Healthy hydration in the workplace

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Running title:

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Key words:

dehydration, hydration, work performance

Abstract

Adequate hydration is critical for the maintenance of good health and has many long-term benefits which make it an essential part of any healthy lifestyle. Dehydration is often associated with negative health outcomes. Workers often report dehydration and difficulties with regular access to drinking water. Furthermore, healthy hydration is often an aspect of employee wellbeing that is overlooked despite the growing existence of interventions focused on improving access to facilities which enhance employee health in the NHS. Hydration should be considered as part of employee wellbeing interventions. Employers have a duty of care to provide their staff with access to good quality drinking water throughout the working day. The wellness of NHS staff is important, and being adequately hydrated on the job may benefit not only the individuals concerned but ultimately patient care.

Introduction

There is increasing focus on the health and wellbeing of NHS staff (DOH, 2009; Malik et al, in press), with NHS staff being encouraged to 'practice what they preach' to their patients (Blake & Lee, 2008) by making healthy lifestyle choices. This can be facilitated by employee wellness programmes in NHS settings based on psychological models of health (Lee et al, 2008). These initiatives often focus on provision of needs-led services and interventions which target healthy diet, smoking cessation, stress management and exercise. However, interventions which include a focus on staff hydration are less evident, despite the negative effects of dehydration in the workplace being raised anecdotally by healthcare staff and students in health champion training sessions (Blake & Chambers, 2010).

The facts about fluids

The proportion of our body weight attributable to water has been estimated at about 60% (Jackson, 1985) and the normal daily turnover of total body water is approximately 5-10 per cent in adults (Sawka et al, 2005). We need plenty of fresh water replenishment every day to stay healthy. Water nourishes the cells of the body and helps to rid us of toxins, aids digestion (Anti et al, 1998), prevents urinary tract infections (Eckford et al, 1995), reduces the risk of kidney infection and gallstones (Curhan et al, 1997), lowers blood pressure (Lu et al, 2003) and maintains skin elasticity (Kleiner, 1999). Being properly hydrated reduces the risk of coronary heart disease by 46% in men and 59% in women and prevents us from forming blood clots (Chan et al, 2002). Water can help to stabilize blood sugar levels and assist in the dietary management of diabetes (Burge et al, 2001). The physiological benefits of water are vast, however, hydration is also essential for mental performance. Dehydration is a state where fluid replacement does not match the rate at which fluid is lost from the body. Even mild dehydration can have adverse effects on mental performance, causing light-headedness, dizziness, headaches and fatigue (Kleiner, 1999). Good hydration therefore contributes significantly to workers' health and safety. Being dehydrated can cause reduced alertness and ability to concentrate (Shirreffs et al, 2004; Rogers et al, 2001). The majority of our body water loss is involuntary, through the respiratory system, skin and kidneys. The thirst sensation is a driving force which triggers behavioural replacement of lost fluid. However, by time we feel thirsty, we may already be dehydrated. In fact, once thirst is felt, mental performance can decrease by about 10 per cent (Rogers et al, 2001). Although there is no agreed recommended level of water intake in the UK, estimates range from 1.2 to 3.1 litres per day. The UK Food Standards Agency recommends, 'in climates such as the UK, we should drink approximately 1.2 litres (6 to 8 glasses) of fluid every day to stop us getting dehydrated. In hotter climates the body needs more than

this'. This represents around 81% of our daily water requirement since around 19% of water comes from the food we consume (Institute of Medicine, 2004).

Why is it important to stay hydrated at work?

We strive towards health in the workplace since a healthier workforce leads to improved productivity and lower sickness absence. Workplace health programmes often focus on food intake and exercise, yet hydration receives less attention despite the known benefits of being adequately hydrated, both for individual health and work performance.

Hydration affects all aspects of our function, and since it plays a vital role in neural conductivity hydration is essential for optimal cognitive functioning (Kleiner, 1999). Essentially research has demonstrated that optimized hydration (and nutrition) can successfully sustain work output and concentration over extended periods of high physical and mental stress. Conversely, experimental studies have shown that induced dehydration results in a decline in performance on short term or working memory tests, visuomotor tasks and arithmetic ability (Ritz & Berrut, 2005; Cian et al, 2000; Gopinathan et al, 1988; Sharma et al, 1986). The majority of research on dehydration has been based on studies of exercise performance although the message is loud and clear. Whilst performance gets worse with increased severity of dehydration, even mild dehydration can causes lapses in concentration, reduced alertness, headaches and fatigue. To employees in a stressed and busy role, such as nursing, dehydration may seem low priority. However, being dehydrated not only affects individual health but may have consequences for patient care if concentration fails during assessment, treatment, record keeping, drug calculations and so on. Indeed, studies have demonstrated that poor hydration (and nutrition) can impair cognitive ability and decision making in healthcare staff (Lemaire et al, 2010), thus creating a risk of preventable errors of judgment and reduced work performance.

Do NHS staff consume enough fluids?

Many people do not consume enough water during the course of the day to keep them fully hydrated and therefore a large proportion of people suffer from chronic, mild dehydration, often without realizing. Healthcare staff often work in a fast-paced environment, which can also be physically demanding, with extended hours, rotating shifts and 'on call' periods. This may adversely affect opportunities for adequate hydration, for example, being far removed from areas that provide access to fluids or constraints of time restricting regular access to fluids.

Little is known about hydration levels of NHS staff or the effects of this on their work performance. However, recent studies have shown that only 22% of NHS staff across occupational groups (Blake et al, unpublished) and 18% of pre-registered nurses (Blake et al, unpublished) reported consuming the recommended daily amount of water. In this survey, the same individuals answered questions about their general health and those who drank less that the recommended daily intake of water also tended to report low mood, poor general health, and poor quality sleep. They also self-assessed their work performance as poorer than those who reported adequate hydration. Whilst this was self-reported cross-sectional data, the message is significant and demonstrates that water consumption is important to our health, wellbeing and work performance.

It has also been shown that lack of access to fluids and time pressures mean that medical staff and nurses are often *unable* to drink (or eat) properly or at all during their working day (Lemaire et al, 2010). Further, it has been recognized that whilst nurses focus on assessing, planning, implementing and evaluating the hydration needs of patients, clients and users, they often neglect their own hydration needs (Brady, 2003).

Where do we go from here?

Interventions to encourage healthy hydration in the workplace are few, particularly in NHS settings, despite reported recognition of poor hydration in healthcare employees (Lemaire et al, 2010; Brady, 2003). Workplace wellness programmes should include reference to healthy hydration and encouragement for adequate fluid intake as part of ongoing educational health campaigns and interventions. Interventions in other settings have demonstrated increases in habitual fluid consumption via persuasive technologies using a smart object approach, in which behaviour modification is embedded into everyday objects. For example, researchers have developed an everyday drinking mug called 'Mug-Tree', which can remind and motivate users to drink water from the mug regularly while providing a playful interaction to motivate people into enjoying drinking water, with a long-term goal of helping users develop a good 'water-drinking habit' (Ko et al, 2007). Further studies have utilized an augmented water bottle that uses the sensing, processing and networking capabilities of currently available mobile phones to remind users to drink water regularly, particularly those working in fast-paced or physically demanding environments (Chiu et al, 2009). These approaches have been shown to be effective in office environments although may be less appropriate in clinical healthcare settings. Nevertheless, employers have a duty of care to provide their staff with access to good quality drinking water throughout the working day. If *access* prevents NHS workers from drinking more, then employee requests for water fountains or water dispensers should be deemed reasonable. Regular hydration breaks should be encouraged where possible. The wellness of NHS staff is important, and being adequately hydrated on the job may benefit not only the individuals concerned but ultimately patient care.

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