Playfulness Among Hospitalised Paediatric Patients: A Protocol of Quantitative Meta-Analysis

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Playfulness Among Hospitalised Paediatric Patients: A Protocol of Quantitative Meta-analysis.. PROSPERO 2026, CRD420261307691. Available from

Introduction

Condition or domain being studied

Hospitalisation; Pain Relief; Play Therapy; Alleviating Anxiety; Behavioral Therapy; Day Hospital Care The healthcare condition or domain in your study refers to the cluster of emotional, psychological, and physical challenges that children experience specifically as a result of hospitalisation, including heightened anxiety, increased pain, behavioural distress such as crying or withdrawal, and difficulties coping with unfamiliar environments, invasive procedures, and separation from caregivers; in this context, your PICO framework focuses on hospitalised paediatric patients who are experiencing these hospitalisation-related stress responses, recognising that the clinical issue being addressed is not a disease but the psychological and emotional impact of hospital stays, and the goal of the intervention—playfulness-based therapeutic activities—is to reduce anxiety and pain, enhance emotional well-being, and support adaptive coping within the paediatric inpatient setting

Rationale for the review

The rationale for this review is to consolidate and clarify the growing but scattered body of evidence on playfulness-based interventions for hospitalised children, as existing studies vary widely in design, intervention type, and outcome measures, making it difficult for clinicians to draw firm conclusions. Hospitalisation commonly triggers significant anxiety, pain, emotional distress, and loss of control in paediatric patients, and although many studies demonstrate that therapeutic play can reduce these negative experiences and improve children's coping, the evidence remains fragmented across different settings, methodologies, and cultural contexts. By systematically reviewing and synthesising findings from the past decade, this review provides a clearer, more comprehensive understanding of how playfulness influences anxiety, pain, emotional well-being, and behavioural responses during hospitalisation. This work adds to existing knowledge by identifying consistent patterns across studies, highlighting effective forms of therapeutic play, addressing gaps in standardisation, and offering evidence-based guidance to support the integration of play into routine paediatric care, ultimately improving child-centred healthcare practices.

Review objectives

1-To evaluate the effectiveness of playfulness-based therapeutic interventions in reducing anxiety and pain among hospitalised paediatric patients.
2-To examine the impact of therapeutic play on behavioural distress, including crying, withdrawal, agitation, and other negative emotional responses during hospitalisation.
3-To assess improvements in emotional well-being and coping, including children's ability to understand procedures, express emotions, and manage hospital-related stress.
4-To compare the outcomes of different types of play interventions, such as medical play, storytelling, games, and creative activities.
5-To explore contextual factors—including family involvement, cultural influences, and hospital environment—that shape the effectiveness of therapeutic play.

Keywords Peadiatric; Hospitalization; Playfulness; theraputic play

Country

United Arab Emirates

Eligibility Criteria

Population

Included Hospitalised paediatric patients—typically children aged 5 to 12 years—admitted to medical or surgical units who experience hospital-related anxiety, pain, and emotional distress and are able to participate in play-based therapeutic activities. This includes medically stable children who can engage in structured or unstructured play, express emotions through play, and complete anxiety or pain assessments. The protocol also notes that these children face stressors such as unfamiliar environments, separation from caregivers, and medical procedures, making them an ideal population for evaluating playfulness-based interventions.

Excluded

The review will exclude children with severe cognitive or neurological impairments, as these conditions may prevent meaningful engagement in play-based interventions or hinder the ability to complete anxiety or pain assessments. It will also exclude children with unstable clinical conditions, those in isolation due to infection-control requirements, or those receiving medications that could interfere with behavioural or emotional responses. Additionally, children with significant language barriers that impede participation in play activities or outcome assessments, as well as those who have previously participated in the same intervention (to avoid bias), will be excluded. These criteria ensure that only children who can safely and reliably participate in therapeutic play and outcome measurements are included, reflecting the exclusions outlined in the protocol

Intervention(s) or exposure(s)

Included

Play Therapy; Distraction; Alleviating Anxiety; Minimizing Pain; Emotional Support

Management The intervention inclusion criteria require that studies use a clearly defined playfulness-based therapeutic activity delivered within a paediatric hospital setting, including structured or unstructured play, medical play, storytelling, games, or creative/expressive activities specifically intended to reduce anxiety, pain, or

emotional distress among hospitalised children. Interventions must have a therapeutic purpose, be administered by healthcare staff, child-life specialists, or trained researchers, and be described in enough detail to allow replication, including duration, format, and delivery method. Only studies where the intervention is directly linked to measurable outcomes—such as anxiety, pain, behavioural distress, emotional well-being, coping, or cooperation—are eligible, ensuring alignment with the therapeutic aims outlined in the protocol Excluded Studies will be excluded if the intervention does not involve a therapeutic playfulness-based activity, such as recreational play without a clinical purpose or activities that are not designed to reduce anxiety, pain, or emotional distress. Interventions conducted outside hospital settings, those not involving hospitalized paediatric patients, or those lacking a clear description of the play activity—such as its structure, duration, or delivery method—will also be excluded. Additionally, studies will be excluded if the intervention is not delivered by trained healthcare staff, child-life specialists, or researchers, or if the activity does not measure relevant outcomes such as anxiety, pain, behavioural distress, emotional well-being, coping, or cooperation. These exclusions ensure alignment with the therapeutic and clinical focus outlined in the protocol

Comparator(s) or control(s)

Included

PICO tags selected: Usual Care; Therapeutic Insufflation The comparator inclusion criteria require that studies include any condition that allows the effects of the playfulness-based intervention to be evaluated, whether through comparison with standard hospital care, no play intervention, or the child's own pre-intervention baseline in pretest–posttest designs. Studies are eligible if they provide a comparator that makes it possible to assess changes in outcomes such as anxiety, pain, emotional well-being, behavioural distress, or coping in relation to the therapeutic play activity. This includes randomized controlled trials, quasi-experimental studies, and within-subject designs, reflecting the diverse methodologies described in your protocol for examining how playfulness impacts hospitalised children.

Excluded

Comparator exclusion criteria include any studies that do not provide a meaningful condition against which the effects of playfulness-based interventions can be evaluated. Studies will be excluded if they lack a defined comparator, such as those offering descriptive accounts of play interventions without measuring changes relative to standard care, no-intervention conditions, or pre-intervention baselines. Studies will also be excluded if the comparator is not related to hospitalisation, involves non-paediatric populations, or uses a comparator that does not allow assessment of key

outcomes such as anxiety, pain, behavioural distress, emotional well-being, or coping. These exclusions ensure that only studies capable of demonstrating measurable differences attributable to therapeutic play are included in the review, consistent with the range of designs described in the protocol

Study design

Only randomized study types will be included.

Included

The types of studies that will be included in this review are quantitative, interventional, and experimental designs that evaluate the effects of playfulness-based therapeutic interventions on hospitalised paediatric patients. These include randomised controlled trials (RCTs), quasi-experimental studies, and pretest–posttest designs, all of which allow measurement of changes in outcomes such as anxiety, pain, emotional well-being, and behavioural distress. Studies must involve a structured or clearly defined play intervention delivered within a hospital setting and use validated tools to assess outcomes before and after the intervention. These study types are explicitly described in your protocol as the eligible designs reviewed in the systematic analysis

Excluded

Studies will be excluded if they do not use a quantitative, interventional, or experimental design capable of evaluating the effects of playfulness-based interventions on hospitalised children; this includes qualitative studies, observational designs without an intervention, descriptive reports, case studies, commentaries, reviews, editorials, and studies that do not measure outcomes such as anxiety, pain, behavioural distress, emotional well-being, or coping. In addition, studies will be excluded if the intervention does not occur in a hospital setting, if the population is not paediatric or not hospitalised, or if the intervention is recreational without a therapeutic purpose. These exclusions ensure that only studies aligned with the methodological requirements outlined in the protocol are included.

Context

The context of this review is the paediatric hospital setting, where children commonly experience anxiety, pain, emotional distress, and loss of control due to unfamiliar environments, medical procedures, and separation from caregivers. Playfulness-based therapeutic interventions—such as medical play, storytelling, games, and creative activities—are increasingly recognised as essential, low-cost, non-pharmacological strategies that support emotional regulation, enhance coping, and reduce distress among hospitalised children. Despite their demonstrated benefits, existing evidence remains dispersed across different countries, cultures, hospital systems, and study designs, necessitating a comprehensive synthesis. This review is conducted within a global healthcare context in which hospitals vary in resources, training, and the implementation of therapeutic play, and in which cultural and family factors influence children's experiences and responses to hospitalisation. By examining studies conducted in diverse paediatric inpatient environments, the review aims to clarify the therapeutic value of play, identify consistent patterns across settings, and inform evidence-based, child-centred hospital care practices.

Timeline Of The Review

Date of first submission to PROSPERO

14 February 2026

Review timeline

Start date: 16 February 2026. End date: 28 August 2026.

Date of registration in PROSPERO

14 February 2026

Availability Of Full Protocol

Availability of full protocol

A full protocol has been written and uploaded to PROSPERO. The protocol may be accessed through this link https://www.crd.york.ac.uk/PROSPEROFILES/20f7277f693d9348eed2c4963f2abc22.pdf.

Searching And Screening

Search for unpublished studies

Only published studies will be sought.

Main bibliographic databases that will be searched

The main databases to be searched are CENTRAL - Cochrane Central Register of Controlled Trials, CINAHL - Cumulative Index to Nursing and Allied Health Literature, CLIB - The Cochrane Library, PsycInfo, PubMed, SCI - Science Citation Index and SSCI - Social Science Citation Index.

Search language restrictions
There are no language restrictions.
Search date restrictions
There are no search date restrictions.
Other methods of identifying studies
Other studies will be identified by: reference list checking (backward citation searching).
Additional information about identifying studies
Other studies will be identified by: contacting authors or experts, reference list checking (backward citation searching),
searching conference proceedings and searching dissertation and thesis databases.
Link to search strategy
A full search strategy is available in the full protocol as described in the Availability of full protocol section
Selection process
Studies will be screened independently by at least two people (or person/machine combination) with a process to resolve differences.
Other relevant information about searching and screening
Additional searching and screening procedures included following a structured PRISMA-guided process in which duplicates were removed before title and abstract screening, followed by full-text assessment based on predefined inclusion and exclusion criteria. All screening steps were performed with a secondary reviewer who independently checked excluded studies, and any disagreements were resolved through discussion to maintain rigour and reduce bias. The search also used consistent keywords, MeSH terms, and Boolean operators across all selected databases, and reference lists of included studies were reviewed to identify any additional eligible articles
Data Collection Process
Data extraction from published articles and reports
Data will be extracted independently by at least two people (or person/machine combination) with a process to resolve differences. Authors will not be contacted for further information.
Study risk of bias or quality assessment
Data will be assessed independently by at least two people (or person/machine combination) with a process to resolve differences. Additional information will not be sought from study investigators if required information is unclear or unavailable in the study publications/reports.
Reporting bias assessment
A comprehensive search of published literature was conducted, with reference lists checked to reduce reporting bias. Missing or unclear information identified during data extraction was documented, but study authors were not contacted. Study quality and completeness of reporting were evaluated using the CASP checklist to ensure transparency and reliability.
Certainty assessment
In this review, no formal certainty framework (e.g., GRADE) is planned. Instead, we will provide a narrative assessment of confidence in the evidence, drawing on: (1) study quality appraised with the CASP checklist; (2) consistency of direction and magnitude of effects across studies; (3) directness to the review question (population, setting, outcomes); (4) precision based on reported effect estimates and variability; and (5) heterogeneity in designs, interventions, and measures. Where feasible, we will conduct sensitivity considerations (e.g., giving greater weight to higher-quality studies and more rigorous designs) to judge robustness of conclusions.

Outcomes To Be Analysed

Main outcomes
The main outcomes of the review are the effects of playfulness-based therapeutic interventions on anxiety and pain among hospitalised paediatric patients, as these are the primary psychological and physiological responses targeted in the included studies. Secondary outcomes include changes in behavioural distress (such as crying, withdrawal, or agitation), improvements in emotional well-being, enhanced coping abilities, and better cooperation with medical procedures, all of which reflect the broader impact of therapeutic play on children's hospital experiences

Additional outcomes

Additional outcomes for which data will be sought include behavioural distress, defined as observable negative behaviours such as crying, agitation, withdrawal, or resistance to procedures, typically measured using tools like behavioural observation checklists or distress scales; emotional well-being, assessed through indicators of comfort, joy, reduced fear, or emotional security using child-appropriate emotional assessment instruments; coping ability, defined as the child's capacity to understand procedures, express feelings, and manage stress, commonly measured through coping scales or qualitative behavioural indicators; and cooperation with medical procedures, assessed through clinician-reported or observer-rated cooperation during examinations or treatments. Where reported, acceptable measurement tools may include validated observational scales, self-report or parent-report questionnaires, or clinician-rated instruments. Data will be sought at pre-intervention and post-intervention time points, consistent with the quasi-experimental and pretest–posttest designs described in the protocol. Effect measures used in synthesis may include mean differences, standardised mean differences, or change scores for continuous measures, and risk ratios or odds ratios for categorical outcomes, depending on how individual studies report their findings.

Planned Data Synthesis

Strategy for data synthesis

Data from the included studies will be combined using a narrative synthesis approach, as the studies vary in design, intervention type, outcome measures, and assessment tools. Extracted data will first be organised according to key outcomes —such as anxiety, pain, behavioural distress, emotional well-being, coping, and cooperation—and then compared across studies to identify patterns, similarities, and differences in effects. Studies will be grouped by type of play intervention and by methodological characteristics, and higher-quality studies (based on CASP appraisal) will be given greater interpretive weight. Because of substantial methodological diversity, a meta-analysis is not planned; instead, a structured narrative synthesis will be used to integrate findings and generate thematic conclusions about the impact of playfulness-based interventions in paediatric hospital settings

Current Review Stage

Stage of the review at this submission

Review stage
Started
Completed
Pilot work
✓
Formal searching/study identification
Screening search results against inclusion
criteria
Data extraction or receipt of IPD
Risk of bias/quality assessment
Data synthesis

Review status

The review is currently planned or ongoing.

Publication of review results

Results of the review will be published in English.

Review Affiliation, Funding And Peer Review

Review team members

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No conflict of interest declared.

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Universiti Sains Malaysia (USM)

Funding source

Review has no specific/external funding but is supported by guarantor/review team (non-commercial) institutions.

Additional information about funding

The funding for this review will be provided solely by a non-commercial academic grant from Universiti Sains Malaysia

Peer review

As a PHD candidate at Universiti Sains Malaysia, this research protocol will have undergone rigorous peer review during the proposal defence and ethics committee evaluation (JEPEM/JEPeM). Furthermore, the study will be reviewed by the University's Human Research Ethics Committee to ensure methodological and ethical rigour.

Additionally, the project will be conducted in the UAE, so it went for IRB committee in MBRU and Dubai Scientific Research Ethics Committee for verification and got approval to start the study.

Additional Information

Additional information

The review examines studies that evaluate playfulness-based therapeutic interventions—including medical play, storytelling, structured games, and creative activities—delivered to hospitalised children aged 5–12 years. These studies assess how play reduces anxiety, pain, behavioural distress, and improves emotional well-being and coping during hospitalisation. Only quantitative, interventional designs such as RCTs, quasi-experimental studies, and pretest–posttest designs conducted within paediatric hospital settings were included to ensure that the review focuses on measurable clinical and emotional outcomes resulting from therapeutic play. Review conflict of interest Declared individual interests are recorded under team member details.. No additional interests are recorded for this review.

Medical Subject Headings

Anxiety; Caregivers; Child; Child, Hospitalized; Coping Skills; Crying; Delivery of Health Care; Feasibility Studies; Goals; Hospitals, Pediatric; Humans; Inpatients; Length of Stay; Meta-Analysis as Topic; Pain

Similar Reviews

Check for similar records already in PROSPERO

PROSPERO identified a number of existing PROSPERO records that were similar to this one (last check made on 13 February 2026). These are shown below along with the reasons given by that the review team for the reviews being different and/or proceeding. Better when I'm playing: A systematic review of the efficacy of Occupational Therapy, play-based interventions, which address the playfulness and social play of children with Autism Spectrum Disorder. [published 19 September 2022] [CRD42022349695]. The authors did not check this review The Impact of Mindfulness-Based Interventions on the Experiences of Cancer Patients: A Qualitative Meta-Synthesis [published 2 July 2023] [CRD42023438382]. The review was judged not to be similar The Impact of Exercise Interventions on Cognitive Function, Emotional Regulation, and Social Skills in Patients with Schizophrenia: A Systematic Review and Meta-Analysis

[published 14 November 2024] [CRD42024609783]. The authors did not check this review The Impact of Music-Based Psychosocial Interventions on Mental Health Outcomes in Students: A Meta-Analysis [published 8 September 2024] [CRD42024584230]. The review was judged not to be similar Interventions Targeting Sense of Coherence in Adults: A Systematic Review [published 12 February 2024] [CRD42024508810]. The review was judged not to be similar
PROSPERO version history Version 1.0, published 14 Feb 2026
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