



Review Article

Narrative medicine in pediatric medical education and patient care: A scoping review

Ting-Chun Tseng^a, Pan-Yuan Kuo^b, Meei-Ju Lin^c, Shao-Yin Chu^{d,e,f,*}

^aDepartment of Medical Education and Research, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan, ^bDepartment of Human Development and Psychology, Tzu Chi University, Hualien, Taiwan, ^cCenter for Innovation and Medical Education Research, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan, ^dSchool of Medicine, Tzu Chi University, Hualien, Taiwan, ^eDepartment of Medical Education, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan, ^fDepartment of Pediatrics, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan

Submission : 23-Jul-2024
Revision : 16-Sep-2024
Acceptance : 28-Sep-2024
Web Publication : 04-Mar-2025

ABSTRACT

Narrative medicine is an approach centered on patients' experiences and their illness stories. Its application in pediatric population warrants further research. This study aims to overview (1) the application of narrative medicine in pediatric medical education and (2) the implementation of narrative medicine in pediatric patient care. Searches were conducted in bibliographic databases (Cochrane Library, ClinicalTrials.gov, EBSCOhost, Embase, MedEdPORTAL, Ovid, PubMed, and Web of Science) without date or language restrictions. Researchers independently screened articles, charted data, and performed data synthesis. Educational intervention studies were evaluated with Kirkpatrick Scale, and Mixed Methods Appraisal Tool was used for methodological quality assessment of all studies. Forty-one articles met our criteria: 17 focused on the application of narrative medicine in pediatric medical education and 24 on its implementation in pediatric patient care. Educational interventions indicated general satisfaction, with reported improvements in empathy, reflection, patient understanding, and professional development. In patient care settings, narrative medicine provided a safe space for story sharing, enhancing emotional, relational, and social connections, and promoting patient- and family-centered care. This review highlights the translation of narrative medicine from educational interventions to clinical practice in pediatric settings. Although more robust research is required, existing evidence supports narrative medicine's potential to foster authentic engagement with patients and caregivers and enhance the quality of pediatric care across various conditions and developmental stages.

KEYWORDS: *Narrative medicine, Pediatrics, Scoping review*

INTRODUCTION

Narrative medicine or narrative-based medicine are approaches that place a strong emphasis on the significance of patient stories within the medical field [1-3]. Greenhalgh describes narrative-based medicine as an interpretive act that intertwines the narratives of patients and clinicians, highlighting the value of narrative skills in clinical judgment [1,4]. Rita Charon similarly defines narrative medicine as clinical practice fortified by narrative competence – the ability to acknowledge, absorb, interpret, and empathize with stories of illness [2,5,6]. Unlike the history taking and communication approaches in general medical encounters that often prioritize the paradigmatic or logical-scientific mode of cognition for diagnosing problems, prescribing treatments, and managing diseases through a goal-directed process, the narrative mode enables healthcare professionals (HCPs) to interpret and comprehend patients' experiences within their contexts. By integrating both narrative and paradigmatic knowing, HCPs

can seek to balance the biomedical and humanistic dimensions, potentially facilitating a more comprehensive understanding of each individual patient [7-9].

Cultivation and implementation of narrative competency in a high-pressure clinical environment presents challenges such as time constraints, the requirement for continuing education, and a shortage of skilled educators [9-11]. However, recent extensive research has demonstrated the value and feasibility of narrative medicine in daily medical practice to address specific patient needs and concerns [3]. Studies have highlighted the adaptability of narrative medicine to diverse clinical contexts or specialties, supported

***Address for correspondence:** Dr. Shao-Yin Chu,

Department of Pediatrics, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, 707, Section 3, Chung-Yang Road, Hualien, Taiwan.
 E-mail: chushaoyin@gmail.com

Supplementary material available online

Access this article online

Quick Response Code:



Website: www.tcmjmed.com

DOI: 10.4103/tcmj.tcmj_181_24

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: WKHLRPMedknow_reprints@wolterskluwer.com

How to cite this article: Tseng TC, Kuo PY, Lin MJ, Chu SY. Narrative medicine in pediatric medical education and patient care: A scoping review. Tzu Chi Med J 2025;37(2):167-74.

by a wide range of narrative genres including literary texts, artwork, poetry, drama, and patient narratives [12-14]. These genres not only serve as effective mediums for storytelling but also as potent pedagogical tools for cultivating narrative skills through close reading, reflective writing, and dynamic group discussions [2,15,16]. Studies have demonstrated that incorporating narrative medicine into medical curricula or educational programs can foster self-exploration and reflection among trainees, subsequently enhancing their professionalism outcomes, including communication skills, empathy, personal and professional growth, and collaborative practice [17,18]. By embracing and appreciating patients' stories, HCPs can deliver nonjudgmental and genuine care that is sensitive to their needs, while displaying a readiness for change [9].

Patients' narratives are often perceived as disruptions or interruptions in their ongoing life stories and represent nonnormative transitions that necessitate doctor-patient communication and a process of reconstruction to restore balance [19]. Through co-narrating, HCPs and patients can collaboratively represent and reconstruct the illness experience into a cohesive story. This helps patients in understanding and navigating their lives amid suffering [20]. With narrative competency, HCPs can adopt a narrative-based approach, aiding patients in re-elaborating their experiences and unburdening themselves [21]. By attentively listening to these stories, HCPs can acknowledge and address the biographical disruption experienced by patients. This approach bridges the gap between health professionals and the patients, fostering more empathetic and holistic medical relationships and care [22].

Narrative medicine, when applied to the pediatric population, presents unique challenges and considerations due to the dynamic nature of children's development. As they grow from infancy to adolescence, children display a wide range of cognitive, emotional, and behavioral traits. Their language skills and nonverbal communication also differ from those of adults, influencing how narrative medicine is implemented. In addition, the involvement of families or caregivers in the care of children, alongside the healthcare team and the patient, adds layers to the narrative [23]. Despite these complexities, the application and impact of narrative medicine in this context remain largely unexplored. The purpose of this review was to delineate and evaluate the evidence regarding (1) the application of narrative medicine in pediatric medical education and (2) the implementation of narrative medicine in pediatric patient care.

METHODS

Our scoping review followed Arksey and O'Malley's 5-step methodological framework and adhered to the PRISMA-ScR guidelines [24,25]. Throughout this process, we systematically searched, selected, and synthesized the prevailing knowledge within the domain. The study protocol was registered with the Open Science Framework in January 2024 (<https://osf.io/43tsd>) when the study was conceived. Subsequent updates were made as needed before data extraction.

Identifying relevant studies

We conducted a comprehensive search across electronic databases including the Cochrane Library, ClinicalTrials.gov, EBSCOhost, Embase, MedEdPORTAL, Ovid, PubMed, and Web of Science using keywords, including combinations of narrative medicine, narrative-based medicine, and pediatrics. To ensure a thorough review, we searched the reference lists of the identified articles. Two researchers independently performed the search strategy through an iterative revision process until articles were successfully captured. The final search, conducted on May 29, 2024, was unrestricted by language or publication date.

Study selection

A total of 676 titles and abstracts were screened by the team members TCT, PYK, and SYC. We included articles that focused on applying narrative medicine in pediatric medical education and implementing narrative medicine in pediatric patient care. Articles were classified as applying narrative medicine in pediatric medical education if they primarily addressed educational strategies, curriculum development, or assessment of learner outcomes. Those focused on narrative medicine practices directed toward patients, their families, and medical personnel in clinical care settings were categorized under pediatric patient care. For studies addressing both the aspects, the primary outcome of the study was used to determine the appropriate category. Exclusion criteria ruled out studies not involving infants, children, or adolescents and those excluding caregivers or family members of pediatric patients. We prioritized original research to ensure reliability, thus excluding reviews, articles, opinion pieces, and editorials that did not present original data.

Data charting and extraction

Two researchers developed a standardized data extraction grid in Microsoft Excel to capture details from retrieved studies, including authorship, country, publication year, study characteristics (aim, type, and methodology), participant characteristics (population and disease/context), and outcomes. For studies on narrative medicine in pediatric medical education, we also documented intervention details (application, genre, design, and assessment tools). Each eligible article was independently reviewed and charted by at least two researchers. The research synthesis, both quantitative and qualitative, involved an iterative process of coding text, developing and translating descriptive themes, and organizing them into a hierarchical tree structure. This cyclical process continued until themes were closely aligned with the study findings, as confirmed by consensus in relation to our review objectives.

Quality appraisal

We assessed methodological quality using the McGill Mixed Methods Appraisal Tool (MMAT; Version 2018), suitable for quantitative, qualitative, and mixed methods designs. Each study was evaluated against five criteria appropriate to its design, rated as "Yes," "No," or "Can't tell." Studies achieving 4 or 5 "Yes" ratings are generally considered high quality, whereas those with 2 or fewer were deemed suboptimal [26].

For studies applying narrative medicine in pediatric medical education, we additionally used the Kirkpatrick Scale [27] alongside the MMAT. The Kirkpatrick Model evaluates hierarchical educational outcomes at four levels: reaction, learning, behavior, and results. Widely adapted and validated in higher education settings, it accommodates both qualitative and quantitative data, making it crucial for a scoping review with diverse evidence types. Thus, the Kirkpatrick Model was chosen for its comprehensive, hierarchical evaluation framework, which aligns well with the diverse objectives and outcomes of narrative medicine training programs [27].

All the included articles were evenly distributed among four authors. Each article underwent an independent assessment by two authors, with the third author responsible for reconciliation [28].

RESULTS

The PRISMA flow diagram [Figure 1] outlines our article selection process. Out of 676 initial articles after duplicate removal, 53 underwent full-text review. Ultimately, 41 original research articles from 2006 to 2024 met our criteria to address our research questions [11,29-68].

In our review, these 41 studies were categorized into two main areas: the application of narrative medicine in pediatric medical education (17/41, 41.5%) [Supplementary Table 1] and its implementation in pediatric patient care (24/41, 58.5%) [Supplementary Table 2]. Among the included studies, 33 were qualitative [11,29-41,45-63], 5 utilized mixed methods [43,44,66-68], and 3 employed quantitative methods [42,64,65]. Geographically, studies were from the USA (20), Italy (11), and Canada (6), with individual contributions from Switzerland, Australia, Brazil, and Taiwan.

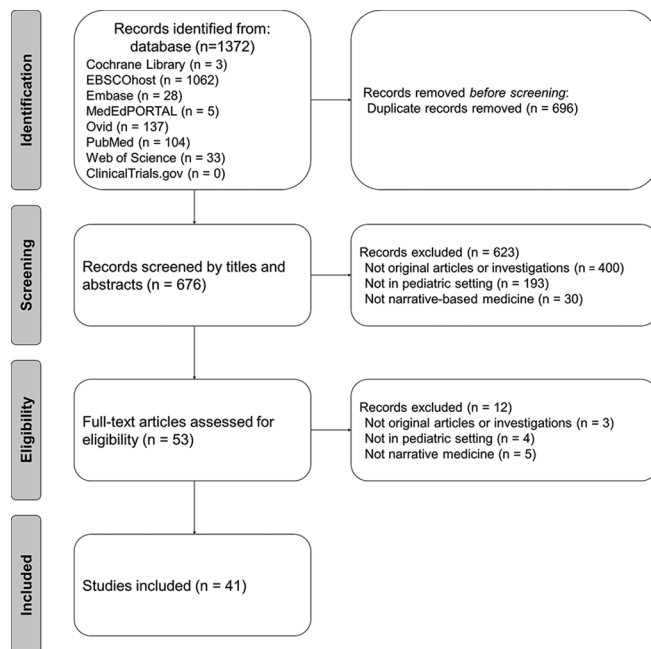


Figure 1: PRISMA flow diagram of literature search

APPLICATION OF NARRATIVE MEDICINE IN PEDIATRIC MEDICAL EDUCATION

Sixteen studies, involving 562 students, 231 residents, 16 community staff, 14 caregivers, 10 nurses, and other allied health professionals. Most studies primarily evaluated learning outcomes grounded in data through reflective writing and interviews postinterventions. A few studies focused on evaluating empathy and reflection; others explored the feasibility, benefits, and barriers of narrative medicine interventions.

Nine studies applied narrative medicine as an educational tool, utilizing diverse genres like literature, book excerpts, art, poems, comics, audio, and film clips [11,29,32,35,39-42,44]. Most of these studies included three recurring elements: close reading, reinforcement through writing or reflection, and enrichment through sharing and discussion facilitated by moderators. Two of the nine studies employed year-long narrative medicine workshops, covering topics like rhetoric, language use, health equity, medical errors, mortality, as well as current events/social issues (e.g. Black Lives Matter, anti-Asian violence, and transgender patient experiences) [40,41]. Another eight studies featured direct student engagement with patients and dialogue or involved trainees recalling and reflecting on previous interactive experiences, supplemented by reflective writings and feedback from peers and mentors [30,31,33,34,36-38,43].

Kirkpatrick outcome evaluation

Level one: Participation

Students reported that narrative intervention was both helpful [11,37] and enjoyable [30], emphasizing its well-planned structure [30,42] and expressing gratitude for the opportunity and its interdisciplinary nature [32,39]. Participants viewed narrative medicine as beneficial for reflecting on inner emotions such as grief, helplessness, and regret [32,35]. It alleviated stress [31,44], created a secure environment for sharing thoughts and focusing on self-care [30,32,35,41,44], and provided catharsis through reflective writing [39].

The intervention also fostered a sense of uniqueness [37], flattened hierarchies [32], and enabled open conversations about personal experiences and clinical practices [11,31,32]. However, some participants were less interested in deep connections with peers and struggled to relate nonmedical content to their daily lives [11]. Others felt discomfort in comforting distraught caregivers or addressing negative emotions [38].

Level two: Modification of attitudes, perceptions, knowledge, or skills

Recognizing illness experience and strength of support

Participants [34,35,38,43] acknowledged the profound illness experience of patients and their families in healthcare setting, encompassing unexpected complications [36], disruptions to life routines, sacrifices, and fluctuating emotions [37]. Students recognized the pivotal role of families in the care of an ill child and appreciated the support from friends, staff, and the broader social network [34,37,66].

Increased communication skills and empathy

Participants reported improvements in communication skills and empathy, recognizing their significance in building rapport and establishing trust [31,33,34,36,37,43]. They actively promoted open dialogue [29], motivating patients and families to voice concerns and engage in treatment plan [38]. In delivering medical information, nurses and students also provided emotional support [35,37], acknowledging the importance of attending to the needs of both young patients and their guardians [29]. In addition, participants' empathy was deepened by understanding patient and family perspectives, along with social and environmental factors affecting patient health [29,43], enhancing their ability to listen, relate, and be open to new situations [31,33,39,41].

Better identify and address care barriers

Trainees identified barriers to adequate care, such as financial hardship, distance from home, employment challenges, and limited health literacy [34,36]. Residents recognized miscommunication between doctors and patients as a significant issue [38], leading them to strive for improvement in communication skills. This involved assessing the understanding of caregivers and patients [33], avoiding preconceptions, recognizing unique patient identities [37], showing patience in eliciting information [29], and actively explaining reasoning and treatment choices [29]. Participants also demonstrated improved knowledge and skills in addressing unique challenges [43], defining the SPIKES acronym, and managing end-of-life symptoms. Self-reported data indicated enhanced abilities in breaking bad news, reflecting advancements in both theoretical understanding and practical competencies [42].

Enhanced reflection skills among trainees

Studies reported increases in reflective abilities and introspection [30,36,39-41,43]. An observational study demonstrated significant improvement, with 70% achieving Level II and III depth of reflection [36]. In a cluster randomized trial, 71% of the intervention group reached the highest levels of reflection, contrasting with 37% in the control group, according to the REFLECT rubric [43].

Enhanced professional development and team dynamics

Students and HCPs have shown increased growth in personal and professional development, characterized by enhanced self-awareness and attunement to their thoughts, actions, and emotions [34,35,40]. This increased awareness, identified in studies with individual participants [32,44], extends to complex clinical scenarios. Notably, a study involving medical students and parents' interactions in neonatal intensive care unit settings revealed the development of professionalism as a significant theme [36]. Furthermore, there is a growing recognition of cultural sensitivity, with pediatric residents actively enhancing their sensitivity towards diversity [29,34]. This personal evolution is reflected within healthcare teams; trainees and nurses not only recognize their unique roles and expertise [35,38,43] but also express pride in their professions [35], which in turn renew their dedication to compassionate care [31,32,34,41].

Level three and four: change in behavior and patient outcome

One study described how residents changed their behavior by correcting their language in written and verbal communication [40]. Another study reported that most residents successfully utilized the SPIKES protocol during simulations and applied these skills to patient care 6 months later [42]. A 5-year research-action/intervention study observed that physicians demonstrated greater commitment and patients were more engaged in their treatment, resulting in effective improvements in medical care and adherence to treatment [31].

IMPLEMENTATION OF NARRATIVE MEDICINE IN PEDIATRIC PATIENT CARE

In 24 clinical pediatrics narrative medicine studies, participants comprised 508 caregivers, 286 patients, 148 physicians, 66 nurses, and other HCPs. Of these, 10 studies involved singular participants (e.g. caregivers, patients, and physicians) [45,46,49,52,57,58,62,63,67,68], 7 studies included two types [47,50,51,53,54,59,64], and 7 studies incorporated three or more participant groups [48,55,56,60,61,65,66]. The spectrum of diseases covered various areas, including genetic or developmental disorders [45,48,53,60,61,63], neurological diseases [52,57,59], chronic complexities [47,50,66], hearing loss [57,62], cancers [49,64], intensive care scenarios [55], and others. Three key concepts emerged from qualitative synthesis of the study outcomes: narrative as a platform for story sharing, story sharing enhances emotional, relational, and social connections, and narrative connections promote patient-and-family-centered care.

Narrative as a platform for story sharing

Narrative medicine has been acknowledged by studies as an effective, accessible, and secure platform for patients, families, and HCPs [46,49,53,60,67]. It provides a space for discussing a range of topics, including taboo subjects, enabling patients to openly share their stories and experiences related to illness [53]. Some research suggests that this practice can not only encourage acceptance but also nurture empathy and active listening among HCPs, potentially improving understanding between medical team and patients and their families [51,52,59,60,62].

Through the narrative approach, HCPs may gather insights into patients' perceptions, capturing nonverbal cues to humanize the overall patient experience [59,65]. This plays an instrumental role in identifying previously overlooked issues and addressing the needs of patients [60,61,66], highlighting the proactive role of patients in seeking credible information to comprehensively understand their disease and enhance their quality of life [45,53,54,59,61].

Story sharing enhances emotional, relational, and social connections

Patients often share stories about illness and disease [45,52,54,57,59-62,66,67] and express their emotional responses to their health condition and its management during interactions with HCPs [48,52-54,57,59,61,62,64,67].

These emotional expressions, including fear [52,55,59], pain [53,55,67], and anger [52,53], are counterbalanced by

moments of satisfaction [45,52] and optimism for future stabilization or control of disease [52,55,59,60]. Caregivers, grappling with their challenges, articulate emotions of responsibility, guilt, stress arising from role strain or overload [62,63], and a need for emotional and spiritual support [55,63,67]. Concerning the impact of illnesses on patients and their families, patients may struggle to accept the physical changes brought about by illness [52,59], whereas parents express concerns about the potential long-term effects of the disease on their children's development [62], coupled with a desire for stronger bonds with their children. Beyond health care, caregivers emphasize the importance of a supportive network involving family, friends, and community organizations to address their financial and social support needs [46,53,62,63,67]. In certain situations, such as those involving teenage mothers, access to supportive community services can be crucial in nurturing positive maternal identities [46].

Narrative connections promote patient-and-family-centered care

Narrative medicine facilitates a triadic relationship among the medical team, patients, and their families, potentially lead to positive clinical outcomes. Activities such as writing, group discussions, or video recording have been suggested to alleviate perceived stress for patients and families [53,65,67,68], while HCPs may benefit from stress management techniques and effective communication in challenging scenarios [65].

The narrative medicine platform can further strengthen relationships between HCPs and patients [50], fostering flexible and patient-engaged decision-making, resulting in personalized, continuous care tailored to patients' needs [51]. Improved adherence to treatment plans, regular appointments, and consistent medication use [50,51] are concrete observations from studies that contributes to an overall improvement in quality of life for patients and families [51]. These favorable outcomes rely on intersubjective bonding, as well as the self-monitoring and reflective practices of HCPs [67]. Ultimately, establishing narrative connections can possibly lead to enhanced care that is centered on the patient and family.

Quality of evidence

The MMAT assessment [Supplementary Tables 1 and 2] revealed that most studies achieved acceptable quality, with 31 articles meeting all five MMAT criteria. However, some qualitative studies lacked more quotations to strengthen their findings, and there was a lack of better coherence among analysis, results, and interpretation. In addition, a few mixed methods studies did not achieve a comprehensive interpretation of the discrepancies between quantitative and qualitative findings.

DISCUSSION

While narrative medicine in pediatric literature is limited, existing studies demonstrate its feasibility at single sites. Analysis of learner surveys, interviews, and reflective writing revealed that its application in pediatric medical education was impactful. Similarly, interdisciplinary HCPs, patients, and families perceived its implementation in pediatric patient care

as beneficial. This review outlines the translation of narrative medicine from an educational intervention to a practice that can enhance pediatric health care, illustrating its potential to transform patient and provider experiences.

Among the 41 eligible studies, most were qualitative in design and limited by small sample sizes, though some engaged over hundreds of participants. This is reasonable as qualitative approaches prioritize data saturation and exemplification over representativeness and generalization. Despite narrative medicine's potential to humanize care and cultivate humane values in trainees, most studies of educational interventions measure immediate reactions and learning, with fewer assessing long-term and wider behavioral and organizational impacts per Kirkpatrick levels [69]. Future efforts should aim for evaluations using longitudinal, rigorous designs to assess sustained impacts on learners and patients.

Our study on the implementation of narrative competency cultivation in pediatric medical education identified various narrative genres, consistent with a recent systematic review targeting oncology clinicians [70]. Both highlighted using narrative medicine as a pedagogical tool through literature, arts, poetry, and comics, as well as interactive storytelling and discussions that involve direct engagement with patients and families. This discovery led to expanding the narrative medicine pedagogic strategy from the three-step "read-reflect-discuss" to an "interact-reflect-discuss" approach, underscoring the importance of firsthand patient and family narratives. By directly engaging with these narratives through concrete experiences, trainees could develop a deeper understanding of the lived experiences, emotions, and contexts behind the stories, fostering a more profound narrative competency that goes beyond merely reading and discussing [15,70].

Regarding educational outcomes, our review indicates self-reported improvements in self-reflection and professional identity renewal among students and residents. Other outcomes, such as improved empathy, cultural competency, and well-being, align with findings from narrative medicine applications in oncology [70]. Given the tendency for empathy to decline among medical students, residents, and nurses over time, narrative medicine interventions – described as simple and low-cost [70] – offer vital opportunities for rejuvenation [71,72]. They can act as a "humanities booster," restoring and enhancing the empathetic and reflective capacities of trainees and HCPs. Further investigation is warranted to explore these benefits in depth.

In exploring the implementation of narrative medicine in pediatric patient care, we found that most studies were published within the past 5 years, indicating both growth and the rising importance of this field. Our study, along with previous systematic reviews [3,70], primarily examined populations facing complex conditions like cancer, intensive care, fertility challenges, congenital or genetic diseases, and end-of-life care scenarios. Although these studies focused on relative complicated conditions, the benefits observed align with our findings: narrative medicine can facilitate emotional

expression and active coping with illness [73], reduce stigma, alleviate pain, and enhance well-being [3,74].

In addition, considering the unique nature of the pediatric patient care triad, our review examined studies that prominently included caregivers as study participants. This focus underscores the critical role families play in the therapeutic process, impacting decision-making and care dynamics. For patients unable to express their autonomy, the viewpoints of legal guardians or families warrant further exploration. Conversely, neglecting the patient's voice and autonomy is a pitfall to avoid [11]. Strategies like diaries [55], drawings [50], conversation dyads [64,65], written interviews [52,53,60], and video recordings [68] have been used to capture children's distinct perspectives.

Another key observation from our review is the distinct role of narrative medicine in adolescent medicine within the pediatric setting. Adolescent medicine involves a complex interplay of medical, psychological, and social issues, including puberty, early relationships, cognitive development, and growing independence [75]. Incorporating narrative medicine requires customizing environments and approaches to empower and engage adolescents through open, comfortable interactions, thereby improving receptiveness [32,46]. As adolescent transitions into adult care, maintaining a supportive community network eases this shift. Specifically, nonjudgmental dialogue about psychosocial challenges help young patients feel valued and understood [46], empowering them to confidently navigate decisions regarding their health and well-being in the fast-paced digital era [76]. Moreover, growing technology-enhanced learning, virtual reality, and artificial intelligence present new possibilities for exploring innovative narrative genres and modalities that could reinvigorate narrative medicine to further develop its impacts within clinical practice and medical education.

Interestingly, only one Asia study was included from Taiwan [34]. The study provided a cultural perspective by demonstrating how regional beliefs influence healthcare practices. For instance, trust in traditional folk prescriptions or herbal medicines can affect medication adherence, and cultural beliefs may sometimes lead to the refusal of invasive procedures. This implied the importance of developing perceptual flexibility and understanding sociocultural factors within specific contexts among future HCPs, thereby enabling them to respect and accommodate the diversity of human experiences and sociocultural backgrounds they will encounter.

Finally, our review has broadened the scope of narrative medicine to include the entire healthcare team, patients, caregivers, and the wider community. As research increasingly adopts interprofessional lenses and emphasizes both hospitals and community health, we envision narrative medicine playing an ever more prominent role in advancing health humanity. Further studies involving diverse personnel working in clinical practice, such as social workers, psychologists, physical or occupational therapists, spiritual advisers, complementary and alternative medicine practitioners, and community health workers, could enrich this field. In summary, embracing the triadic relationship unique to pediatrics will lead providers

back to the heart of care – humane, whole-person healing through genuine encounters with patients and families.

This review has several limitations. First, the exclusion of conference abstracts may have overlooked valuable preliminary data on the development of narrative medicine in pediatrics. Second, as the majority of the reviewed literature originated from the Americas and Europe, further studies are recommended to explore the use of narrative medicine in a broader range of sociocultural contexts. In addition, as nearly half of the studies integrated data from multiple participant groups, it was not feasible to conduct detailed subgroup analyses by educational stages such as undergraduate, postgraduate, continuing medical education, or specific health professions (e.g. doctors, nurses, and allied health professionals). To further validate the efficacy and impact of narrative medicine in pediatrics, larger and more methodologically rigorous studies are still needed to provide conclusive evidence.

CONCLUSION

This review delineates narrative medicine's translation from classrooms to bedsides, with benefits observed across academic, inpatient, outpatient, and community settings. The adoption of narrative medicine in pediatric settings for biopsychosocial care is becoming more widespread. Learners hold a positive attitude toward narrative medicine intervention, which may have contributed their enhanced knowledge and skills, attitude cultivation, and ability to deliver holistic health care. Studies implementing narrative medicine in pediatric patient care suggested it as an interactive platform facilitating story sharing, emotional disclosure, and triadic connections among interdisciplinary teams, patients, and caregivers. Despite the absence of rigorous studies and limitations in research design and objective assessments in current studies, existing studies' evidence supports the suitability of narrative medicine across diverse pediatric conditions and developmental stages. By genuinely relating to patients' and caregivers' experiences, narrative approaches hold promise as catalysts for humane, whole-person comforting.

Data availability statement

All data generated or analyzed during this study are included in this published article (and its supplementary information files).

Financial support and sponsorship

This work was supported by the Buddhist Tzu Chi Medical Foundation (Number: TCMF-A 113-01). The funding body had no role in the design of the study, the collection, analysis, and interpretation of data, or in writing the manuscript.

Conflicts of interest

Dr. Shao-Yin Chu, an editorial board member at *Tzu Chi Medical Journal*, had no role in the peer review process of or decision to publish this article. The other authors declare no conflicts of interest in writing this paper.

REFERENCES

1. Greenhalgh T. Narrative based medicine: Narrative based medicine in an

- evidence based world. *BMJ* 1999;318:323-5.
2. Charon R. *Narrative medicine: Honoring the stories of illness*. New York; Oxford: Oxford University Press; 2008.
3. Fioretti C, Mazzocco K, Riva S, Oliveri S, Masiero M, Pravettoni G. Research studies on patients' illness experience using the narrative medicine approach: A systematic review. *BMJ Open* 2016;6:e011220.
4. Greenhalgh T, Hurwitz B. *Narrative based medicine: Dialogue and discourse in clinical practice*. London: BMJ Books; 2004.
5. Charon R. The patient-physician relationship. *Narrative medicine: A model for empathy, reflection, profession, and trust*. *JAMA* 2001;286:1897-902.
6. Charon R. What to do with stories: The sciences of narrative medicine. *Can Fam Physician* 2007;53:1265-7.
7. Bruner JS. *Actual minds, possible worlds*. Cambridge, Mass.: Harvard University Press; 1986.
8. Bruner JS. *Acts of meaning*. Cambridge, Mass.: Harvard University Press; 1990.
9. Zaharias G. What is narrative-based medicine? *Narrative-based medicine 1*. *Can Fam Physician* 2018;64:176-80.
10. Butani L, Bannister SL, Rubin A, Forbes KL. How educators conceptualize and teach reflective practice: A survey of North American pediatric medical educators. *Acad Pediatr* 2017;17:303-9.
11. Cattaneo RA, González N, Leaf A, Fleishman R. Pediatric resident perceptions of a narrative medicine curriculum. *J Med Humanit* 2024;45:157-69.
12. Scott-Conner CE, Agarwal D. Applications of narrative medicine to surgical education. *Am Surg* 2022;88:2851-6.
13. Soni M, Eidelman AS. Opportunities for narrative medicine in dental education and practice, a narrative review. *J Dent Educ* 2022;86:328-33.
14. Cenci C. Narrative medicine and the personalisation of treatment for elderly patients. *Eur J Intern Med* 2016;32:22-5.
15. Milota MM, van Thiel GJ, van Delden JJ. Narrative medicine as a medical education tool: A systematic review. *Med Teach* 2019;41:802-10.
16. DasGupta S, Charon R. Personal illness narratives: Using reflective writing to teach empathy. *Acad Med* 2004;79:351-6.
17. Barber S, Moreno-Leguizamon CJ. Can narrative medicine education contribute to the delivery of compassionate care? A review of the literature. *Med Humanit* 2017;43:199-203.
18. Huang CD, Jenq CC, Liao KC, Lii SC, Huang CH, Wang TY. How does narrative medicine impact medical trainees' learning of professionalism? A qualitative study. *BMC Med Educ* 2021;21:391.
19. Bury M. Chronic illness as biographical disruption. *Sociol Health Illn* 1982;4:167-82.
20. Hydén LC. Illness and narrative. *Sociol Health Illn* 2008;19:48-69.
21. Sihota J, Shannon S, Bhattacharyya A. History taking. In: *Learning to consult*. Boca Raton, FL: CRC Press; 2007, p. 10-28.
22. Chu SY, Wen CC, Lin CW. A qualitative study of clinical narrative competence of medical personnel. *BMC Med Educ* 2020;20:415.
23. Zonza M. Narrative based medicine and neonatology: An interpretative approach. *J Pediatr Neonatal Individ Med* 2012;1:49-52.
24. Arksey H, O'Malley L. Scoping studies: Towards a methodological framework. *Int J Soc Res Methodol* 2005;8:19-32.
25. Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA extension for scoping reviews (PRISMA-ScR): Checklist and explanation. *Ann Intern Med* 2018;169:467-73.
26. Hong QN, Fàbregues S, Bartlett G, Boardman F, Cargo M, Dagenais P, et al. The Mixed Methods Appraisal Tool (MMAT) version 2018 for information professionals and researchers. *Educ Inf* 2018;34:285-91.
27. Praslova L. Adaptation of Kirkpatrick's four level Model of training criteria to assessment of learning outcomes and program evaluation in higher education. *Educ Assess Eval Account* 2010;22:215-25.
28. Hammick M, Dornan T, Steinert Y. Conducting a best evidence systematic review. Part 1: From idea to data coding. BEME guide no. 13. *Med Teach* 2010;32:3-15.
29. DasGupta S, Meyer D, Calero-Breckheimer A, Costley AW, Guillen S. Teaching cultural competency through narrative medicine: Intersections of classroom and community. *Teach Learn Med* 2006;18:14-7.
30. Boss RD, Geller G, Donohue PK. Conflicts in learning to care for critically ill newborns: "It makes me question my own morals". *J Bioeth Inq* 2015;12:437-48.
31. Telles-Silveira M, Knobloch F, Kater CE. Development of a strategy of physician-patient relationship for improving care for patients with disorders of sex development: A qualitative study. *Sao Paulo Med J* 2016;134:300-5.
32. Small LC, Feldman LS, Oldfield BJ. Using narrative medicine to build community across the health professions and foster self-care. *J Radiol Nurs* 2017;36:224-7.
33. Cheng A, LaDonna K, Cristancho S, Ng S. Navigating difficult conversations: The role of self-monitoring and reflection-in-action. *Med Educ* 2017;51:1220-31.
34. Chu SY, Lin CW, Lin MJ, Wen CC. Psychosocial issues discovered through reflective group dialogue between medical students. *BMC Med Educ* 2018;18:12.
35. Adamson K, Sengsavang S, Charise A, Wall S, Kinross L, Balkaran M. Narrative training as a method to promote nursing empathy within a pediatric rehabilitation setting. *J Pediatr Nurs* 2018;42:e2-9.
36. McCauley CJ, Miles JA, Frush BW, Beck Dallaghan GL, Aliaga S, Ferris M, et al. Reflections of an integrated maternal-child health medical student assignment. *Matern Child Health J* 2020;24:679-86.
37. Weinstein AR, Amerault CJ, Chapman SH, LaMonica AF, Holmes AV. Enhancing empathy in medical students: Family-faculty members facilitate patient-centered reflection. *Acad Pediatr* 2020;20:1037-40.
38. Chua IS, Bogetz AL, Long M, Kind T, Ottolini M, Lineberry M, et al. Medical student perspectives on conducting patient experience debrief interviews with hospitalized children and their families. *Med Teach* 2021;43:421-7.
39. Vibert Y, Capriolo C, Mossabeh R, Fleishman R. Narrative medicine for pediatric residents during neonatal and pediatric intensive care rotations. *J Neonatal Perinatal Med* 2022;15:635-42.
40. Collier K, Gupta A, Vinson A. Motivating change in resident language use through narrative medicine workshops. *BMC Med Educ* 2022;22:663.
41. Sinha A, Slater CS, Lee A, Sridhar H, Gowda D. "The forest and the trees": A narrative medicine curriculum by residents for residents. *Pediatr Res* 2024;96:313-8.
42. Romanos-Sirakis E, Demissie S, Fornari A. Implementation of a multi-modal palliative care curriculum for pediatric residents. *Am J Hosp Palliat Care* 2021;38:1322-8.
43. Chua IS, Bogetz AL, Bhansali P, Long M, Holbreich R, Kind T, et al. The patient experience debrief interview: How conversations with hospitalized families influence medical student learning and reflection. *Acad Med* 2019;94:S86-94.
44. Bajaj N, Phelan J, McConnell EE, Reed SM. A narrative medicine intervention in pediatric residents led to sustained improvements in resident well-being. *Ann Med* 2023;55:849-59.
45. Vegni E, Fiori L, Riva E, Giovannini M, Moja EA. How individuals with phenylketonuria experience their illness: An age-related qualitative study. *Child Care Health Dev* 2010;36:539-48.
46. Brand G, Morrison P, Down B, Westbrook B. Scaffolding young Australian women's journey to motherhood: A narrative understanding. *Health Soc Care Community* 2014;22:497-505.
47. Davies B, Steele R, Krueger G, Albersheim S, Baird J, Bifirre M, et al. Best practice in provider/parent interaction. *Qual Health Res* 2017;27:406-20.
48. Marini MG, Chesi P, Mazzanti L, Guazzarotti L, Toni TD, Salerno MC, et al. Stories of experiences of care for growth hormone deficiency: The CRESCERE project. *Future Sci OA* 2016;2:FSO82.

49. Roher SI, Gibson J, Gibson BE, Gupta AA. Listening through narratives: Using a narrative approach when discussing fertility preservation options with young cancer patients. *Curr Oncol* 2017;24:10-5.
50. Adams S, Nicholas D, Mahant S, Weiser N, Kanani R, Boydell K, et al. Care maps for children with medical complexity. *Dev Med Child Neurol* 2017;59:1299-306.
51. Cappuccio A, Napolitano S, Menzella F, Pellegrini G, Policreti A, Pelaia G, et al. Use of narrative medicine to identify key factors for effective doctor-patient relationships in severe asthma. *Multidiscip Respir Med* 2019;14:26.
52. Scaratti C, Zorzi G, Guastafierro E, Leonardi M, Covelli V, Toppo C, et al. Long term perceptions of illness and self after deep brain stimulation in pediatric dystonia: A narrative research. *Eur J Paediatr Neurol* 2020;26:61-7.
53. Ragusa L, Crinò A, Grugni G, Reale L, Fiorencis A, Licenziati MR, et al. Caring and living with Prader-Willi syndrome in Italy: Integrating children, adults and parents' experiences through a multicentre narrative medicine research. *BMJ Open* 2020;10:e036502.
54. Campbell A, Plourde V, Hartling L, Scott SD. "You can't fix your brain": Exploring concussion experiences of children and parents. *J Spec Pediatr Nurs* 2022;27:e12357.
55. Sansone V, Cancani F, Gagliardi C, Satta T, Cecchetti C, de Ranieri C, et al. Narrative diaries in the paediatric intensive care unit: A thematic analysis. *Nurs Crit Care* 2022;27:45-54.
56. De Vito B, Castagno E, Garrone E, Tardivo I, Conti A, Luciani M, et al. Narrating care during the COVID-19 pandemic in a paediatric emergency department. *Reflective Pract* 2021;23:219-31.
57. Barker BA, Scharp KM, Chandler KL, Bowman EB. Exploring the types of stories hearing parents tell about rearing their children who use cochlear implants. *Ear Hear* 2021;42:1284-94.
58. Fox DA, Hauser JM. Exploring perception and usage of narrative medicine by physician specialty: A qualitative analysis. *Philos Ethics Humanit Med* 2021;16:7.
59. Bressan M. Therapeutic education patient and epilepsy in children: recounting bodies and feelings. *Sante Publique* 2021;33:317-26.
60. Simonelli F, Sodi A, Falsini B, Bacci G, Iarossi G, Di Iorio V, et al. Care pathway of RPE65-related inherited retinal disorders from early symptoms to genetic counseling: A multicenter narrative medicine project in Italy. *Clin Ophthalmol* 2021;15:4591-605.
61. Simonelli F, Sodi A, Falsini B, Bacci G, Iarossi G, Di Iorio V, et al. Narrative medicine to investigate the quality of life and emotional impact of inherited retinal disorders through the perspectives of patients, caregivers and clinicians: An Italian multicentre project. *BMJ Open* 2022;12:e061080.
62. Robinson TL, Bowman EB, Barker BA. Exploring the stories of parents' experiences with infant hearing-loss screening and diagnosis in the United States. *Ear Hear* 2023;44:518-29.
63. Whitney RV. In their own words: Mothers narrate the lived experience of raising children with developmental disorders who engage in socially disruptive conduct. *J Autism Dev Disord* 2023;53:3272-9.
64. Guidotti L, S'olari F, Bertolini P, Gebennini E, Ghiaroni G, Corsano P. Reminiscing on acute and chronic events in children with cancer and their parents: An exploratory study. *Child Care Health Dev* 2019;45:568-76.
65. Thoele DG, Gunalp C, Baran D, Harris J, Moss D, Donovan R, et al. Health care practitioners and families writing together: The three-minute mental makeover. *Perm J* 2020;24:19.056.
66. Continisio GI, Nunziata F, Coppola C, Bruzzese D, Spagnuolo MI, Guarino A. Enhancing the care of children with chronic diseases through the narratives of patient, physician, nurse and carer. *Scand J Psychol* 2021;62:58-63.
67. Lanis A, Tu E, Peskin M, Melendez M, Tarshish G, Akinsete A, et al. Storytelling of young adults with chronic rheumatologic illnesses: A pilot study. *Healthcare (Basel)* 2022;10:1979.
68. Hirsh CD, Grosssoehme DH, Tsirambidis H, Richner G, Frieber S. End of life therapeutic videography in pediatrics: Feasibility and acceptability. *Omega (Westport)* 2023;88:465-76.
69. Cahapay M. Kirkpatrick model: Its limitations as used in higher education evaluation. *Int J Assess Tool Educ* 2021;8:135-44.
70. Paul TK, Reddy Y, Gnanakumar A, England R, Superdock A, Malipeddi D, et al. Narrative medicine interventions for oncology clinicians: A systematic review. *Support Care Cancer* 2024;32:241.
71. Neumann M, Edelhäuser F, Tauschel D, Fischer MR, Wirtz M, Woopen C, et al. Empathy decline and its reasons: A systematic review of studies with medical students and residents. *Acad Med* 2011;86:996-1009.
72. Yi X, Sicheng X, Lihui Z, Jianhui X, Zhenhui S, Xiang D, et al. Changes in empathy of nurses from 2009 to 2018: A cross-temporal meta-analysis. *Nurs Ethics* 2021;28:776-90.
73. McInnerney D, Kupeli N, Stone P, Anantapong K, Chan J, Flemming K, et al. Emotional disclosure in palliative care: A scoping review of intervention characteristics and implementation factors. *Palliat Med* 2021;35:1323-43.
74. Cepeda MS, Chapman CR, Miranda N, Sanchez R, Rodriguez CH, Restrepo AE, et al. Emotional disclosure through patient narrative may improve pain and well-being: Results of a randomized controlled trial in patients with cancer pain. *J Pain Symptom Manage* 2008;35:623-31.
75. Moreno M, Thompson L. What is adolescent and young adult medicine? *JAMA Pediatr* 2020;174:512.
76. Pinto RM, Rahman R, Zanchetta MS, Galhego-Garcia W. Brazil's community health workers practicing narrative medicine: Patients' perspectives. *J Gen Intern Med* 2021;36:3743-51.

SUPPLEMENTARY MATERIAL

Supplementary Table 1: Synthesis of sources on the application of narrative medicine in pediatric medical education

Application of narrative medicine in pediatric medical education					
Title; authors, publication year, study location	Objective	Study design	Description of study population	Main study findings	MMAT
Teaching cultural competency through narrative medicine: Intersections of classroom and community [29]; DasGupta et al., 2006 USA	To describe a unique educational activity in which pediatric residents participated in a monthly reading and discussion group with staff members of a community organization	Qualitative Discussions, focus groups, self-reported evaluation cards (content and thematic analysis)	24 pediatric residents, 16 community staff	The activity improved self-reported understanding of (a) issues of cultural diversity, (b) issues of medical culture, and (c) physician's attitudes and behaviors in practice	5
Conflicts in learning to care for critically ill newborns: "It Makes Me Question My Own Morals"[30]; Boss et al., 2015 USA	To explore trainee's reflections on NICU rotations and their capacity to navigate professional and personal challenges in the care of critically ill and dying infants	Qualitative Narrative writing, JSPE (thematic analysis)	37 physician trainees	"Conflict" was the prevailing theme, with trainees experiencing conflicts with family, clinicians, and conflicts related to their professional and personal identities. There was no significant JPSE scores change in pre and postsurveys	5
Development of a strategy of physician-patient relationship for improving care for patients with disorders of sex development: A qualitative study [31]; Telles-Silveira et al., 2016 Brazil	To report a psychologist's strategy aimed to improve relationship between physician teams and adult disorders of sex developments patients	Qualitative Group dynamics, clinical observations, class lectures and clinical case discussions (discourse analysis)	55 patients, 36 in-training residents, 5 postgraduate students, 4 assistant professors	Residents built personalized narratives of care, fostering open dialogue and addressing taboo topics. Continuity of care from the same resident cultivated a sense of individuality and genuine interest, fostering a caring environment for patients	3
Using narrative medicine to build community across the health professions and foster self-care [32]; Small et al., 2017 USA	To evaluate the impact of an interprofessional program in narrative medicine and facilitate quality improvement	Qualitative Semistructured interviews	14 caregivers, 4 attending physicians, 3 residents, 3 social workers, 2 nurses, 1 child life specialist, 1 fellow	This interprofessional narrative medicine program may reduce emotional dissonance in hospital work, provide opportunities for reflection, encourage open expression of thoughts and feelings, foster meaningful connections with others, and promote personal growth	5
Navigating difficult conversations: The role of self-monitoring and reflection-in-action [33]; Cheng et al., 2017 Canada	To investigate trainee's approach to difficult conversations in the NICU using the sensitizing concepts of self-monitoring and reflection-in-action	Qualitative Semistructured interviews, visual methods (constant comparative analysis)	15 pediatric and obstetrics residents	Participants underwent a transformative process, observing different communication approaches and negotiating their roles in difficult conversations. The findings highlight the relationship between self-monitoring, reflection-in-action, and recognizing indeterminate zones of practice in NICU discussions	5
Psychosocial issues discovered through reflective group dialogue between medical students [34]; Chu et al., 2018 Taiwan	To discover psychosocial issues among patients and their family members through medical student's reflective writing	Qualitative Narrative writing, group discussion (thematic analysis)	50 medical students at pediatric clerkship	The study explores the psychosocial complexity of clinical encounters through six main themes: Medical communication, medical ecological system, family roles, medical professionalism, ethical dilemmas, and diverse patient perspectives	5
Narrative training as a method to promote nursing empathy within a pediatric rehabilitation setting [35]; Adamson et al., 2018 Canada	To examine the impact of an arts-based narrative training intervention on promoting empathy in pediatric rehabilitation nursing	Qualitative Pre- and postintervention semistructured interviews (thematic narrative analysis)	8 pediatric rehabilitation nurses	The intervention had a positive impact on participants, enhancing empathy for patients and families, fostering a collaborative nursing community, and renewing their professional purpose	2
The patient experience debrief interview: How conversations with hospitalized families influence medical student learning and reflection [43]; Chua et al., 2019 USA	To determine the effect of patient-caregiver debrief interviews on pediatric clerkship student depth of reflection and learning	Qualitative and quantitative Reflective writing (content analysis); 4-level REFLECT rubric score	189 medical students at pediatric clerkship	Patient debrief interviews offer a unique approach to deepen self-reflection through direct dialogue and exploration of patient-caregiver experiences during hospitalization	4

Contd...

Supplementary Table 1: Contd...

Application of narrative medicine in pediatric medical education					
Title; authors, publication year, study location	Objective	Study design	Description of study population	Main study findings	MMAT
Reflections of an integrated maternal-child health medical student assignment [36]; McCauley et al., 2020 USA	To assess student reflections quality with DOR rubric and identify emerging themes from the maternal-child experiences of newborns requiring long-term NICU care	Qualitative Reflective writing (constant comparative analysis)	166 3 rd -year medical students	Student's narratives demonstrated high levels on DOR scale. This experience exposed students to individualized learning, diverse maternal-child health considerations, and professional identity exploration	5
Enhancing empathy in medical students: Family-faculty members facilitate patient-centered reflection [37]; Weinstein et al., 2020 USA	To explore student's reflective writing on learning about family perspectives in pediatric illness through structured interviews with families of pediatric patients	Qualitative Reflective writing (constant comparative analysis, content analysis)	90 3 rd -year medical students	Student's reflections emphasized learning in professional development, resilience, belief systems, the therapeutic relationship, family role in caring for ill children, and the significance of support and education	3
Medical student perspectives on conducting patient experience debrief interviews with hospitalized children and their families [38]; Chua et al., 2021 USA	To explore how medical students completing a pediatric clerkship viewed the benefits and barriers of debrief interviews with hospitalized patients and families	Qualitative Focus group (constant comparative analysis)	62 medical students at pediatric clerkship	Debrief interviews offer students opportunities to learn about the patient experience by developing interpersonal skills, humanism, empathy, and professionalism	5
Implementation of a multi-modal palliative care curriculum for pediatric residents [42]; Romanos-Sirakis et al., 2021 USA	To evaluate the feasibility and efficacy of a new multi-modal pediatric palliative care curriculum	Quantitative Pre- and postcurriculum surveys, checklist for simulation session	25 pediatric residents	Residents self-reported an increase in comfort and knowledge of the components of pediatric palliative care. The multi-modal approach, especially role-play and simulation, was rated as highly effective	4
Narrative medicine for pediatric residents during neonatal and pediatric intensive care rotations [39]; Vibert et al., 2022 USA	To examine how residents working in the NICU and PICU at one children's hospital responded to a narrative medicine curriculum	Qualitative Reflective writing (NVivo)	22 pediatric residents	Residents found the self-reflection and emotion-release sessions to be valuable, with empathic witnessing, group reflection, and reflective writing being empowering	5
Motivating change in resident language use through narrative medicine workshops [40]; Collier et al., 2022 USA	To explore how language use narrative medicine workshops motivated trainees to use language differently during patient care	Qualitative Semistructured interviews (thematic analysis)	18 internal medicine and pediatrics residents	The workshop had a positive impact on resident's communication in clinical settings. Participants actively corrected dehumanizing language in their own communication and challenged others who used such language	5
Pediatric resident perceptions of a narrative medicine curriculum [11]; Cattaneo et al., 2023 USA	To evaluate resident's perceptions of a longitudinal narrative medicine curriculum as a feasible way to integrate humanistic training into pediatric resident education	Qualitative Focus group (thematic analysis)	13 pediatric residents	The curriculum assists pediatric trainees in becoming empathetic and well-rounded physicians. By carefully choosing narratives, these sessions promote varied dialogues that enhance empathy and facilitate the processing of emotions associated with patient care	5
A narrative medicine intervention in pediatric residents led to sustained improvements in resident well-being [44]; Bajaj et al., 2023 USA	To evaluate immediate and delayed benefits of a longitudinal narrative medicine intervention for pediatric residents	Qualitative and quantitative Open-ended survey questions (thematic analysis); burnout and resilience survey	22 pediatric residents	Despite a lack of notable changes in quantitative indicators of stress, self-compassion, empathy, mindfulness, burnout, or resilience over time, residents reported sustained qualitative improvements lasting at least 6 months	5
"The forest and the trees:" A narrative medicine curriculum by residents for residents [41]; Sinha et al., 2024 USA	To evaluate a novel, resident-led narrative medicine curriculum designed and facilitated by pediatric residents for their fellow residents	Qualitative Semistructured interviews (thematic analysis)	15 pediatric residents	Residents reported the curriculum allowed them to explore different facets of their identities, build relationships with colleagues, develop appreciation for patient perspectives, and critically examine medical culture and advocacy for marginalized populations	5

DOR: Depth of reflection, NICU: Neonatal intensive care unit, MMAT: McGill Mixed Methods Appraisal Tool, JSPE: Jefferson Scale of Physician Empathy, PICU: Pediatric intensive care unit, REFLECT: Reflection Evaluation for Learners' Enhanced Competencies Tool

Supplementary Table 2: Synthesis of sources on the implementation of narrative medicine in pediatric patient care

Implementation of narrative medicine in pediatric patient care					
Title; authors, publication year, study location	Objective	Study design	Description of study population	Main study findings	MMAT
How individuals with phenylketonuria experience their illness: An age-related qualitative study [45]; Vegni et al., 2010 Italy	To explore the illness experience of individuals affected by PKU and its differences in different patient age groups	Qualitative In-depth interviews (content analysis)	37 patients (aged 8–31)	Illness perception of PKU patients, covering cross-sectional themes like living with PKU and healthcare suggestions. Age-related themes range from acquiring consciousness at 8–12 to considerations of job and relationships in those aged >23–31	5
Scaffolding young Australian women's journey to motherhood: A narrative understanding [46]; Brand et al., 2014 Australia	To describe the role a community service played in scaffolding young women's experiences as they transitioned to motherhood	Qualitative Contextual observation, reflective field notes, in-depth interviews (thematic analysis)	11 young pregnant women (aged 16–23)	The findings revealed that judgment-free services that foster social and supportive relationships were integral in developing positive motherhood identities	5
Best practice in provider/parent interaction [47]; Davies et al., 2016 Canada	To develop a conceptualization of BPHCPs in interaction with parents of children with complex, chronic, life-threatening conditions	Qualitative Interviews and observation notes (NVivo)	34 parents, 80 HCPs	BPHCP's direct care, connecting behaviors, and situational attunement foster positive outcomes for parents and providers through respectful, family-centered care, authentic engagement, and empowerment, accounting for influencing factors	5
Stories of experiences of care for growth hormone deficiency: The CRESCERE project [48]; Marini et al., 2016, Italy	To understand and depict the children and teenager's illness with growth hormone deficiency and the other involved stakeholder's experience	Qualitative Semistructured plot (NVivo)	67 patients, 67 parents, 7 siblings, and caregivers	Narratives are a valuable tool for family members to express themselves and for HCPs to improve support during delicate phases like adolescence. Narration was appreciated by the participants with satisfaction engagement	5
Listening through narratives: Using a narrative approach when discussing fertility preservation options with young cancer patients [49]; Roher et al., 2017 Canada	To examine how Arthur Frank's narrative types could aid healthcare providers in enhancing fertility preservation discussions with adolescent patients	Qualitative In-depth interviews (thematic analysis)	15 male survivors of childhood cancer (aged 14–18)	Explored narrative medicine with Frank typology and provided suggestions for healthcare providers in sensitive fertility preservation discussions. This approach fosters shared understanding, trust, and the emergence of new stories	5
Care maps for children with medical complexity [50]; Adams et al., 2017, Canada	To explore the meaning of care maps for families and healthcare providers and evaluate their perceived usefulness in a clinical setting	Qualitative Semistructured in-depth interviews (NVivo, constant comparative analysis)	15 parents, 30 HCPs	Participants described the care map as a valuable visual overview of the child's care needs. A theoretical model was explored to encompass three domains: Features, functions, and emerging outcomes of care maps	3
Reminiscing on acute and chronic events in children with cancer and their parents: An exploratory study [64]; Guidotti et al., 2019 Italy	To investigate reminiscing in parent-child with cancer dyads, focusing on parent's reminiscing habits, parent's reminiscing style, and children's well-being	Quantitative Parent-child dyad conversation, questionnaires	15 parents and 15 patients with hematology or oncology diagnosis (aged 4–8)	Elaborative and emotional reminiscing conversations can aid children with cancer and their families in coping with acute and chronic stressful events	4
Use of narrative medicine to identify key factors for effective doctor–patient relationships in severe asthma [51]; Cappuccio et al., 2019 Italy	To analyze physician's narratives with severe asthmatic patients to evaluate trust promotion and identify factors affecting trust-building	Qualitative Parallel charts (language analysis, NVivo)	314 patients (68 children and 246 adults) and 66 pulmonologists, allergists, and pediatricians	Physician's use of a moral style in narratives led to problematic relationships, particularly with overprotective or absent families, while empathy and shared decision-making rebuilt trust and improved quality of life for patients	5
Long term perceptions of illness and self after deep brain stimulation in pediatric dystonia: A narrative research [52]; Scaratti et al., 2020 Italy	To explore how patients with isolated dystonia perceive illness, self, health, and the device following DBS surgery	Qualitative Written narrative interview (thematic analysis)	8 patients who had undergone DBS surgery for dystonia in their childhood (aged 18–26)	DBS surgery patient's experiences encompassed themes like disease relationship, procedure experience, body acceptance, fears, and future considerations, highlighting the importance of psychological support in pre- and postintervention care	5

Contd...

Supplementary Table 2: Contd...
Implementation of narrative medicine in pediatric patient care

Title; authors, publication year, study location	Objective	Study design	Description of study population	Main study findings	MMAT
Caring and living with PWS in Italy: Integrating children, adults and parent's experiences through a multicentre narrative medicine research [53]; Ragusa et al., 2020 Italy	To investigate the impact of PWS on illness experience, seeking to understand the daily life and resources involved while providing insights for a multidisciplinary clinical approach	Qualitative Written interview, illness plot (NVivo)	55 patients (21 aged 7–18, 34 aged 20–61), 138 caregivers	Provide insights into the social and relational issues, daily experiences, and future perspectives of individuals with PWS, emphasizing the need for a multiprofessional approach to ensure adequate treatment and address social stigma	5
Healthcare practitioners and families writing together: The three-minute mental makeover [65]; Thoele et al., 2020 USA	To assess the effectiveness of the 3MMM writing tool in reducing stress and enhancing communication between healthcare practitioners and patients/families	Quantitative Writing and sharing pre-3MMM survey (HCP-family dyad), post-3MMM survey	19 patients (aged 0–24), 69 parents, 8 relatives or family friend, 8 HCPs	The 3MMM tool, along with concurrent group expressive writing exercises, may yield benefits such as reduced stress, improved mental health, and enhanced communication	5
“You Can’t Fix Your Brain”: Exploring concussion experiences of children and parents [54]; Campbell et al., 2021 Canada	To explore the experiences, information needs and preferences of children who have had a concussion and their parents who have cared for them	Qualitative Interviews (thematic analysis, NVivo)	13 parents, 12 patients	The interviews provided valuable insights into the distinct needs, concerns, and information preferences of parents and children regarding concussion	5
Narrative diaries in the pediatric intensive care unit: A thematic analysis [55]; Sansone et al., 2021 Italy	To explore contents of narrative PICU diaries written by healthcare providers, caregivers, relatives, or other visitors of critically ill children during PICU admission	Qualitative PICU diaries (thematic analysis)	8 patients (mean age: 8.5 years), 95 caregivers, 54 family members or friends, 52 HCPs	The use of PICU diaries revealed three main themes: The importance of social and spiritual support, caregiver's emotions and needs, and the dynamics of PICU life	5
Narrating care during the COVID-19 pandemic in a pediatric emergency department [56]; De Vito et al., 2021 Italy	To describe the experience of HCPs working in a pediatric emergency departments in Italy during COVID-19 pandemic through reflective writing	Qualitative Reflective writing (thematic analysis)	16 attending pediatricians, 5 residents, 5 nurses	Reflections from HCPs revealed heightened emotional awareness during the pandemic. They discussed barriers in doctor–patient relationships and the crisis's impact on themselves, clinical practice, and systems	5
Enhancing the care of children with chronic diseases through the narratives of patient, physician, nurse and carer [66]; Continisio et al., 2021 Italy	To enhance biopsychosocial care and evaluate the predominant focus of narrators across six medical conditions	Qualitative and Quantitative Semistructured interview (textual analysis)	12 patients (aged 9–17), 12 mothers, 12 physicians, 12 nurses	The majority of narratives centered around illness, with Crohn's disease and HIV infection narratives showing a higher prevalence of sickness, possibly attributable to societal stigma	3
Exploring the types of stories hearing parents tell about rearing their children who use cochlear implants [57]; Barker et al., 2021 USA	To better understand the experiences of parents of young children with cochlear implants	Qualitative Narrative interview (thematic narrative analysis)	20 parents (with children under 10 year-old, mean age: 5.4 years)	Five types of stories emerged from parent's experiences, including story of personal growth, proactive stories, stories of strain and inundation, detached stories, story of persistence	5
Exploring perception and usage of narrative medicine by physician specialty: A qualitative analysis [58]; Fox and Hauser, 2021 USA	To explore perception and usage of narrative medicine by physician specialty	Qualitative Semistructured interview (content analysis)	15 senior physicians	Narrative medicine is recognized as a crucial and beneficial tool in clinical care. However, there exists varying opinions on when to implement it and the obstacles it may present	5
Therapeutic education patient and epilepsy in children: recounting bodies and feelings [59]; Bressan, 2021 Switzerland	To explore the effectiveness and impact of integrating narrative competencies into TPE for children with epilepsy in neuropediatric units	Qualitative Several types of interviews (thematic analysis)	10 patients (aged 5–18), 10 family members	The study emphasizes the significant benefits of incorporating narrative competencies into TPE for children with epilepsy, which facilitate a deeper understanding of patient experiences through integration of patient's and their families' stories into clinical practice	5

Contd...

Supplementary Table 2: Contd...

Implementation of narrative medicine in pediatric patient care

Title; authors, publication year, study location	Objective	Study design	Description of study population	Main study findings	MMAT
Care pathway of RPE65-related inherited retinal disorders from early symptoms to genetic counseling: A multicenter narrative medicine project in Italy [60]; Simonelli et al., 2021 Italy	To investigate the evolution of the care pathway and the expectations on genetic counseling and gene therapy by patients, caregivers, and HCPs	Qualitative Illness plot, written narratives, parallel charts, in-depth interview, (NVivo)	8 patients, 8 caregivers, 11 retinologists, 5 HCPs	The project explored topics such as symptom onset, genetic counseling, gene therapy, and care relationships. It also identified areas for improvement in managing RPE65-related IRDs	5
Narrative medicine to investigate the quality of life and emotional impact of inherited retinal disorders through the perspectives of patients, caregivers and clinicians: An Italian multicentre project [61]; Simonelli et al., 2022 Italy	To reveal the practical, emotional and social issues linked to IRDs as experienced by patients, caregivers and HCPs	Qualitative Parallel chart, interview, questionnaire (NVivo, content analysis)	8 patients, 8 caregivers, 11 retinologists	The study explored the practical and emotional aspects of IRDs, providing valuable insights for clinical practice and understanding the impact of these conditions on quality of life	5
Storytelling of young adults with chronic rheumatologic illnesses: A pilot study [67]; Lanis et al., 2022 USA	To assess the feasibility of a storytelling intervention in youth with rheumatologic illnesses	Qualitative and quantitative Creative writing, phone interview (content analysis); pre- and post-questionnaires	13 patients (14–21 years)	Surveys showed statistically significant improvement in physical health. Creative writing is a feasible and acceptable intervention for youth, exploring their illness experience, relationships, and support	2
End of life therapeutic videography in pediatrics: Feasibility and acceptability [68]; Hirsh et al., 2022 USA	To explore the use of videography for stress alleviation and conduct a comprehensive examination of children's experiences with life-shortening illnesses in palliative/end-of-life care	Qualitative and quantitative Video recording (thematic analysis); pre- and postquestionnaires	8 patients (8–20 years)	Therapeutic videography proved feasible and effective in improving participant's emotional state, despite challenges in conducting research with end-of-life patients	4
Exploring the stories of parent's experiences with infant hearing-loss screening and diagnosis in the United States [62]; Robinson et al., 2023 USA	To better understand parent's experiences with their newborn's hearing-loss screening and diagnosis	Qualitative Semistructured interview (thematic analysis)	13 parents (with patient child at mean age 25.7 month-old)	The study explored the hearing healthcare experiences and parent's early experiences with their child's hearing-loss screening and diagnosis	5
In their own words: Mothers narrate the lived experience of raising children with developmental disorders who engage in socially disruptive conduct [63]; Whitney, 2023 USA	To analyze how mothers describe their experience raising children with behavioral disabilities in order to better identify occupational therapy interventions that will meet their needs	Qualitative Journal writing (thematic analysis)	120 mothers of children aged 3–18	Common stressors, especially in role fulfillment and perceived support, were identified. Understanding the occupational role of motherhood, goal-setting, and addressing challenges are crucial for enhancing maternal well-being	5

HCPs: Healthcare professionals, MMAT: McGill Mixed Methods Appraisal Tool, PKU: Phenylketonuria, BPHCPs: Best practice healthcare providers, DBS: Deep brain stimulation, PWS: Prader–Willi Syndrome, 3MMM: 3-min mental makeover, TPE: Therapeutic patient education, IRDs: Inherited retinal disorders