

Availability and accessibility to exercise related health information resources (ErHIRs) for children with cancer - a scoping review

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BACKGROUND

Regular exercise - essential in well-being of children with cancer. **Global access** to reliable exercise related health information resources (ErHIRs) - crucial in empowering them and their caregivers to make informed decisions related to getting fitter. **ErHIRs** provide evidence-based recommendations, clarity and guidance to families/ caregivers ensuring children with cancer can safely engage in exercise programs to enhance recovery.

AIM/OBJECTIVE

To identify, collate and map existing published literature related to availability, accessibility of exercise related health information resources (ErHIRs) for children with cancer.

SEARCH STRATEGY

Databases: PubMed, Cochrane, CINAHL, Scopus **MeSH terms:** cancer, childhood cancer, exercise, health literacy, caregivers **Boolean operators:** AND, OR **Filters:** 10 years duration, English language

ELIGIBILITY

I/C: ErHIRs for Childhood cancer survivors, Children with cancer, Caregivers of children with cancer, survivors **E/C:** Health information resources not related to exercise or physical activity, Non-English studies/records

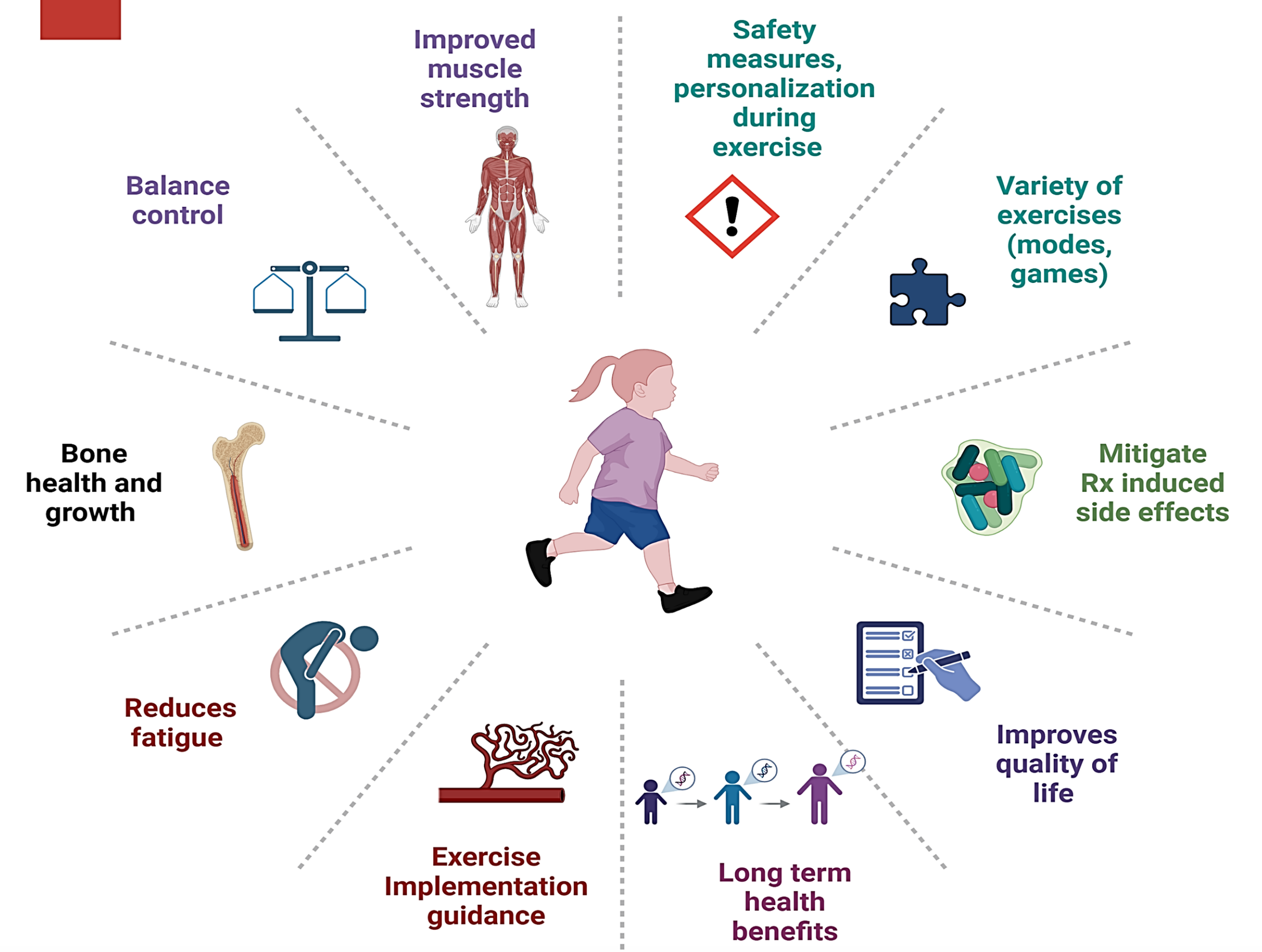
PROCEDURE

Population: Children with cancer, childhood cancer survivors

Concept: Availability of exercise related health resources

Context: Health information resources related to exercise or physical activity

Benefits of exercise information



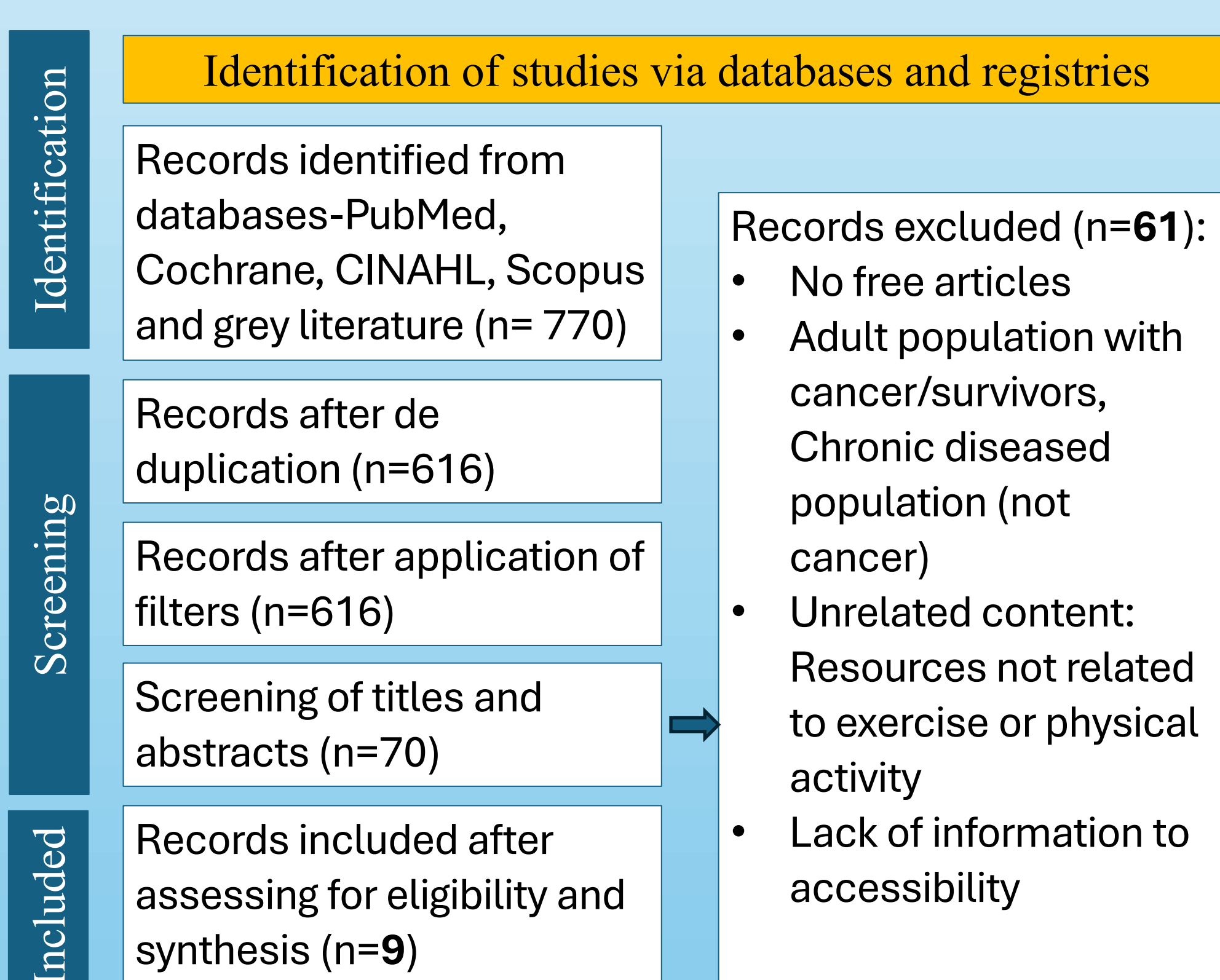
KEYWORDS

Population: "childhood cancer", "pediatric cancer", "pediatric oncology", "children with cancer", "childhood cancer survivors", adolescent, "young adult", "caregivers"
Intervention: "health information resources", "health education", "health literacy", "e-health", "m- health", "mobile health", "web health", "digital health", telehealth, "exercise manual", "support resources" exercise, physical activity
Outcome: availability, access

PCC Framework:
Population-Concept-Context (Arksey & O'Malley)¹



RESULTS



Author/Year	Objective	Outcome
JG Grace et al 2019 ²	Understanding variety of online resources that are currently available	Websites, blogs, support forums, patient portals, news aggregators, e-books, printed sources of information
Skeens et al 2024 ³	mHealth apps on Apple App (iOS) [®] , Google Play [®] (Android) stores for patients, caregivers, or both audiences	Scarcity of pediatric oncology-specific mHealth apps in digital marketplace
Devie et al 2019 ⁴	Use of internet e-health, mHealth, social media and telehealth	Moderate-vigorous intensity activity increased in both Facebook physical activity group
Bernier et al 2022 ⁵	Symptom assessment app designed for school-age children with cancer	Elicited child's voice about his/her symptom experience
Wurz et al 2021 ⁶	Develop international Pediatric Oncology Exercise Guidelines (IPOEG)	Movement, exercise are safe. May provide benefits like decreased fatigue, anxiety, improved strength, aerobic fitness and QoL
Grimshaw et al 2022 ⁷	Development of CanMOVE [®] , behaviour change intervention designed to increase physical activity for children and adolescents with cancer	Theoretical intervention design process will support evaluation and replication of CanMOVE in clinical settings
Lotta Hamari et al 2019 ⁸	Effect of active video games in promoting physical activity to reduce fatigue in children with cancer	Playing Nintendo Wii Fit [®] for 30 min/day for 8 weeks

DISCUSSION

For cancer patients, **mHealth** - valuable tool in promoting exercise - component of cancer rehabilitation

- Smartphones, wearables**, digital tools to **monitor health**, provide health-related services - **support behaviors** like **physical activity**
- eHealth (electronic health):** Digital technologies - websites, mobile applications, **exercise programs**, improving **patient outcomes**, providing **support** during recovery

Print media refers to

- traditional, non-digital forms of communication, such as **books, brochures, pamphlets, magazines**, and infographic posters

Exercise Recommendations:

- Evidence shows that movement and exercise are beneficial for children and adolescents with cancer.
- Exercise is safe and may improve strength, aerobic fitness, reduce fatigue and anxiety, and enhance quality of life.
- Recommendations emphasize the importance of exercise professionals in ensuring safety, tailoring exercise to the patient's needs, and coordinating with the healthcare team.

Exercise Program Guidelines:

- Exercise interventions vary, but common elements include individualized plans that account for the child's age, diagnosis, and treatment status.
- Exercise sessions typically last between 15 to 60 minutes and can involve a mix of aerobic, strength, and mobility exercises.
- Supervision is important to ensure the safety and effectiveness of these interventions.

Knowledge Gaps identified

- Scarcity** of pediatric exercise oncology specific mobile health apps.
- Rural/regional children and adolescents with cancer from **low resource settings** face **barriers in accessing** optimal healthcare.
- Existing resources are **hindered by language barriers**, limiting accessibility.
- Limited evidence** on the effectiveness of existing programs.

