

SUPPLEMENTARY FILES

Supplementary Table 1. Search strategies by database

Database	Search strategy	Results
PubMed	(("Child"[Mesh] OR "Adolescent"[Mesh] OR "Pediatrics"[Mesh] OR child*[tiab] OR adolescen*[tiab] OR pediatric*[tiab] OR paediatric*[tiab] OR teen*[tiab] OR youth*[tiab] OR "young people"[tiab] OR "young person*[tiab]) AND ("Neoplasms"[Mesh] OR cancer*[tiab] OR neoplasm*[tiab] OR tumor*[tiab] OR tumour*[tiab] OR malignan*[tiab] OR oncolog*[tiab] OR leukemia*[tiab] OR leukaemia*[tiab] OR lymphoma*[tiab] OR sarcoma*[tiab] OR carcinoma*[tiab] OR "hematologic malignan*[tiab] OR "haematologic malignan*[tiab] OR "solid tumor*[tiab] OR "solid tumour*[tiab]) AND (("Robots"[Mesh] OR "Robotics"[Mesh] OR robot*[tiab] OR robotics[tiab]) AND (social*[tiab] OR companion*[tiab] OR humanoid*[tiab] OR "socially assistive"[tiab] OR "socially assistive robot*[tiab] OR "companion robot*[tiab] OR "humanoid robot*[tiab] OR "therapy robot*[tiab] OR "therapeutic robot*[tiab] OR "robotic pet*[tiab] OR "pet robot*[tiab] OR interactive[tiab] OR "human-robot interaction"[tiab] OR "child-robot interaction"[tiab])) OR ("social robot*[tiab] OR "social robotics"[tiab] OR "socially assistive robot*[tiab] OR "companion robot*[tiab] OR "humanoid robot*[tiab] OR "therapy robot*[tiab] OR "therapeutic robot*[tiab] OR "robotic pet*[tiab] OR "pet robot*[tiab] OR NAO[tiab] OR PARO[tiab] OR AIBO[tiab] OR Kaspar[tiab] OR Jibo[tiab] OR Pleo[tiab] OR QTRobot[tiab] OR Zora[tiab] OR Arash[tiab] OR ((LEGO[tiab] OR "Lego"[tiab]) AND (robot*[tiab] OR robotics[tiab])))))	37
PsycINFO	#1 (Title: child* OR Title: adolescen* OR Title: pediatric* OR Title: paediatric* OR Title: teen* OR Title: youth* OR Title: "young people" OR Title: "young person*" OR Title: "school-age*" OR Title: "school age*" OR Title: minor*) OR (Abstract: child* OR Abstract: adolescen* OR Abstract: pediatric* OR Abstract: paediatric* OR Abstract: teen* OR Abstract: youth* OR Abstract: "young people" OR Abstract: "young person*" OR Abstract: "school-age*" OR Abstract: "school age*" OR Abstract: minor*) #2 (Title: cancer* OR Title: neoplasm* OR Title: tumor* OR Title: tumour* OR Title: malignan* OR Title: oncolog* OR Title: leukemia* OR Title: leukaemia* OR Title: lymphoma* OR Title: sarcoma* OR Title: carcinoma* OR Title: "solid tumor*" OR Title: "solid tumour*" OR Title: "hematologic malignan*" OR Title: "haematologic malignan*" OR Title: "pediatric oncolog*" OR Title: "paediatric oncolog*" OR Title: "childhood cancer*") OR (Abstract: cancer* OR Abstract: neoplasm* OR Abstract: tumor* OR Abstract: tumour* OR Abstract: malignan* OR Abstract: oncolog* OR Abstract: leukemia* OR Abstract: leukaemia* OR Abstract: lymphoma* OR Abstract: sarcoma* OR Abstract: carcinoma* OR Abstract: "solid tumor*" OR Abstract: "solid tumour*" OR Abstract: "hematologic malignan*" OR Abstract: "haematologic malignan*" OR Abstract: "pediatric oncolog*" OR Abstract: "paediatric oncolog*" OR Abstract: "childhood cancer*") #3 (Title: "social robot*" OR Title: "social robotics" OR Title: "socially assistive" OR Title: "socially assistive robot*" OR Title: "assistive robot*" OR Title: "companion robot*" OR Title: "robotic companion*" OR Title: "humanoid robot*" OR Title: humanoid* OR Title: "therapy robot*" OR Title: "therapeutic robot*" OR Title: "robotic pet*" OR Title: "pet robot*" OR Title: "human-robot interaction" OR Title: "child-robot interaction" OR Title: NAO OR Title: Pepper OR Title: PARO OR Title: AIBO OR Title: Kaspar OR Title: Jibo OR Title: Pleo OR Title: QTRobot OR Title: Zora OR Title: Arash OR ((Title: LEGO OR Title: Lego OR Title: Mindstorms) AND (Title: robot* OR Title: robotics)) OR (Abstract: "social robot*" OR Abstract: "social robotics" OR Abstract: "socially assistive" OR Abstract: "socially assistive robot*" OR Abstract: "assistive robot*" OR Abstract: "companion robot*" OR Abstract: "robotic companion*" OR Abstract: "humanoid robot*" OR Abstract: humanoid* OR Abstract: "therapy robot*" OR Abstract: "therapeutic robot*" OR Abstract: "robotic pet*" OR Abstract: "pet robot*" OR Abstract: "human-robot interaction" OR Abstract: "child-robot interaction" OR Abstract: NAO OR Abstract: Pepper OR Abstract: PARO OR Abstract: AIBO OR Abstract: Kaspar OR Abstract: Jibo OR Abstract: Pleo OR Abstract: QTRobot OR Abstract: Zora OR Abstract: Arash OR ((Abstract: LEGO OR Abstract: Lego OR Abstract: Mindstorms) AND (Abstract: robot* OR Abstract: robotics))	80,744 3,766 2,087
	#1 AND #2 AND #3	35
Scopus	(children OR adolescents OR pediatric) AND (cancer OR oncology) AND ("social robot" OR "socially assistive robot")	175
Cochrane Library	#1 (child* OR adolescen* OR pediatric* OR paediatric* OR teen* OR youth* OR "young people" OR "young person*"):ti,ab,kw #2 (cancer* OR neoplasm* OR tumor* OR tumour* OR malignan* OR oncolog* OR leukemia* OR leukaemia* OR lymphoma* OR sarcoma* OR carcinoma* OR "solid tumor*" OR "solid tumour*" OR "childhood cancer*" OR "pediatric oncology" OR "paediatric oncology"):ti,ab,kw #3 (robot* OR robotics OR "social robot*" OR "social robotics" OR "socially assistive" OR "socially assistive robot*" OR "assistive robot*" OR "companion robot*" OR "humanoid robot*" OR humanoid* OR "therapy robot*" OR "therapeutic robot*" OR "robotic pet*" OR "pet robot*" OR "human-robot interaction" OR "child-robot interaction" OR NAO OR Pepper OR PARO OR AIBO OR Kaspar OR Jibo OR Pleo OR QTRobot OR Zora OR Arash):ti,ab,kw #1 AND #2 AND #3	354,018 319,908 10,089 60
Google Scholar	("social robot" OR "socially assistive robot" OR "companion robot" OR "humanoid robot" AND (cancer OR oncology OR leukemia OR lymphoma) AND (child OR adolescent OR pediatric OR paediatric)	First 100 results

The search date in all databases was January 20, 2026.

Supplementary Table 2. Studies excluded after full-text eligibility assessment

n	First author and year	Study title	Reason for exclusion	Justification
1	Logan et al. (2019)	Social Robots for Hospitalized Children	Population (mixed)	The sample includes patients with trauma, appendicitis, and congenital anomalies, as well as oncology patients, without presenting a separate subgroup analysis exclusively for the cancer group.
2	Moerman & Jansens (2020)	Using social robot PLEO to enhance the well-being of hospitalised children	Population (mixed)	Table 1 of the study shows varied diagnoses: renal dialysis, asthma, pyelonephritis, and perforated appendix, as well as oncology diagnoses. The results are analyzed jointly and do not provide specific results for children with cancer.
3	Beyer-Wunsch & Reichstein (2020)	Effects of a Humanoid Robot on the Well-being for Hospitalized Children in the Pediatric Clinic - An Experimental Study	Population (mixed)	The study was conducted in triage and general pediatric wards. Of the 7 participants, only one was an oncology patient.
4	Powell et al. (2021)	Keeping Connected With School: Implementing Telepresence Robots to Improve the Wellbeing of Adolescent Cancer Patients	Concept (telepresence)	The study evaluates telepresence robots (Double and Kubi) remotely controlled to attend school. These are not autonomous or semi-autonomous social robots interacting directly with the patient; rather, they are videoconferencing tools.
5	Henry et al. (2020)	Qualitative, Exploratory, and Multidimensional Study of Telepresence Robots for Overcoming Social Isolation	Concept (telepresence)	The study uses telepresence robots to connect the patient with their home environment, which does not meet the conceptual definition of the present study.
6	Jeong et al. (2015)	A Social Robot to Mitigate Stress, Anxiety, and Pain in Hospital Pediatric Care	Type of publication	It is an extended abstract of a conference, with preliminary data from only 4 patients, which were later included in the full study by Logan et al. (2019).