"I can't tell if he's unwell….or just bored"

An enriched environment as the missing ingredient to improve both physical and daily activities in paediatric oncology

Brainbow

Background

- Remaining physically active during oncology treatment reduces side effects and late effects (1)
- Yet children on oncology wards are among the most sedentary of all inpatients (2)
- Children participate in both physical activity (PA) e.g running, jumping and daily activities (DA) e.g bathing, dressing, school
- Both forms reduce the amount of sedentary time, so both should therefore be considered when discussing activity levels.
- Barriers to exercise in oncology are well known, however mainly focus on PA not DA

Don't forget the activities of daily living!

- We aimed to explore the barriers and facilitators to both PA and DA in children undergoing cancer treatment in a UK children's cancer centre, by:
  - Reviewing self-reported PA and DA levels in the hospital compared to home
  - Exploring barriers and facilitators to PA and DA in the hospital

Method

Patients/parents/carers completed questionnaires that asked:

- The number of hours of PA they (parent/carer or child) completed on a daily basis at home and as an inpatient
- Whether they undertook any of 15 DA at home and as an inpatient ("yes", "no", or "sometimes").
- Open ended questions for barriers, facilitators and suggestions to improve PA and DA

Staff were also given similar questionnaires, asking their observation of PA and DA on the wards as well as barriers/facilitators.

Findings

68 patients and parents/carers (46 PA, 22 DA) and 87 staff (33 PA, 54 DA) completed questionnaires which showed significant drop in both PA and DA.

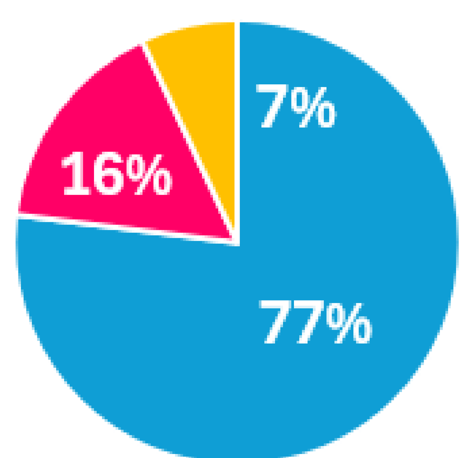
Physical activity

- Patients: 100% are physically active for 2-3+ hours per day prior to admission, compared to 0% on the ward
- Parents: 67.65% are physically active for 4+ hours a day prior to admission, compared to 0% on the ward
- 58% of inpatients reporting less than 1 hour per day of PA

Daily Activity (DA): Significant reduction in all 15 activities. For example:

Getting dressed / being involved in dressing: 91% to 36% yes,
Getting washed / washing out of bed: 95% to 23% yes
Eating and meal prep out of bed, e.g preparing own drinks: 83% to 5% yes
General grooming e.g. brushing own teeth, hair, deodorant: 86% to 32% yes
Getting fresh air e.g. garden, park: 100% to 5% yes

Barriers: There were 1263 written responses to barriers/facilitators. A thematic analysis showed most related to the environment:



Environment factors (physical, social, cultural, economic): lack of opportunity, role modelling, promotion or culture

Physiological factors: illness, fatigue, infection/isolation rules, medical interruptions

Patient factors: mood, motivation, knowledge, confidence

Can we improve activity levels through environmental modifications, rather than 1:1 patient work?

Improving opportunity through an enriched environment?

- An "enriched environment" = providing accessible, regularly changing, novel and stimulating activities for all patients to access
- Shown to increase activity on adult wards (3), low effort and cost effective (4)
- As beneficial as 1:1 therapy intervention (5)

Improving role modelling through parental empowerment?

- Parental modelling plays an integral role in PA levels (6)
- Parental knowledge re infection control, wires, roles/ expectations, prioritising own exercise/self care were low
- Better and repeated information and orientation to the ward could be another low effort and low cost intervention

Improving ward culture through universal education?

- Education and mentoring to all staff and carers at a universal level
- A universal education approach distributes public resources more effectively by reaching a greater population than 1:1 work (7)
- The #EndPJParalysis campaign demonstrated that universal promotion and education across a whole ward can be successful in increasing activity (8)

Next steps: implementing the above and repeating questionnaires to measure the impact on participation of PA and DA

B Tapley and V King, Brainbow, Cambridge University Hospitals NHS Foundation Trust, UK
Rebecca.tapley@nhs.net, Victoria.king1@nhs.net

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