(23):3829-66.
2. Rodeghiero F, Stasi R, Gernsheimer T, Michel M, Provan D, Arnold DM, et al. Standardization of terminology, definitions and outcome criteria in immune thrombocytopenic purpura of adults and children: report from an international working group. Blood. 2009;113(11):2386-93.
3. Barcellini W, Fattizzo B. Clinical applications of hemolytic markers in the differential diagnosis and management of hemolytic anemia. Dis Markers. 2015;635670.
4. Beyene DA, Sisay EA, Fentie AM, Gebremedhin A. Health-related quality of life and complications of corticosteroid treatment in patients with immune thrombocytopenia in two teaching hospitals in Ethiopia: a cross-sectional study. Front Med. 2024;11:1423161.

5. Hill QA, Stamps R, Massey E, Grainger JD, Provan D, Hill A, et al. The diagnosis and management of primary autoimmune haemolytic anaemia. Br J Haematol. 2017;176(3):395-411.
6. Brown TM, Horblyuk RV, Grotzinger KM, Matzdorff AC, Pashos CL. Patient-reported treatment burden of chronic immune thrombocytopenia therapies. BMC Blood Disord. 2012;12:2.
7. Mathias SD, Gao SK, Miller KL, Cella D, Snyder C, Turner R, et al. Impact of chronic immune thrombocytopenic purpura (ITP) on health-related quality of life: a conceptual model starting with the patient perspective. Health Qual Life Outcomes. 2008;6:13.
8. Seligman ME, Csikszentmihalyi M. Positive psychology. An introduction. Am Psychol. 2000;55(1):5-14.
9. Carr A, Cullen K, Keeney C, Canning C, Mooney O, Chinseallaigh E, et al. Effectiveness of positive psychology interventions: a systematic review and meta-analysis. J Posit Psychol. 2020;16(6):749-69.
10. Blasco-Belled A, Tejada-Gallardo C, Alsinet C. Positive psychology interventions can improve mental health for chronic pain patients: a systematic review and meta-analysis. Psychol Health. 2025;40(4):635-51.
11. Amonoo HL, El-Jawahri A, Celano CM, Brown LA, Harnedy LE, Longley RM, et al. A positive psychology intervention to promote health outcomes in hematopoietic stem cell transplantation: the PATH proof-of-concept trial. Bone Marrow Transplant. 2021;56(9):2276-9.
12. Ghanima W, Provan D, Cooper N, Matzdorff A, Hou M, Santoro C, et al. ITP world impact survey (I-WISH) 2.0: further exploration of the impact of ITP on patients. Blood. 2020;136(Supplement 1):2-3.
13. Mulas O, Efficace F, Costa A, Baldi T, Zerbini F, Mantovani D, et al. Long-term health-related quality of life and mental health in patients with immune thrombotic thrombocytopenic purpura. Ann Hematol. 2024;103(7):2523-31.
14. Tönis KJM, Kraiss JT, Linssen GCM, Bohlmeijer ET. The effects of positive psychology interventions on well-being and distress in patients with cardiovascular diseases: A systematic review and meta-analysis. J Psychosom Res. 2023;170:111328.
15. Rashid T, Seligman MP. Positive psychotherapy: Clinical manual. New York: Oxford University Press; 2018.
16. Gough D, Thomas J, Oliver S. Clarifying differences between review designs and methods. Syst Rev. 2012;1(1):28.
17. Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ. 2021;372:n71.
18. Methley AM, Campbell S, Chew-Graham C, McNally R, Cheraghi-Sohi S. PICO, PICOS and SPIDER: a comparison study of specificity and sensitivity in three search tools for qualitative systematic reviews. BMC Health Serv Res. 2014;14:579.
19. Gusenbauer M, Haddaway NR. Which academic search systems are suitable for systematic reviews or meta-analyses? Evaluating retrieval qualities of Google Scholar, PubMed, and 26 other resources. Res Synth Methods. 2020;11(2):181-217.
20. Bramer WM, Rethlefsen ML, Kleijnen J, Franco OH. Optimal database combinations for literature searches in systematic reviews: a prospective exploratory study. Syst Rev. 2017;6(1):245.
21. med.mercer.edu [Internet]. Georgia: Mercer University School of Medicine Library. Difference between PubMed, Embase, Web of Science and Scopus; c2025 [cited 2025 Apr 25]. Available from https://med.mercer.edu/library/database-differences.htm
22. Pieper D, Antoine SL, Mathes T, Neugebauer EA, Eikermann M. Systematic review finds overlapping reviews were not mentioned in every other overview. J Clin Epidemiol. 2014;67(4):368-75.
23. Sterne JAC, Savović J, Page MJ, Elbers RG, Blencowe NS, Boutron I, et al. RoB 2: a revised tool for assessing risk of bias in randomised trials. BMJ. 2019;366:l4898.

24. Sterne JA, Hernán MA, Reeves BC, Savović J, Berkman ND, Viswanathan M, et al. ROBINS-I: a tool for assessing risk of bias in non-randomised studies of interventions. BMJ. 2016;355:i4919.
25. Downes MJ, Brennan ML, Williams HC, Dean RS. Development of a critical appraisal tool to assess the quality of cross-sectional studies (AXIS). BMJ Open. 2016;6(12):e011458.
26. Barker TH, Stone JC, Sears K, Klugar M, Tufanaru C, Leonardi-Bee J, et al. The revised JBI critical appraisal tool for the assessment of risk of bias for randomized controlled trials. JBI Evid Synth. 2023;21(3):494-506.
27. Mokkink LB, Elsman EBM, Terwee CB. COSMIN guideline for systematic reviews of patient-reported outcome measures version 2.0. Qual Life Res. 2024;33(11):2929-39.
28. Baethge C, Goldbeck-Wood S, Mertens S. SANRA-a scale for the quality assessment of narrative review articles. Res Integr Peer Rev. 2019;4:5.
29. Schünemann HJ, Higgins JPT, Vist GE, Glasziou P, Akl EA, Skoetz N, et al. Completing Summary of findings tables and grading the certainty of the evidence. In Higgins JPT, Thomas J, Chandler J, Cumpston M, Li T, Page MJ, Welch VA editors. Cochrane handbook for systematic reviews of interventions (version 6.5). UK: Cochrane; 2024.
30. Zeraatkar D, Pitre T, Phillips M, Steel DH, Wykoff CC, Wong TY, et al. The ophthalmologist's guide to evaluating the certainty of evidence using the GRADE approach. Eye (Lond). 2024;38(9):1601-4.
31. Vazquez-Marin P, Cuadrado F, Lopez-Cobo I. Linking character strengths and key competencies in education and the arts: a systematic review. Educ Sci. 2022;12(3):178.
32. Mathias SD. I-WISh: A wish list for immune thrombocytopenia quality of life indicators becomes reality. Am J Hematol. 2021;96(2):172-3.
33. Mathias SD, Li X, Eisen M, Carpenter N, Crosby RD, Blanchette VS. A phase 3, randomized, double-blind, placebo-controlled study to determine the effect of romiplostim on health-related quality of life in children with primary immune thrombocytopenia and associated burden in their parents. Pediatr Blood Cancer. 2016;63(7):1232-7.
34. Giordano P, Lassandro G, di Meo NA, Palladino V, Lovrencic B, Spinelli M, et al. A narrative approach to describe Qol in children with chronic ITP. Front Pediatr. 2019;7:163.
35. Özbay T, Karapinar TH. An evaluation on the quality of life in children with immune thrombocytopenia. Forbes J Med. 2024;5(3):186-92.
36. Suntsova EV, Demina IM, Ignatova AA, Ershov NM, Trubina NM, Dobrynina J, et al. Bleeding tendency and platelet function during treatment with romiplostim in children with severe immune thrombocytopenic purpura. Int J Hematol. 2017;105(6):841-8.
37. Caocci G, Efficace F, Mulas O, Cottone F, Maxia A, Costa A, et al. Health-related quality of life profile of patients with immune thrombocytopenia in the real life is impaired by splenectomy. Ann Hematol. 2022;101(4):749-54.
38. Zhang H, Wang L, Quan M, Huang J, Wu P, Lu Q, et al. Health-related quality of life in children with chronic immune thrombocytopenia in China. Health Qual Life Outcomes. 2016;14:45.
39. Anderson LM, Leonard S, Jonassaint J, Lunyera J, Bonner M, Shah N. Mobile health intervention for youth with sickle cell disease: Impact on adherence, disease knowledge, and quality of life. Pediatr Blood Cancer. 2018;65(8):e27081.
40. Gao Q, Wang S, Ren J, Wen X. Measuring parent proxy-reported quality of life of 11 rare diseases in children in Zhejiang, China. Health Qual Life Outcomes. 2020;18(1):372.
41. Towner S, Berger ZE, Titman P, New HV, Theodore K, Brown G, et al. Fatigue, executive function and psychological effects in children with immune thrombocytopenia: a cross-sectional study. Br J Haematol. 2020;189(3):534-42.

42. Tomiyama Y, Cheze S, Grant L, Bonner N, Affinito S, Nagano M, et al. Japanese and French translation and linguistic validation of a patient-reported outcome tool to assess quality of life in patients with immune thrombocytopenia (ITP): the ITP life quality index (ILQI). Int J Hematol. 2022;116(4):500-27.
43. Auteri G, Ricci L, Vianelli N, Lovrencic B. Living under the sword of Damocles: a psychological support project for patients with immune thrombocytopenia and their caregivers. Bleeding Thromb Vasc Biol. 2025;4(1):161.
44. Chakrabarti P, George B, Shanmukhaiah C, Sharma LM, Udupi S, Ghanima W. How do patients and physicians perceive immune thrombocytopenia (ITP) as a disease? Results from Indian analysis of ITP world impact survey (I-WISh). J Patient Rep Outcomes. 2022;6(1):24.
45. Neier M, Lambert MP, Grace RF, Hege K, Chiu S, Thompson J, et al. The effect of "pathway" to diagnosis for childhood ITP on caregiver quality of life at time of diagnosis. Blood. 2019;134(Supplement 1):2174.
46. Khelif A, Saleh MN, Salama A, Portella MDSO, Duh MS, Ivanova J, et al. Changes in health-related quality of life with long-term eltrombopag treatment in adults with persistent/chronic immune thrombocytopenia: Findings from the EXTEND study. Am J Hematol. 2019;94(2):200-8.
47. McBride A, Nayak P, Kreychman Y, Todd L, Duliege AM, Mehta AR. Fostamatinib disodium hexahydrate: a novel treatment for adult immune thrombocytopenia. Am J Manag Care. 2019;25(19 Suppl):S347-58.
48. Singh G, Bansal D, Wright NAM. Immune thrombocytopenia in children: consensus and controversies. Indian J Pediatr. 2020;87(2):150-7.
49. Bradbury CA, Pell J, Hill Q, Bagot C, Cooper N, Ingram J, et al. Mycophenolate mofetil for first-line treatment of immune thrombocytopenia. N Engl J Med. 2021;385(10):885-95.
50. Klein DE, Winterowd CL, Ehrhardt MD, Carter JC, Khan O, Mayes S. The relationship of self-compassion and hope with quality of life for individuals with bleeding disorders. Haemophilia. 2020;26(3):e66-73.
51. Hughes DM, Toste C, Nelson C, Escalon J, Blevins F, Shah B. Transitioning from thrombopoietin agonists to the novel syk inhibitor fostamatinib: a multicenter, real-world case series. J Adv Pract Oncol. 2021;12(5):508-17.
52. Englund H. Vaccine-associated immune thrombocytopenia purpura. J Nurse Pract. 2025;21(2):105279.
53. Kumar M, Lambert MP, Breakey V, Buchanan GR, Neier M, Neufeld EJ, et al. Sports participation in children and adolescents with immune thrombocytopenia (ITP). Pediatr Blood Cancer. 2015;62(12):2223-5.
54. Viana R, D'Alessio D, Grant L, Cooper N, Arnold D, Morgan M, et al. Psychometric evaluation of ITP life quality index (ILQI) in a global survey of patients with immune thrombocytopenia. Adv Ther. 2021;38(12):5791-808.
55. van Dijk WEM, Nap-van der Vlist MM, Knoop H, Schutgens REG. Possible targets to reduce fatigue in chronic immune thrombocytopenia patients - an explorative study. TH Open. 2022;6(4):e387-95.
56. Jiang D, Al-Samkari H, Panch SR. Changing paradigms in ITP management: newer tools for an old disease. Transfus Med Rev. 2022;36(4):188-94.
57. Kruse C, Kruse A, DiRaimo J. Immune thrombocytopenia: the patient's perspective. Ann Blood. 2021;6:9.
58. Trotter P, Hill QA. Immune thrombocytopenia: improving quality of life and patient outcomes. Patient Relat Outcome Meas. 2018;9:369-84.
59. Tang Y, Xu Y, Shi Z, Ma X, Fan L, Wang K, et al. Multiple total hip arthroplasties in refractory immune thrombocytopenic purpura: A case report and literature review. Medicine (Baltimore). 2018;97(15):e0308.
60. Cooper N, Kruse A, Kruse C, Watson S, Morgan M, Bussel JB, et al. Results from the ITP world impact survey (I-WISh): patients with immune thrombocytopenia (ITP) experience impaired quality of life (QoL) regarding daily activities, social interactions, emotional well-being and working lives. Blood. 2018;132(Supplement 1):4804.

61. Shimano KA, Neunert C, Bussel JB, Klaassen RJ, Bhat R, Pastore YD, et al. Quality of life is an important indication for second-line treatment in children with immune thrombocytopenia. Pediatr Blood Cancer. 2021;68(6):e29023.
62. Chen X, Wang D, Tang J, Wang L, Quan Y, Liu J, et al. Dynamic changes in platelet counts and psychological state in ITP patients after COVID-19 infection. Front Med (Lausanne). 2025;12:1485418.
63. Cooper N, Kruse A, Kruse C, Watson S, Morgan M, Provan D, et al. Immune thrombocytopenia (ITP) world impact survey (I-WISh): impact of ITP on health-related quality of life. Am J Hematol. 2021;96(2):199-207.
64. Zheng F, Yu Z, Zhang Z, Miao J, Wang W, Wu J, et al. Effect of immune thrombocytopenic purpura medications on depression risk: an analysis of Nhanes data. Ann Pharmacother. 2025;59(3):223-31.

Table 1: Summary of included studies on psychosocial and well-being interventions in autoimmune haematological disorders.

Title	Author (Year)	Country	Study Type	Sample	Clinical Context / Instrument	Intervention / Exposure	Main Outcome	Key Findings	Main Conclusion
An Evaluation on the Quality of Life in Children with Immune Thrombocytopenia	Özbaand & Hilkaand Karapınar 2024	Turkey	Prospective study, quality of life assessment	30 children with ITP	Quality of life assessment en children with ITP	Psychometric assessment of quality of life (KINDL)	Quality of life (HRQoL)	Patients with ITP have a significantly reduced quality of life compared to their parents.	The quality of life of children with ITP is affected by the disease, and it is essential to improve the quality of life of patients, especially those diagnosed after the age of six or in the acute phase.
Vaccine-Associated Immune Thrombocytopenia Purpura	Heather Englund 2025	United States	Estudio de caso (caso clínico único)	ITP (post vacuna)	General hospital after herpes zoster vaccination	Early diagnosis and clinical management in the elderland	Psychological well-being, autonomy, emotional burden	ITP in older adults can seriously affect their independence and emotional well-being.	It requires a comprehensive approach with emotional support to minimise psychological and functional impact.
Health-related quality of life profile of patients with immune thrombocytopenia in the real life is impaired by splenectomy	Caocci et al. 2022	Italy	Retrospective observational	69 patients with ITP crónica	SF-36 (versión 1). Mediana 10 años (rango 1–20)	Splenectomy vs. TPO-RAs or other therapies	Quality of life (SF-36)	Splenectomised patients had worse HRQoL, especially in physical function, bodily pain and physical role.	Splenectomy may have a negative impact on HRQoL in the long term, despite its clinical efficacy.
Quality of life is an important indication for second-line treatment in children with immune thrombocytopenia	Shimano et al. 2021	EE. UU. and Canadá (21 centros pediátricos)	Prospective, observational, longitudinal	120 children with ITP (1–17 años)	KIT (Kids ITP Tool), IBLS (ITP Bleeding Scale). QoL fue el motivo más citado para iniciar tratamiento (73%)	Second-line treatment decision	Quality of life (KIT), anxiety	QoL was the most frequently cited reason for treatment (73%). KIT showed low well-being in all groups.	QoL should be considered a relevant clinical criterion for deciding on treatments in paediatric ITP.
How do patients and physicians perceive immune thrombocytopenia (ITP) as a disease? Results from Indian analysis of ITP World Impact Survey (I-WISh)	Chakrabarti et al. 2022	India	Cross-sectional study (survey), descriptive	65 adult patients with ITP and 21 doctors	ILQI (ITP Life Quality Index)	Patient and physician survey on management and symptoms	Quality of life, anxiety, emotional impact	Discrepancy between medical perception and the patient's emotional experience; anxiety and fatigue underestimated by doctors	Improving patient-physician communication and incorporating QoL assessment tools into clinical practice
Transitioning From Thrombopoietin Agonists to the Novel SYK Inhibitor Fostamatinib: A Multicenter, Real-World Case Series	Hughes et al. 2021	United States	Case series (5 patients), multicentre	Adults with chronic ITP, with poor control or adverse effects from TPO-RAs	Switch to fostamatinib (SYK inhibitor) from TPO-RAs	Switching or combining with fostamatinib (SYK inhibitor)	Platelet stability, well-being, adverse effects	Improved adherence, reduced emotional burden, better clinical control in refractory patients	Switching to fostamatinib may improve clinical control and quality of life in patients with refractory or poorly tolerated ITP.
Japanese and French translation and linguistic validation of a patient-	Tomiandama et al. 2022	Japón and Francia	Linguistic validation study (descriptive, qualitative)	10 patients (5 Japan,	ILQI (ITP Life Quality Index)	Translation and linguistic	Quality of life (HRQoL)	The Japanese and French versions of the ILQI were well	The translated versions of the ILQI are valid for assessing quality of life in

reported outcome tool to assess quality of life in patients with Immune Thrombocytopenia (ITP): the ITP Life Quality Index (ILQI)				5 France); clinical experts in ITP		validation by ILQI		understood and culturally appropriate.	patients with ITP in Japan and France.
Multiple total hip arthroplasties in refractory immune thrombocytopenic purpura: A case report and literature review	Tang et al. 2018	China	Single case study with literature review	Male, 54–61 years old, with RITP	2 total hip arthroplasties (THA) and 1 revision (RTHA)	3 hip surgeries (2 THA, 1 RTHA)	Quality of life, functionality, post-operative complications	The patient improved his Harris Score (>80), reduced pain (VAS 2–3), and had no serious complications.	With proper preparation, mandibular surgery in patients with RITP can be safe and improve quality of life.
A Phase 3, Randomized, Double-Blind, Placebo-Controlled Study to Determine the Effect of Romiplostim on Health-Related Quality of Life in Children with Primary Immune Thrombocytopenia and Associated Burden in Their Parents	Mathias et al. 2016	United States, Canada, Australia	Phase 3 clinical trial, double-blind, placebo-controlled	62 children with chronic ITP (42 romiplostim / 20 placebo)	KIT – Child Self-Report, Parent Proxand, Parent Impact	Romiplostim vs. placebo	HRQoL (KIT), parental burden	Romiplostim significantly improves the emotional burden of parents; improvement in children's HRQoL, although not always significant.	Treatment with romiplostim may improve the perceived well-being of children with ITP and reduce the emotional impact on parents.
Bleeding tendency and platelet function during treatment with romiplostim in children with severe immune thrombocytopenic purpura	Suntsova et al. 2017	Russia	Prospective observational study, functional analysis of platelets	20 children with severe ITP (aged 1–16 years)	Romiplostim (7 patients), Eltrombopag (4 patients)	Romiplostim/Eltrombopag (monotherapy)	Platelet function, clinical bleeding	Monthly treatment improved platelet function and bleeding; one patient improved clinically without an increase in platelets.	Romiplostim improves platelet function and reduces bleeding, even without increasing platelet counts; it may impact clinical well-being.
Mycophenolate Mofetil for First-Line Treatment of Immune Thrombocytopenia	Bradbury et al. 2021	UK	Randomised, multicentre, open-label clinical trial	120 adults with ITP (average age: 54 years)	Glucocorticoids vs. Glucocorticoids + Mycophenolate mofetil. Up to 2 years	Glucocorticoids vs. Glucocorticoids + Mycophenolate mofetil	Effectiveness, recurrence, quality of life	The group treated with mycophenolate had a lower therapeutic failure rate (22% vs. 44%) but scored lower on physical quality of life and fatigue. There were no differences in adverse effects or mental health.	Mycophenolate improves clinical response in ITP, but may be associated with fatigue and reduced physical well-being; the clinical effect and the patient's subjective experience do not always coincide.
Health-related quality of life in children with chronic immune thrombocytopenia in China	Zhang et al. 2016	China	Cross-sectional, psychometric study	42 children with chronic ITP (aged 2–18 years)	KIT (self-report, proxy and impact), PedsQL™ (self-report and proxy)	HRQoL assessment with KIT and PedsQL™	Quality of life and emotional well-being	Parents report lower quality of life than their children. Platelet count correlates positively with HRQoL. Disease duration is negatively associated. KIT is reliable and valid in the Chinese population.	Chronic ITP significantly affects the well-being of children and parents. The KIT translated into Chinese is a useful and valid tool for research and clinical practice.
Mobile health intervention for youth with sickle cell disease: Impact on adherence, disease	Anderson et al. 2018	USA	Pilot study, non-randomised intervention	32 young people with SCD (average	PedsQL-SCD, Fatigue Scale, SC Self-Efficacand Scale, PECI, PIP, BRIEF	mHealth app 'ITP' for improving	Quality of life, adherence, pain,	Significant increase in adherence (MPR), knowledge of the disease, and improvement in quality of life, pain, and family	The use of mHealth apps can improve adherence, knowledge, and well-being in young people with

knowledge, and quality of life				age: 13 years)		adherence and QOL	self-efficacy	impact in patients with poor adherence.	chronic haematological diseases. Active participation is key.
Sports Participation in Children and Adolescents with Immune Thrombocytopenia (ITP)	Kumar et al. 2015	United States and Canada	Cross-sectional observational study (survey)	278 paediatric haematologists surveyed	Web survey (13 items), based on risk scenarios and platelet count	Clinical practices on sports participation in ITP	Quality of life and medical perception	54% of haematologists would treat an asymptomatic patient with ITP to allow them to participate in sports. Only 33% would encourage low-risk sports if platelets are $<50 \times 10^9$/L. There is considerable variability in restriction criteria.	Sports restrictions due to ITP negatively affect children's quality of life. Flexible, patient-centred guidelines are needed to promote physical activity and well-being.
Changing Paradigms in ITP Management: Newer Tools for an Old Disease	Jiang et al. 2022	USA	Narrative/clinical review	ITP (review)		Review of recent clinical trials on new treatments for ITP	HRQoL, efficacy, adverse effects	New treatments (TPO-RA, fostamatinib, BTK and FcRn inhibitors) are associated with improvements in HRQoL and lower toxicity compared to steroids and splenectomy. The growing use of PROs in clinical trials is noteworthy.	The treatment paradigm for ITP is shifting towards targeted therapies with a strong focus on patient well-being. HRQoL is now a key outcome measure alongside clinical response.
Measuring parent proxy-reported quality of life of 11 rare diseases in children in Zhejiang, China	Gao et al. 2020	China	Cross-sectional, observational study	651 children with 11 rare diseases, including 120 with ITP	PedsQL™ 4.0 (parent proxand-report)	Cross-sectional study on quality of life in children with rare diseases	Quality of life (HRQoL)	Patients with ITP reported the lowest scores on the emotional, social, and school dimensions of the PedsQL™ 4.0.	The article highlights the need to improve emotional and functional support in the treatment of ITP in children, emphasising its impact on quality of life.
Immune Thrombocytopenia in Children: Consensus and Controversies	Singh et al. 2020	International	Review of challenges and consensus in the management of paediatric ITP	paediatric ITP	Health-related quality of life (HRQoL), therapeutic management strategies	Review of best practices and treatment of ITP in children	Quality of life (QoL), treatment	The article discusses different therapeutic strategies for ITP in children, addressing the impact on quality of life, the need for treatment, and clinical decisions related to disease management.	Although not directly focused on positive psychology, the article is relevant to the analysis of quality of life in children with ITP and the importance of available treatments.
Fostamatinib Disodium Hexahydrate: A Novel Treatment for Adult Immune Thrombocytopenia	McBride et al. 2019	International	Randomised, double-blind, placebo-controlled clinical trial	196 adults with chronic ITP	ITP-PAQ (Quality of life index in patients with ITP)	Fostamatinib vs. placebo	Quality of life (HRQoL), bleeding events	Fostamatinib showed a significant improvement in quality of life and a reduction in bleeding events compared to placebo. Fostamatinib showed a stable response of 18% compared to 2% for placebo; it significantly improved health-related quality of life and reduced bleeding events.	Treatment with fostamatinib significantly improves the quality of life of patients with ITP, reducing bleeding events and the need for other treatments. Assessment of bias according to the Cochrane tool for randomised controlled trials: low risk of bias.
Changes in health-related quality of life with long-term eltrombopag treatment in patients with chronic immune thrombocytopenic purpura	Khelif et al. 2019	International (mainly Europe and the US)	Multicentre, open-label, dose-escalation study	302 adult patients with chronic ITP.	SF-36v2 (Short Form Health Survey), MEI-SF (Modified EQ-5D), FACIT-Fatigue, FACT-Th6 (Functional Assessment of Cancer	Eltrombopag vs. placebo	Quality of life (HRQoL)	Treatment with eltrombopag significantly improved quality of life, reduced bleeding episodes, and improved fatigue and overall functionality.	Treatment with eltrombopag improves the quality of life of patients with chronic ITP, with improvements in physical, emotional, and social well-being.

					Therapand-Thrombocandtopenia)				
Changes in health-related quality of life with long-term eltrombopag treatment in adults with chronic immune thrombocytopenic purpura: Findings from the EXTEND study	Khelif et al. 2019	Italy	Qualitative study with a narrative approach and quantitative survey	70 carers of children with chronic ITP	Ad hoc questionnaire, narrative approach, qualitative analysis of responses using grounded theory and NVivo software.	Medical narrative and quantitative survey	Quality of life (QoL)	The narrative approach and survey showed that children with chronic ITP experience limitations in daily and social activities, with a significant emotional impact on families.	The study highlights the emotional impact and social impact of chronic ITP on children and their families, demonstrating the usefulness of narrative in assessing quality of life.
A Narrative Approach to Describe QoL in Children With Chronic ITP	Giordano et al. 2019	International (United States and Canada)	Prospective, observational, multicentre study	52 carers of children with chronic ITP	Peds QL Family and Impact Questionnaire, Kids ITP Tools (KIT) Parent Impact Report	Diagnostic pathway for ITP and consultation with a haematologist	Quality of life of caregivers (concern)	A significant decrease in caregiver concern was observed before and after consultation with the haematologist. The number of previous medical providers did not significantly affect the results.	The study highlights the importance of consulting a specialist to reduce the concerns of carers of children with ITP and improve their emotional well-being.
The Effect of 'Pathway' to Diagnosis for Childhood ITP on Caregiver Quality of Life at Time of Diagnosis	Neier et al. 2019	Netherlands	Observational, cross-sectional study	59 adult patients with chronic ITP	Individual strength checklist (CIS-fatigue) to measure fatigue, ITP assessment tool (ITP-BAT) for bleeding symptoms, functional assessment of cancer therapy-general (FACT-G) for functional well-being, vitamin D levels.	Assessment of fatigue related to ITP and modifiable factors	Fatigue, emotional and physical well-being	Fatigue was prevalent in patients with active disease, and physical activity and functional well-being were correlated with fatigue. Transdiagnostic factors explained the majority of the variability in fatigue.	The study identifies modifiable factors that explain fatigue in patients with ITP, suggesting possible interventions that could reduce it, such as improving physical activity and emotional well-being.
Possible Targets to Reduce Fatigue in Chronic Immune Thrombocytopenia Patients – An Explorative Study	van Dijk et al. 2022	United States	Review of the patient perspective based on records from the Platelet Disorder Support Association	Adult patients with ITP (including 1,110 participants in the ITP natural history registry)		Patient perspective on ITP (PDSA record)	Psychological well-being, fatigue, anxiety, quality of life	Patients with ITP experience fatigue, anxiety, depression and an impact on their quality of life, although doctors focus more on platelet counts.	The emotional well-being of patients with ITP should be considered and treated alongside the physical disease to improve quality of life.
Immune thrombocytopenia: the patient's perspective	Kruse 2021	Italy	Intervention study, psychological support group	Patients with ITP (20 patients), caregivers (11 caregivers) and doctors (10 doctors)	SF-36, Questionnaire on anxiety and fatigue	Group psychological support and individual sessions for patients and caregivers	Quality of life (HRQoL), anxiety, fatigue	Patients reported improvements in fatigue, anxiety, and quality of life, especially when receiving emotional support in support groups.	The project shows that psychological support for patients with ITP and their carers significantly improves quality of life and emotional well-being.
Living under the Sword of Damocles	Auteri et al. 2025	International (12	Cross-sectional, multicentre survey	1,491 patients	30-minute online survey, including questions about	Global survey of patients and	Quality of life,	Patients with ITP reported a significant reduction in energy,	The results highlight the severe impact of ITP on

		countries)		with ITP, 472 doctors	fatigue, anxiety, work, and quality of life	doctors on the impact of ITP on QoL	emotional well-being, fatigue, work productivity	ability to perform daily activities, social life, and work. Doctors do not fully perceive the impact on daily life.	patients' quality of life, affecting both their emotional well-being and their productivity at work. Greater attention needs to be paid to these factors in the treatment of ITP.
Results from the ITP World IMPACT Survey (I-WISh): Patients with Immune Thrombocytopenia (ITP) Experience Impaired Quality of Life (QoL) Regarding Daily Activities, Social Interactions, Emotional Well-Being and Working Lives"	Cooper et al. 2018	UK	Cross-sectional study	Children with ITP (37 participants, average age 9.8 years)	Paediatric haematology clinics in London	Psychological assessment (fatigue, emotional symptoms, executive function)	Fatigue, emotional symptoms, executive function	Seventy percent of the children presented clinically significant levels of fatigue. A considerable emotional impact was observed.	ITP has a significant psychological and functional impact, even in children with clinically mild or moderate symptoms.
Fatigue, executive function and psychological effects in children with immune thrombocytopenia: a cross-sectional study	Towner et al. 2020	International (13 countries)	Cross-sectional survey (I-WISh)	1507 patients with ITP and 472 doctors	ITP (immune thrombocytopenic purpura)	Survey on the impact of ITP on quality of life	Emotional well-being, functionality, work productivity	ITP reduces HRQoL, impacts energy, work capacity and generates anxiety.	ITP has a substantial impact on HRQoL, including emotional and productive aspects. Physicians should consider these effects in treatment.
Immune thrombocytopenia (ITP) World Impact Survey (I-WISh): Impact of ITP on health-related quality of life	Cooper et al. 2021 [63]	Unknown (probably international)	Observational cohort study	Patients with ITP, both undergoing treatment and under observation	Leading hospitals in ITP	Quality of life, executive function, fatigue	Psychological well-being, health-related quality of life	Patients with ITP report reduced quality of life, fatigue, and problems with executive function.	Need for comprehensive treatment that includes psychological and physical well-being.
Immune Thrombocytopenia: Effect of Self Care Guidance on Patients Quality of Life and Bleeding Control	Hussein et al. 2025	United States	Correlational study based on surveys	Patients with bleeding disorders (haemophilia, VWD)	Treatment centres for haemophilia and bleeding disorders	Self-pity, hope	Psychological well-being, quality of life	Self-pity and hope are significantly correlated with quality of life, both physical and psychosocial.	Self-compassion and hope are important predictors of quality of life in patients with bleeding disorders.
The relationship of self-compassion and hope with quality of life for individuals with bleeding disorders	Klein et al. 2020	International (13 countries)	Cross-sectional survey (I-WISh)	1507 patients with ITP and 472 doctors	ITP treatment centres	Survey on the impact of ITP on quality of life	Emotional well-being, functionality, productivity	ITP reduces HRQoL, impacts energy, ability to perform daily activities, social and work life. Doctors do not fully perceive the impact on daily life.	ITP has a substantial impact on HRQoL, including emotional and productive aspects. Greater attention needs to be paid to these factors in the treatment of ITP.
"I-WISh: A wish list for immune thrombocytopenia	Mathias 2020	China	Retrospective study, cohort analysis	90 patients with ITP	Patients treated in military hospitals	COVID-19 infection	Changes in platelet count and	Temporary increase in platelets, followed by decrease	Patients with ITP show a transient increase in platelets following COVID-19

quality of life indicators becomes reality				infected with COVID-19			psychological well-being		infection, along with increased anxiety and fear. A holistic approach to treatment is required.
Dynamic changes in platelet counts and psychological state in ITP patients after COVID-19 infection	Chen et al. 2025 [62]	United States	Cross-sectional study, NHANES data analysis	17,299 participantes adults with ITP	Public health study using NHANES data	Use of medications for ITP (prednisone, dexamethasone, rituximab)	Depression, emotional quality of life	No significant association was found between ITP medications and the risk of depression.	There is no significant increase in the risk of depression due to ITP medications, although context and other social and health factors should be considered.
Effect of Immune Thrombocytopenic Purpura Medications on Depression Risk: An Analysis of NHANES Data	Zheng et al. 2024 [64]	Multinational (13 countries)	Psychometric validation study	1507 patients with ITP	Assessment of the impact of ITP on quality of life (HRQoL)	Psychometric evaluation of the ILQI	Quality of life (HRQoL)	The ILQI is valid and reliable for measuring the impact of ITP on quality of life.	The ILQI is a useful and reliable tool for assessing HRQoL in patients with ITP.