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The Effectiveness of Relaxation and Education Techniques Sleep Hygiene to Fatigue and Quality Sleep of Children with Chronic Illness: Systematic Review

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Abstract

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Sleep disturbance and fatigue is a very common complaint in pediatric patients with chronic diseases. Relaxation therapy is a technique designed to obtain a state of freedom from mental and physical tension. Education Sleep hygiene is a complementary therapy that can reduce sleep disturbances and improve sleep quality in children. Systematic review This aims to find out relaxation and educational techniques sleep hygiene more effective than routine treatment (standard care) against tired and sleep quality in children with chronic illness. Literature search method using several online databases namely ProQuest, Scopus, SageJournals, PubMed, ScienceDirect, and Taylor & Francis. The number of articles found was 459,223 articles, after screening according to the inclusion and exclusion criteria, titles and abstracts, downloading the available full text articles, and then conducting article analysis and assessment using JBI's critical appraisal tools so that the number of articles that can be used and feasible is 10 articles. The conclusion from the literature search, which shows the effect of relaxation and education techniques Sleep hygiene to tired to increase energy and sleep quality of children.

Keywords: Chronic disease, children, fatigue, relaxation techniques, education sleep hygiene, sleep quality

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INTRODUCTION

Chronic disease is also known as designation disease. No contagious, inclined lasts a long time and is results from combination factor genetic, physiological, environmental and behavioral (World Health Organization, 2023). Disease chronic defined in a way wide is something ongoing conditions for 1 year or more and need attention ongoing medical care so that limit activity everyday (National Centers for Chronic Disease Prevention & Health Promotion, 2022). Disturbance sleep and fatigue is a very common complaint occurs in patients child with disease chronicle. Efforts to reduce complaint fatigue become key important in return ability functional patient. Patient must helped with directed to remain capable activity in accordance level the energy it has, that use energy is also a must done in accordance with ability (Mitchell 2007; Hasanah & Livanah, 2021). Relaxation techniques is one of intervention purposeful non-pharmacological techniques. For make mind and body individual become relax. Relaxation techniques can done individual as therapy supportive in care (Lundt & Jentschke, 2019).

Relaxation techniques is one of intervention purposeful non-pharmacological techniques. For make mind and body individual become relax. Relaxation techniques can done individual as therapy supportive in care (Lundt & Jentschke, 2019). Sleep hygiene can defined as change environment involving sleep children and parents. For reach quality optimal sleep. One of factor affecting application sleep hygiene is practice rhythm circadian through repetition constant activities and routines

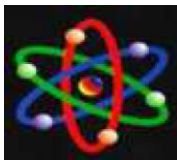
(Borrington et al., 2017) such as timetable consistent sleeping and waking, routine quiet sleep, avoidance activity physical 2 hours before sleep, avoid food fatty and caffeine, as well environment comfortable and dark sleep (Tan et al., 2012; Jaser & Ellis, 2016; Tumakaka et al., 2019). Sleep Hygiene involve formation supportive routines and habits behavior healthy sleep. According to results study Rahmini (2019) stated that intervention Sleep hygiene education is therapy complementary that can be reduce insomnia and improve quality sleep in patients (Carney, et al, 2012; Rahmini, 2019).

Relaxation techniques is one of intervention combination with purposeful sleep hygiene. For increase feeling calm down, reduce anxiety, and minimizing intrusive thoughts at times sleep (Zupenic et al., 2017). Based on research that has been done previously, author interested. For know is technique relaxation and education sleep hygiene more effective compared to routine maintenance of fatigue and quality Sleep child with disease chronicle. Important for nurse in overcome problem. This with give intervention and education for parents or purposeful caregiver. For reduce fatigue and increase quality Sleep child with disease chronicle during undergo care and treatment in period long time.

RESEARCH METHODS

Formulation problem done with formulate PICO (Population, Intervention, Comparison, and Outcome), where question proposed research is in the patient child with disease chronicle, Is technique relaxation and education sleep hygiene more effective compared to with routine maintenance (maintenance standard)





against fatigue and quality Sleep ? Stage furthermore that is look for the mesh heading of formulation the PICO question. Then stage next is do search literature article with use multiple databases. On election literature that will used, author determine criteria inclusion and exclusion.

As for the criteria its inclusion, ie article child with disease chronicles, articles related fatigue in children with disease chronicles, articles quality sleep in children with disease chronicles, articles intervention technique relaxation , articles intervention education sleep hygiene, publications article set at 10 years , article available version text complete (full text), article language research English , and articles selected research no study literature . Whereas criteria the exception is article child with disease undergoing chronicle treatment / care is taken care of road (which No treated at home sick), article child with disease experienced chronicle terminal stage , articles child with disease experienced chronicle disability or paralysis , articles child with disease chronicles that don't capable do intervention technique relaxation (distraction perception sensory).

RESULTS AND DISCUSSION

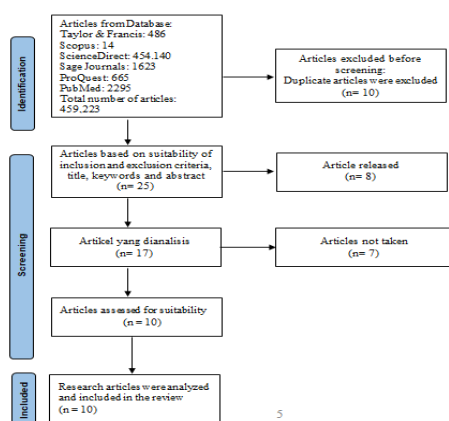
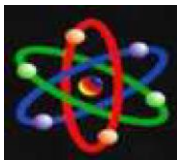


Figure 1. PRISMA Flow Diagram (Page et al., 2021)

Articles used in study This totaling 10 articles with range year publication start from 2012 until _ with 2022. Total sample in study article This as many as 530 people. Some samples are divided become group interventions and groups control, which is carried out with giving routine maintenance (maintenance standard) or with intervention different other.

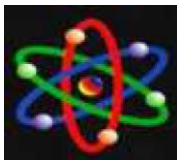
Author , Year , and Country	Objective	Sample	Design/Methode	Results
Papaconstantinou et al., 2018 (Canada)	Test feasibility and acceptability intervention education purposeful behavior For increase Sleep Evening day For children cared for at home Sick	Children cared for at home Sick aged 410 years , totaling 4-8 children	Pilot randomized control trial	Parent _ consider that discussion related information about Sleep useful and children consider Respiratory diaphragm easy used , as well will use it again in the future
Tumakaka et al., 2019 (Indonesia)	Know influence education sleep hygiene to quality sleep in children with Type 1 Diabetes Mellitus (T1DM)	Child with Type 1 Diabetes Mellitus (T1DM) aged 6-18 years , totaling 46 children	Quasi-Experiment Pre test - Post test with control group	There are significant differences in level score quality Sleep between group intervention and control after intervention .
Sulistiyawati et al., 2021 (Indonesia)	Know influence relaxation muscle progressive to	Child with undergoing cancer chemot	Randomized clinical trial with single blind method	There isn't any significant difference in both





	quality sleep and effects side chemotherapy in children sufferer cancer .	herapy aged 2-18 years , totaling 44 children		_ group fatigue and pain . Relaxation muscle progressive relate significant with decline score quality Sleep .	sleep and fatigue during treatment	Author , Year , and Country	Objective	Sample	Design/Method	Results
Zupaneć et al., 2017 (Canada)	Explore feasibility and acceptability combination intervention cleanliness sleep and relaxation For increase quality sleep and fatigue for children who receive chemotherapy maintenance for ALL	Children with ALL phase maintenance aged 4-10 years , totaling 20 children	Pilot randomized control trial	Intervention cleanliness sleep and relaxation can accepted by the family , in part big choose For participate , respond intervention in a way positive , and consider sleep strategies beneficial .	Compare the effectiveness of two mind-body techniques , for example , Transcendental meditation or Hypnotherapy, with exercise relaxation muscle progressive	Jong et al., 2019 (Dutch)		Children aged 9-18 years , totaling 131 children	Randomized controlled clinical trial	Effectiveness comparable For hypnotherapy , meditation on transcendental , or exercise relaxation muscle given progressive _ For reduce Sick head significant in a way clinical or not There is difference between third technique
Rogers et al., 2019 (USA)	Determine intervention Sleep compared to with maintenance standard in maintain Sleep Evening day in children with cancer system nerve center and explore connection between	Child with cancer system nerve center ages 4-12 years and teenager s aged 13-19 years , totaling 33 children	Unblinded randomized controlled trial	Children _ in group intervention maintain Sleep Evening longest during research , temporarily decreased in children who received it maintenance standard	Identify connection between exercise Aerop (exercise aerobics with relaxation muscle progressive) quality sleep and fatigue patient cancer child who lives chemotherapy	Khoirun nisa et., 2019 (Indonesia)		A child with cancer undergo chemotherapy aged 8-18 years , totaling 64 children	Quasi-Experiment Pre test - Post test with control group	There are significant differences problem Sleep between second group after exercise Aerop . However , level fatigue between group only found A little different





Peersman et al., 2021 (Dutch)	Evaluate effectiveness therapy cognitive-behavioral online “ i - Sleep youth” in treating insomnia compared with condition control 6 month final treatment cancer	Teenagers and adults young aged 12-30 years with cancer (childhood), totaling 70 people	Randomized-controlled clinical trial	Therapy behavior online cognitive “ i - Sleep Youth” shows size similar effect _ compared to with face-to-face CBT-I face in adults For teenager Results no significant but There is effect clinical currently until big to quality life child , stress , oxygenation , heart rate , and rate Respiratory . Children _ show signs relaxation like Sleep calm post - Reiki versus session pre - Reiki awake active . There is a difference significant fatigue ,
Thrane et al., 2022 (USA)	Evaluate Reiki's effects on pain , stress , heart rate , and heart rate breathing , oxygenation , and quality survival (QoL) in children cared for at home sick who receives service maintenance palliative	Children cared for at home _ Sick acceptance palliative aged 1-5 years , totaling 16 children	Single-group pilot study	
Sriasih et al., 2019 (Indonesia)	Know influence combination intervention music and sleep	Children _ with cancer aged 7-18 years , totaling 58 children	Quasi-Experiment Pre test - Post test with control group	

hygiene education (COMMA SH-E) towards fatigue , quality sleep and functional status child sufferer cancer	quality sleep and functional status between group intervention and control after COMMASH-E intervention .
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Table 1. Literature Review

Study results article e effectiveness technique relaxation and sleep hygiene education to fatigue and quality Sleep child with disease chronic , namely :

Improve Sleep Quality

In the article state that Based on study Tumakaka et al. (2019) sleep hygiene can increase quality sleep in children Type 1 Diabetes Mellitus sufferers. Supported with studies show that sleep hygiene has recommended For various disturbance sleep and it works increase quality sleep in children with problem sleep (Zupanec et al., 2017). This is also appropriate with results studies Sriasih , Allenidekania , and Wanda (2018) stated that combination sleep hygiene and non-pharmacological therapy (therapy music) can facilitate Sleep child so that lower fatigue , increasing quality sleep , and improve functional status in children with disease chronic like cancer.

Sleep Hygiene Strategy

Based on article show that intervention sleep hygiene and relaxation can accepted by parents For choose participate and respond intervention in a way positive because sleep strategies are very beneficial for children . This matter it is also stated that education sleep hygiene beneficial in





increase time Sleep they , reduce time woken up who didn't desired and promote behavior healthy sleep (Hellström & Willman , 2011; Zupanec et al., 2017).

Connection Fatigue with Sleep Disorders

Based on research by Rogers et al. (2019) that in a way significant own connection positive fatigue reported child _ show that more children young may be very vulnerable to fragmentation sleep, improve pressure they For Sleep so that increase fatigue they . In line with a study conducted by Sulistyawati , Allenidekania , and Gayatri (2021) shows that There is connection between fatigue and quality Sleep . Disturbance sleep at night day is one of factor reason fatigue . Fatigue cause drowsiness and increase frequency sleep in the afternoon day , the next cause disturbance sleep at night day Because cycle get up fragmented sleep. Also supported by statement Hendriyeni and Allenidekania (2022) that application intervention non-pharmacological techniques can lower level fatigue.

CONCLUSION

Nurse need study influence fatigue to quality life child. Nurse can do management energy with review level fatigue child. A number of Non-pharmacological interventions, such as technique relaxation, meditation, education sleep hygiene , and Reiki therapy shows effect minimal and easy side done child. Relaxation is something approach helpful mind -body client For overcome pain, fatigue and eliminate tension through subtraction activity sympathetic and cerebral. Education sleep hygiene can carried out on children who undergo it

therapy and parental support. Effectiveness intervention designed sleep with therapy behavior cognitive for insomnia like education sleep, stimulus control, relaxation, and sleep hygiene has applied to children age schools and teenagers with insomnia (Rogers et al., 2019).

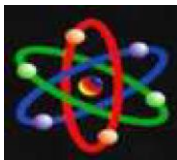
RECOMMENDATION

Application technique relaxation is carried out home nurse sick can help overcome pain , fatigue and relief tension in children. Educational programs that focus on parents about hygiene sleep and relaxation is possible interventions done nurses and impact on quality Sleep child. Intervention the will involving parents For help practice child moment use Skills relaxation as well as measurement objective sleep like actigraphy. *Sleep hygiene* and techniques relaxation can implemented as intervention nursing For overcome fatigue and distraction sleeping in children. Relaxation techniques can done For study more carry on with size more samples big with design different research. If you can implemented is one of intervention with low cost and have potency For reduce suffering or danger related with medical trauma or action obtained from hospital.

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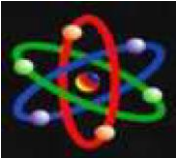
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