

Can swimming alleviate the burden of ill health and promote wellbeing?

Emeritus Professor **Alan Glasper**, from the University of Southampton, discusses a new report published by Swim England, which promotes the benefits of swimming in relation to people's health



In June 2017, Swim England, the national governing body for swimming, published a report illuminating the health and wellbeing benefits of this physical activity (Gates and Cumming, 2017). The document comprises in-depth literature reviews of studies showing the health benefits of swimming. It was commissioned by Swim England and independently carried out under the auspices of the Swimming and Health Commission.

Although the Commission was established by Swim England, it is important to stress that it operates entirely independently under the chairmanship of Ian Cumming, who is the chief executive officer of Health Education England. The report has also been endorsed by Sally Davies, the chief medical officer for the Department of Health in England.

Improving patients' physical health

This report is timely for health professionals, as media reports have revealed that a high percentage of nurses (as many as 50%) are obese or overweight (Donnelly, 2017). More worryingly, Kyle et al (2016), who conducted a study to estimate overweight and obesity among Scottish nurses, showed that nearly 70% of them were overweight or obese. In this context, the author has previously discussed the latest Nursing and Midwifery Council (NMC) standards, one of which specifically requires nurses to understand the professional responsibility for adopting a healthy lifestyle and maintaining a level of

personal fitness and wellbeing required to meet people's needs (Glasper, 2017). Although it is not clear how the NMC and its partners will apply this standard in practice without running afoul of discrimination rights, there appears to be an opportunity for employers to embrace this new report and encourage staff to swim as part of a healthy lifestyle.

Additionally, nurses take a lead in helping people to improve and maintain their mental, behavioural, cognitive and physical health, and in enabling their patients at all stages of their lives to make informed choices about how to manage and improve their health, and prevent ill health. On a daily basis, nurses discuss with patients the impact of lifestyle choices, including diet and exercise, such as swimming, on their health and wellbeing. This aspect of nursing is important because the direct cost of physical inactivity to the NHS across the UK has been estimated at £1.06 billion (Royal College of Physicians (RCP) et al, 2016).

Lack of exercise or inactivity are directly linked to chronic health conditions, such as heart disease and diabetes, and the cost of treating these illnesses could be mitigated through physical exercise, such as swimming. Swim England reports that a significant proportion of children, adolescents and adults in the UK fail to meet the national recommendations for physical activity and the RCP et al (2016) have estimated that increased exercise by people in England and Wales could save the NHS £17 billion over the next 20 years (RCP et al, 2016). Crucially, this new report from Swim England argues that swimming regularly helps older people in particular to stay fit, physically and mentally. Similarly, the report also found evidence that children who take part in regular swimming develop better physical, cognitive and social skills than those children who fail to do so.

However, an article in the *Telegraph* reported on comments made by the doctor responsible for promoting physical exercise

on behalf of Public Health England, who has refuted the value of swimming for most people mainly due to poor swimming technique (Bodkin, 2016). The editorial indicated that the average person's ability in the swimming pool is not good enough to enable them to lose weight, and that many people who are prescribed swimming as a weight loss strategy simply splash around and pass the time chatting with their friends.

Despite this criticism, it is evident from the report that swimming does have the potential to alleviate the burden of ill health for many people, including those with mental health concerns or morbidities of joints and muscles. For example, Swim England has reported that there are 800 000 people living with dementia in the UK who could benefit from swimming. Such low-impact exercise has been shown to be therapeutic and improves the quality of life for people in all stages of dementia (Swimming.org, 2015). This is because swimming is known to reduce levels of anxiety, improve mood and enhance psychological wellbeing.

Evaluating the evidence

In seven chapters, Swim England's report covers the following aspects:

- Physical health benefits
- Wellbeing benefits
- Physiological effects
- Benefits to communities
- Public health benefits
- Health and wellbeing benefits
- Economic case for swimming as an exercise for health and wellbeing.

As this report is 156 pages long, only the first five chapters will be addressed here.

Physical health benefits

This chapter consists of a review of the contemporary empirical literature, which critically assesses the evidence underpinning swimming and its effect on physical health.

In addition to clarifying how swimming influences the physical health of the general population, this review discusses how swimming can benefit those with cardiovascular disease, respiratory disease, musculoskeletal ill health and neurological disorders. It also explores how swimming can have benefits for frail older people.

The chapter concludes that swimming has significant physical health benefits for healthy individuals and those with ill health. Water-based exercise can confer a number of specific advantages compared with land-based exercise.

Wellbeing benefits

In reviewing the evidence to support wellbeing benefits of swimming, the report also highlights the need to analyse why there has been a decline in the numbers of people swimming, especially during the transition from childhood to adulthood. Although this review shows that there is emerging evidence that aquatic exercise can improve quality of life in people with osteoarthritis, as well as other musculoskeletal disorders, and people after cancer (Spence et al, 2010), it calls for more research to be undertaken to investigate wellbeing benefits in those with mental health conditions and learning disabilities. This chapter also discusses the dementia-friendly swimming initiative.

Physiological effects

This section claims swimming has the same effect on the heart and lungs as cycling or running at the same level of intensity. Importantly, the report also confirms that swimming is a safe exercise for pregnant women and children with perforated tympanic membranes. However, for unskilled patient swimmers with cardiovascular disease, heart rates close to maximal levels may occur and therefore heart-rate monitoring may be necessary when prescribing swimming.

Although swim training has been shown to improve asthma severity and symptoms in children, relatively few empirical studies have found improvements in lung function tests in children and adolescents with this condition. Despite this, swimming can improve symptoms of children with cystic fibrosis.

Significantly, long-term swim training may improve systolic blood pressure in adults suffering hypertension and can increase muscle strength in healthy adults and older adults with osteoarthritis. However, the report does acknowledge that the studies which underpin the evidence are not randomised controlled

trials and that better designed studies need to be undertaken.

Benefits for communities

This chapter considers the relevance of exercise, such as swimming, in addressing health inequalities. Specifically, this review highlights that one person dies from drowning every 20 hours in the UK, with 372 000 deaths annually worldwide. In lower-income countries especially, drowning remains a major cause of mortality and morbidity and Swim England has concerns about the increasing number of immigrants who arrive from such countries who do not have robust water safety cultures.

Importantly, Swim England indicates that 85% of morbidity and mortality associated with drowning could be prevented if improved safety aspects were implemented, such as teaching children to swim proficiently. With regard to children and adults with disabilities, swimming has the potential to promote opportunities for social inclusion and cultural enrichment within the communities in which they live.

Public health benefits

This chapter highlights lifestyle behaviours, such as physical activity, which have a considerable impact on health. Public Health England (2016) has recommended that adults undertake 150 minutes of moderate-intensity physical activity per week. Swimming is a pleasurable activity which people can engage in across the lifespan.

Swimming also plays a major role in tackling and reducing the incidence of drowning, which remains the leading cause of death in children and young people, with the report citing 381 deaths in the UK in 2013.

Importantly, a major public health concern of Public Health England is tackling the emerging obesity epidemic from which nurses are not immune. Swimming can be a healthy mechanism to burn calories.

Public Health England also maintains that physical inactivity is one of the primary causes of premature mortality, with a similar magnitude of that caused by smoking.

Swim England's report suggests that replacing sedentary behaviour with an hour's worth of moderate physical activity can mitigate the effects of a sedentary lifestyle.

Conclusion

Swimming is good for health and for achieving and maintaining a healthy weight.

KEY POINTS

- A new report published by Swim England shows that there is emerging scientific data showing the physical and mental health benefits of swimming
- It is evident from the report that swimming could alleviate the burden of ill health for many people, including those with mental health concerns
- Drowning remains the leading cause of death in children and young people, with 381 deaths in the UK in 2013
- NHS trusts should consider helping nurses to access subsidised sport and exercise facilities, not least to tackle the high levels of staff obesity

Nurses can be instrumental in helping their patients obtain a GP referral prescribing them to take part in an exercise programme, such as swimming. Similarly, NHS trusts need to consider helping staff to access subsidised sport and exercise facilities, not least to tackle the high levels of staff obesity. University Hospitals Birmingham NHS Foundation Trust has an exemplary leisure centre on site where staff can obtain lower-cost access to the facilities, including the 22m swimming pool. Partner trusts and members' friends and families can all access these facilities, perhaps an inspiration to the whole of the NHS! **BJN**

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