

The use of the NES miHealth for shift workers

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Background of the study

Shiftwork is a necessary aspect of hospital life; however there are associated health issues with employees who work shifts on a regular basis. At the Antonius hospital in Sneek, the managers of the ICU and First Aid care unit raised the issue of having an aging workforce who were increasing suffering from physical, mental and energy issues.

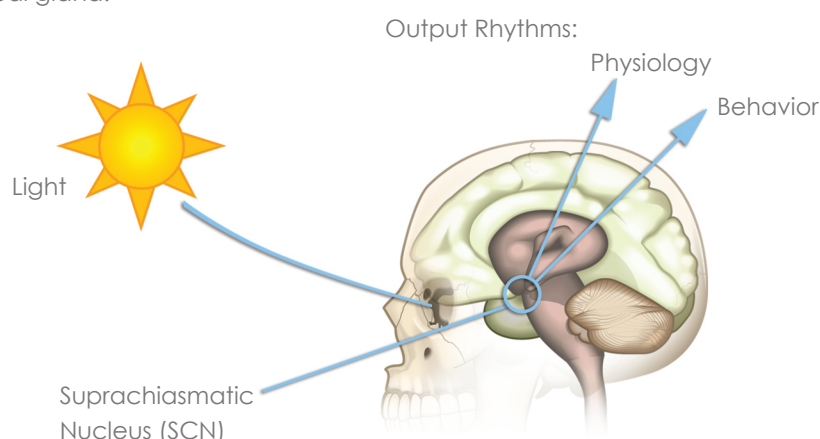
In September 2012, Emrik Suiches and his team were asked if they could suggest an alternative health intervention that would improve the quality of life of this team of shiftwork nurses by increasing energy levels during the nightshift and helping with sleep after the nightshift period.

The NES miHealth device was chosen as the most suitable intervention for this group due to its ease of use, non-invasive delivery method, portability and anecdotal reports of its efficacy to improve both energy levels and sleep patterns.

Because the biological clock is regulated by the pineal gland, the functions of the NES miHealth were selected to target this specific organ and associated system. The aim was to target the area of the pineal gland and pituitary gland using the cycle functions of the NES miHealth.

The Pineal gland (also called epiphysis) is a small endocrine gland in the brain. This gland is important for the changing of the day and night rhythm, as it produces the serotonin derivative melatonin, a hormone that affects the modulation of wake/sleep patterns.

The light receptors in the eyes react during the night and signal the suprachiasmatic nucleus to influence two proteins called 'Timeless' and 'Period' to interconnect. Those two proteins then react together and are connected to each other when there is no light, so they work like a sort of hourglass. When it is light again they unwind again, disconnect and react during the day as a two separate proteins. The proposal is that the functions on the NES miHealth which are used in this study are aligning the frequencies and information fields of the pineal gland.



Aims

To ascertain the extent to which the NES miHealth can contribute to the recovery of physical, mental and energy issues associated with nightshifts.

To ascertain if the NES miHealth would enable restoration of the normal biological clock rhythm of day work after working several consecutive nightshifts.

To ascertain if the NES miHealth would lead to a reduction in the physical problems associated with working nightshifts.

Method

All participants were scanned prior to starting the study using the NES ProVision software. The outcomes of the scans were used to establish which functions would be programmed into the NES miHealth to get the best results.

Each NES miHealth was also programmed with an extra function called "morning" which was specially made for using after the nightshift (to sleep better). A second special function was called "evening" and was made for use during the nightshift.

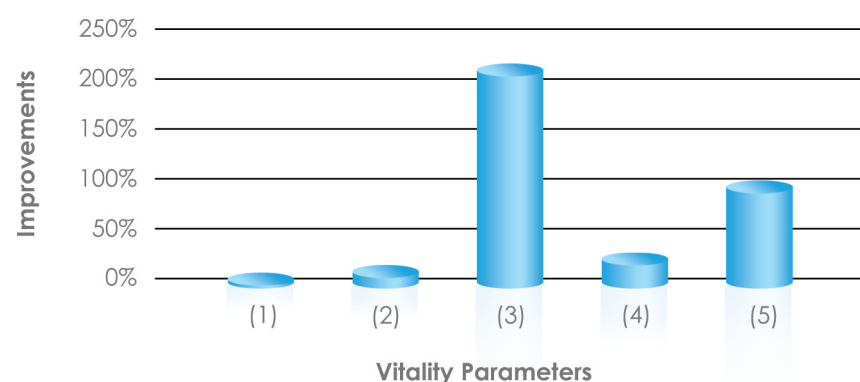
This was a 4 month study using a self-assessment questionnaires and NES ProVision wellness assessment. Sample size: 5.

Description of the Instruments

- Health Questionnaire (medical and family history)
- NES ProVision scan
- Self-assessment questionnaire based on a modified MYMOP2 Form
- Socio Demographic Questionnaire
- Consent Form

Results - Average Improvements

Average improvement of vitality	
General Wellbeing (1)	3%
Mood (2)	9%
Sleep (3)	210%
Energy (4)	27%
Weight Control (5)	90%



Discussion

The human brain is sensitive to magnetic fields including the Earth's magnetic fields, and this has an effect on sleep as can be seen from the trend toward a decrease in sleep duration and suppression of the deepest stages of sleep in space shuttle missions. We believe that low strength magnetic fields such as are emitted from the miHealth cause brain wave frequencies to resonate with the frequencies of the magnetic field, and this may explain the results we see in this study. Some of the proposed mechanisms of the improved sleep patterns seen in these nurses are:

- vascular dilation of brain blood vessels
- enhanced melatonin release
- electrical stimulation of the hypothalamus for sleep facilitation
- reestablishment of circadian rhythms

As metabolism is also linked to the biological clock, it is postulated that the weight loss is a direct result of the miHealth stabilising the circadian rhythms as described above. This is a very interesting finding and one that has relevance to weight loss studies.

Conclusion

Based on the amount of available data, a trend of improvement of most vitality signs can be observed. Best effect can be expected on sleep, weight control and energy parameters.

Overall the five subjects who completed the study had a very good result, they experienced more energy and better quality of sleep. The best result was that after the miHealth intervention, the subjects were better able to make the change from nightshifts to dayshifts, and reported that the nightshift was easier and involved less energy and effort.

This study indicates that the NES miHealth device allows the body to better regulate it's internal biological clock, making it more reactive and flexible to external environment.

In September 2013 the results of the pilot in the hospital will be presented to the hospital staff. The results of the study will be evaluated and a longer term larger study will be suggested.