Sleep quality and sleep duration of children during clinical admission in Emma Children*s Hospital, Amsterdam UMC

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The aim of this study is to analyze (in)activity, sleep quality and sleep duration of children during clinical admission in the Amsterdam UMC (Acute Admission Unit and regular nursing wards) in comparison with the normal situation at home....

Ethical review	Approved WMO
Status	Recruiting
Health condition type	Other condition
Study type	Observational non invasive

Summary

ID

NL-OMON55299

Source
ToetsingOnline

Brief title
Sleep in children during clinical admission in Emma Children's Hospital

Condition

- Other condition

Synonym
Sleep quality and sleep duration

Health condition

acuut klinisch opgenomen kinderen

Research involving

Human

Sponsors and support

Primary sponsor: Academisch Medisch Centrum
Source(s) of monetary or material Support: Interne Innovatie subsidie

Intervention

Keyword: Child, Clinical admission, Sleep duration, Sleep quality

Outcome measures

Primary outcome

Accellerometry.

Registration of sleep, physical (in) activity of admitted children with GT3X Actigraph for 24-48 hours during hospital admission (at AOA or subsequent to normal nursing ward) and after 4-6 weeks for 24-48 hours in the home situation. This device has been validated against the 'gold standard' polysomnography for identifying sleep patterns in children.

Sleep questionnaire:

Application of a modified (child) version of a sleep questionnaire for the assessment of sleep during admission to the AOA in Amsterdam UMC. This questionnaire includes the duration and quality of sleep, as well as possible confounders, related to (seriousness of) the disease and (nocturnal) care during a hospital stay. Due to admission and stay in the hospital, standard sleep questionnaires for children who have been (previously) translated and validated by our group are not suitable.

Noise levels

Noise levels measured from 8 p.m. to 8 p.m. during a stay at the AOA, injured nursing ward or at home 4-6 weeks later. A smartphone app will be used for this purpose (Decibel X pro). This detects ambient noise levels, measured in decibels (dBA) as perceived by the human ear. (11)

covariates

A uniform measurement of the severity of the disease of acutely admitted children will also be recorded, using the Pediatric Early Warning Score (PEWS). (14)

Secondary outcome

not applicable

Study description

Background summary

Sleep, both quality and duration, are important for health and for recovery from illness. Children in the Netherlands spend about a million nights in the hospital every year, while little is known about their sleep during clinical admission. Self-reported studies using sleep diaries, sleep questionnaires and parent interviews indicate shorter sleep time and reduced sleep quality for both children and parents staying in the room while their child is admitted in the hospital. However, self-reporting can be inaccurate. Earlier research in children with cancer in the USA with objective measurements of children's sleep by means of accelerometry showed a reduced sleep quality and duration compared to the normal situation at home. There are therefore indications that hospitalization reduces sleep quality and sleep duration, but this has not been objectively determined in wider groups of patients in clinical pediatric settings.

Noise from caregivers at work during night shifts can be a major cause of sleep disorders in clinical pediatric departments. The WHO recommends that the average noise levels in hospital departments at night are not higher than 30 decibels (dBA), with peak levels not higher than 45 dB. One of the few studies

on hospital noise levels showed> 45 dB measured for 85% of nights in general children's departments in Portugal, but there are no comparisons available with the child's usual sleeping environment at home.

Despite modern facilities with single or double patient rooms with rooming-in facilities for parents, admission and stay in a nursing ward are accompanied by many disruptions due to the night work of the staff.

An Acute Admission Department (AOA) was recently opened in the Emma Children's Hospital of the UMC Amsterdam. As a rule, all new patients are admitted to this ward during the first (max) 72 hours. This means that the discontinuity of 24-hour care is concentrated in this department. In addition, there are 3 other departments where scheduled admissions take place and where admitted children (at the AOA) are transferred if they have to stay in the hospital for more than 72 hours (about 30% of all admissions).

Study objective

The aim of this study is to analyze (in)activity, sleep quality and sleep duration of children during clinical admission in the Amsterdam UMC (Acute Admission Unit and regular nursing wards) in comparison with the normal situation at home.
Determinants of sleep duration and sleep quality during admission will be assessed, such as noise levels at the bedside, severity of illness and immobilisation, .

Study design

Prospective observational cohort study of children admitted to the AOA and other nursing units at the Emma Children's Hospital, Amsterdam UMC.
Registration periods:
- 24-48 hours during a stay at the AOA
- 24-48 hours during the subsequent stay in the regular nursing ward
- 24-48 hours at home 4-6 weeks later

Study burden and risks

The burden for atients and their parents is (very) low. Application of the same accelerometers in a group of> 200 healthy school children in the ABCD study, directed by the same P.I. showed that the wearing of an accelerometer was very well tolerated by these test subjects, the burden was very low and (therefore) compliance was good.
Risk is nil..

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adolescents (12-15 years)
Children (2-11 years)
Babies and toddlers (28 days-23 months)

Inclusion criteria

Clinical admission/stay in Acute Admission Ward
Age range 1-10 yrs

Exclusion criteria

Moderate-severe developmental disorder
Post anaesthesia (<8u)
Acknowledged pre-existent sleeping problems
Limited fluency in Dutch language

Study design

Design

Study type: Observational non invasive

Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Health services research

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	05-03-2021
Enrollment:	240
Type:	Actual

Ethics review

Approved WMO Date:	09-06-2020
Application type:	First submission
Review commission:	METC Amsterdam UMC
Approved WMO Date:	09-07-2021
Application type:	Amendment
Review commission:	METC Amsterdam UMC

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
CCMO	NL71596.018.20