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Introducing SLEEP Hygiene in ICU

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Why and Background

During COVID a lot of our unit's regular projects got made redundant. Post COVID it was clear something very simple yet essential was not being met for our patients. We all know how important sleep is however it was not being implemented properly.

Sleep deprivation can result in increased ventilator days, haemodynamic instability, increased length of ICU stay, decreased immune responses, increased mortality, increased psychological disturbances and delirium (Kamdar et al 2016a, Kamdar et al 2016b, Boyko et al 2017).

It is estimated up to 80% of ICU patients will experience delirium (Kamdar et al 2016). Although delirium is predominately caused by neuroinflammation and oxidative stress caused by disease processes and drugs, several sources identify delirium worsened by sleep deprivation (Faculty of Intensive Care Medicine 2018.

As a team we wanted to focus what could be done immediately which has meant focusing on non-pharmacological interventions. NHS Scotland (2018) highlights the importance of sleep hygiene and advocates the use of non-pharmacological interventions in their SIGN 157 Risk Reduction and Management of Delirium.

What We Did

We needed to change practice and give staff the reassurance that they were able to implement good sleep hygiene by changing our 'norm'. As a team we understand stepping back from our patients in critical care is difficult.

We developed new sleep guidelines and a checklist to help gives staff the confidence to let their patients sleep. Bedside education has been implemented so far with the aim to teach on study days incorporating delirium training.

ICU's regularly exceed acceptable night time noise limit of 40 decibels (WHO, 2009). To help aid this was a business case created by Senior Sister Kelly McClelland-Clarke for funding to source sound ear installation in the unit.

Sleep Enhancement Bundle Checklist

Please use alongside the *Sleep Enhancement Guidance*

Interventions	Complete? Y/N/Variable
Dim night lights from 2200hrs – 0600hrs	
Offer/Use Eye masks	
Offer/Use Ear Plugs	
Review & reduce alarms on equipment	
Turn off TVs/Radios by 2200hrs	
Assess and treat pain accordingly for all patients	
Perform and document CAM-ICU assessments accordingly	
Monitor and document RASS scores	
Aim for all drugs & interventions completed by 2200hrs	
Orientate patient when awake	

Research and Rationale

A sleep questionnaire found 75% of respondents rated sleep in ICU as poor, 97% found poor sleep contributes to delirium (Kamdar *et al* 2016).

Patel et al (2014) conducted a sleep bundle study in a Lancaster ICU of a similar size to our unit. They found patients spent more time sleeping at night, average sleep time increased from 6.6 hours to 8.4 hours with patients achieving uninterrupted sleep of 3 hours. They also found delirium rates were more than halved from 33% to 14%. RDH ICU does not officially audit the incidence of delirium but through an informal verbal questionnaire of staff it is estimated approximately 30-40% of our patients experience delirium. An audit on delirium will be undertaken to allow for effectiveness of the bundle.

Adams (2011) and Wild (2016) suggests the NHS is not very resourceful with money when buying consumables and needs to become more efficient. Appropriate use of resources is of course vital in health care but patient benefit and comfort should be the considered as a priority. Although the sleep bundle might be considered costly it will be resource efficient, save money within the first year and benefit the patient both physically and psychologically.

The implementation of the sleep bundle will ensure we are adhering to set recommendations by the Faculty of Intensive Care (2016) Standards for ICU and the NICE (2010) delirium guideline.

Findings

Staff have been positive and embraced the change. They cannot believe we have not been doing this over night before. The installation of the sound ears have reduced noise on night shifts as staff actively watch for the red light alarm and change what is happening accordingly. 85% of staff are educated on the sleep hygiene and are proactive with the paperwork and policies.

Conclusion and the Future

Sleep hygiene is now part of the RDH ICU routine with nurses acting as advocates to implement the elements of the sleep hygiene checklist. Overall this project is nurse led with consultant level support to add reassurance in the change of practice. Having a strong MDT project is refreshing.

As a team we want to audit and collaborate with our follow up clinic team regarding the prevalence of delirium. We will continue pursuing sleep hygiene, making it an automatic response and continuing education to keep staff interested and enthusiastic. Discussions around pharmacological interventions in the future once non pharmacological interventions are basic instinct. We hope to develop our own QR code similarly to other unit projects with our education team for education tools and policy prompts.

References:

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