Physical activity

Health behaviours joint strategic needs assessment literature review

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Introduction

This short report on physical activity and health completes a suite of literature review documents around the seven health behaviours incorporated in the joint strategic needs assessment (JSNA).

It complements the secondary data analysis report which can be found on the JSNA publications page with final health behaviours report.

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Physical activity

Regular physical activity is essential for a healthy life. Alongside the physical health benefits it improves an individual's general quality of life, functional ability and supports their psychosocial health. In the UK inactivity has been estimated to directly cost the NHS £1.1billion, with indirect costs to society bringing this to a total of £8.2billion.[1]

Children and young people

For children physical activity has direct health consequences. It is important for strengthening bones and muscles, keeping a healthy weight, muscle development, encouraging wellbeing, cardio-metabolic health (blood pressure, blood fats and insulin sensitivity), and developing loco-motor skills. Physical activity is recommended for all children and in 2011 new guidelines incorporated activity levels for children under five. They state under-fives who can walk on their own should be physically active every day for at least 180 minutes (spread throughout the day). This should include light activity such as standing up and moving around, whilst more active play includes running, climbing, chasing and ball games.[2]

Children and young people between 5-18 years should be undertaking at least 60 minutes of physical activity every day, ranging between moderate intensity and vigorous intensity. On three days a week, muscle and bone strengthening activities should be included. Low levels of activity are defined as less than half an hour a day or insufficient activity on each day.[3]

Children and young people who are overweight or obese run the risk of serious health risks, with evidence suggesting between 25–50% of obese children will become obese adults. Worryingly, increasing numbers of children are being diagnosed with type-2 diabetes in the UK, which is directly linked to obesity.[4] Other health risks from obesity include asthma, cardiovascular issues, psychosocial risks/mental health disorders and musculoskeletal disorders.[5] Children's health can be improved through meeting the activity guidelines and this will be beneficial even if weight loss is limited.

The Health Survey for England series monitors trends in the nation's health, including estimating the prevalence of certain risk factors and combinations of risk factors, including physical activity levels for adults and children. The 2012 Health Survey for England presented a number of findings around children's physical activity levels:

- only 9% of boys and 10% of girls aged 2-4 were meeting the guidelines for physical activity for their age group;
- in the 5-15 year age group, 21% of boys and 16% of girls were meeting the guidelines, whilst 39% of boys and 45% of girls were classified as having low levels of activity;
- the proportion of boys and girls in the low activity groups was higher in the lower household income quintiles compared to the higher quintiles;
- 18% of boys aged 5-15 met activity guidelines if their father met the corresponding recommendations for adults;
- 49% of boys with less active fathers were in the 'low activity' group;
- boys spend more time than girls participating in formal sports per week;
- girls aged 2-4 participated in 8.5 hours of informal activity per week, falling markedly to 2.3 hours aged 13-15;
- average sedentary time increased with age: 43% of boys and 37% of girls (aged 13-15) spent six or more hours being sedentary at the weekend; and
- the mean number of hours spent watching television on weekdays increased as household income decreased (1.2 hours for boys and 1.4 hours for girls in the highest quintile, compared to 1.9 for boys and 2.0 for girls in the lowest quintile).[6]

Comparisons between the 2008 survey and the 2012 survey show a significant decrease in the proportion of boys 5-15 years meeting current physical activity guidelines. For girls there was a decrease, but this was not a significant change. Physical activity levels tend to reduce in older children (particularly among girls) for many reasons, so increasing or maintaining children's activity levels is of paramount importance and understanding the reasons why children do not partake in physical activity is vital for developing strategies to address this.

Barriers to activity

A systematic review of five studies looking at children and physical activity identified 20 barriers to physical activity.[7] These were clustered around three underlying themes:

- preference and priorities;
- family and parental support; and
- restricted access to opportunities for participation.

The facilitators which enable children and young people to take part in physical activity fit around three themes:

- aspects of physical activity that children value;

- family life and parental support; and
- greater access for opportunities.

Table 1: The barriers and facilitators to physical activity (identified by children and parents)

Barriers to physical activity	Facilitators to physical activity
Not enjoying sport or exercise. A belief that their particular physique or co-ordination skills were not well suited to a particular sport. Shame and embarrassment. A frustration with complex or unclear rules. Boredom. Playing sport in bad weather. Preference to do other things apart from sport. Lack of spare time (own or parents). Friends do not participate, so they're not interested. Cost of activities. Distance to activities. Lack of safe means of travel to activities. Poor availability of facilities. Busy traffic. Threat of crime. Threat of intimidation by older children. Neglect of local play areas. Parental restrictions. Lack of current participation in, or enthusiasm for, sports and exercise (family/parents). Disadvantages of not having a car for enabling quick and efficient travel.	Fun and enjoyment. A sense of belonging to a team. Enjoyment of competitiveness. Feelings of achievement. Opportunities for spending time with friends. Keeping 'fit and healthy' and in good shape. Controlling weight. A supportive, encouraging and inspiring family. Provision of practical support from parents. Opportunity to do things with other members of the family. Having access to a car. Having access to a garden. An opportunity to relax or forget troubles. A choice of sports opportunities. Other opportunities to promote physical activity such as changing children's local environments. Better provision of youth clubs. Clean park spaces and play areas. Provision of better cycle paths. Provision of more extra-curricular activities by schools. Making school facilities more accessible outside of school lessons.

Source: Brunton et al (2003)

Another review of qualitative studies highlighted the following motivators and barriers for children and young people participating in physical activities and exercises. This review identified additional factors.[8]

Table 2: The barriers and facilitators to physical activity

Age group	Motivators	Barriers
Young children (5-12 years)	Experimentation with different activities. Unusual activities. Parental support. Safe environment.	Competitive sports. Highly structured activities.
Teenagers and young women (13-19 years)	Body shape. Weight management. New social networks. Family support. Peer support.	Negative experiences at school. Peer pressure. Identity conflict. PE uniforms. Boys' dominance in class. Competitive classes. Lack of teacher support.

Source: Allender et al (2006)

Young adults

Young adults (aged 18-25) are in a group at increased risk of being obese or overweight. This can be attributed to changes in their lifestyles such as moving away from home, gaining more independence, living with partners, getting married and/or becoming parents. These life events can lead to reductions in physical activity, changes in dietary behaviour, and combined with other lifestyle changes make this age group particularly vulnerable to weight gain. A recent study estimated only 28% of 18-25 years olds were achieving the recommended levels of physical activity, further noting this group can be hard to reach with health behaviour messages and interventions.[9]

There are many reasons why activity levels may be lower in this population. Young people tend to be aware of the health consequences of inactivity, but as found with other health compromising behaviours (such as smoking, drinking and using sunbeds) tend not to have concerns about their future health and will live in the present, often adopting the 'it won't happen to me' mentality.

Table 3: Barriers and facilitators to physical activity in young adults

Barriers to physical activity	Facilitators to physical activity
Lack of motivation. Intention to exercise. Time and cost restrictions. Lack of sporting facilities for this particular age group.	Positive beliefs, for example: helps you relax. Finding activity easy and/or enjoyable. Feelings of enjoyment afterwards. Increased wellbeing and confidence.

Barriers to physical activity	Facilitators to physical activity
Lack of choices of activities. Bad weather. Having a disability/poor health. Competitive sports and winning (particularly females). Low self-esteem and inadequacy (particularly females). Family commitments. Lack of transport.	Ease of access to facilities. Competitive sports and winning (males). Single-sex activities and facilities (both sexes). Engagement with, and ownership of activity. Appropriately targeted health messages (for young people these include messages about appearance, enjoyment and feeling good.

Source: Poobalan et al (2012)

Older adults

Physical activity for adults has numerous physical and mental benefits, and alongside other positive behaviours – such as not smoking, eating well and not drinking alcohol excessively – can improve an individual's life considerably. Many do not engage in any activity or do so at very low levels. Current activity recommendations for adults include 150 minutes of moderate-intensity aerobic activity every week with muscle strengthening on two or more days a week.[10]

Physical inactivity is a major risk for heart disease, type-2 diabetes, some cancers and other long-term conditions. It is almost as much of a risk for heart disease as cigarette smoking, high blood pressure, or a high cholesterol level and is more prevalent than any of these other risk factors.[11] Individuals with other risk factors for long-term conditions such as obesity and hypertension may particularly benefit from undertaking physical activity.[12] Inequalities in physical activity levels are often mirrored by inequalities in healthy eating, and a poor diet is also a risk factor for many of the major conditions in the UK including cancer, coronary heart disease and diabetes.[13] Physical activity can increase active life expectancy and limit the impact of long-term conditions, whilst having a positive impact on depression and mental wellbeing. Importantly, balance and coordination activities in older people can reduce the risk of falls.

The Health Survey for England (2012) presented a number of findings around physical activity levels for adults:

- 67% of men and 55% of women met the guidelines for physical activity (150 minutes per week);
- for men this proportion decreased with age: 83% for those aged 16-24 to 11% for those aged 85 years and over;
- for women this proportion increased from 57% (16-24 years) to 66% for those aged 35-44 before decreasing to 55% for those aged 55-64;

- inactivity increased with age from 8% of men and 22% of women aged 16-24 to 74% and 76% respectively for those aged 85+;
- the percentage of men meeting aerobic guidelines was lowest in the North West (59%), this was the same for women (48%);
- 76% of men and 63% of women in the highest quintile of household income met the activity guidelines, compared to 55% of men and 47% of women in the lowest income quintile;
- 29% of men and 34% of women from the lowest quintile were classed as inactive, compared to 11% and 18% in the highest income quintile;
- approximately a quarter of men and women spent four or more hours watching television during the week. This rose to 35% (for men) and 32% (for women) at the weekend; and
- those who are classed as obese or overweight are more likely to be sedentary for four hours or more per weekday.[14]

Comparisons between the 2008 Health Survey and the 2012 survey show physical activity levels have not changed significantly. The Active People Surveys show an increase of 1.4 million adults playing sport for at least 30 minutes once a week between 2005/06 and 2012/13. As with the Health Survey findings, the Active People Survey also shows participation in sports decreases as age increases.

Another review of qualitative studies identified other important motivators and barriers for older adults.[15]

Table 4: Barriers and motivators to physical activity

Age group	Motivators	Barriers
Adults	Sense of achievement. Skill development. Medical sanction. Support networks. Enjoyment.	Negative school experiences. Anxiety in unfamiliar surrounds. Lack of social network. Identity conflict. Lack of appropriate role models.
Older adults (65+)	Social support. Health benefits. Enjoyment.	Unclear guidance. Lack of role appropriate models.

Source: Allender et al (2006)

GP exercise referral schemes can provide impetus for participation in exercise and activity programmes. A structured exercise programme can also provide an informal network and support for people who may initially be anxious or lacking confidence in joining in such schemes.[16]

Participation in exercise and physical activity can be further compounded by the health and social status of the individual: those who are heavy smokers, unemployed

or ill are more likely to be obese and spend more time being sedentary.[17] Those who find activity difficult and/or stressful could still have strong intentions to take part in physical activity, however those with little intention tended to find it difficult and/or stressful and be more sedentary.

For those who have a disability or other health condition, there can be specific barriers which would require sympathetic and tailored interventions to encourage exercise or activity. These can include a low outcome expectation from undertaking exercise, a lack of time, and a fear of falling (depending on the disability).[18] For those who are caring for people there are extra time burdens placed upon them, further restricting their ability to exercise. For individuals with a learning disability activity levels can be low and their weight may be problematic (for example, people with Down's syndrome) and additional support may be needed to help them make healthy diet and lifestyle choices.

The factors that can support or restrict physical activity will vary across an individual's life course. Whilst quantitative methods can provide valuable insight into trends and directions in physical activity levels, they do not provide the reasons why children and adults adopt, maintain, or cease to participate in sport and physical activity. Focused qualitative studies may provide further understanding, particularly in Lancashire, and can be used as an evidence base for public health messages, policy, and interventions.

Physical activity levels for children and adults vary across age and socioeconomic groups, with those in the lowest groups less likely to take the recommended amounts of physical activity. Those in the highest socioeconomic groups continue to increase their participation in sport, where they already had the highest rates. The barriers to participating in sports and other physical activities for those in the lower socioeconomic groups can include the cost of travel, access to sporting facilities and the fees/cost of activities. Encouraging individuals to self-manage their own health through increasing their knowledge and confidence may in turn increase the amount of physical activity they undertake. Ensuring people can partake in low-cost physical activity incorporates the provision of cycle paths, walking facilities, access to high quality public realm and green spaces, and access to healthy food.

Environmental barriers

Many barriers and motivators to physical activity are personal and social, whilst others are environmental. The obesogenic environment* can make it difficult for people to maintain a healthy weight and can support the onset or maintenance of overweight or obesity. The factors which contribute to an obesogenic environment

* An obesogenic environment is one that encourages people to eat unhealthily and not do enough exercise/activity.

include a poor public realm (such as cracked/uneven pavements), limited recreational facilities, poorly maintained open spaces, limited or no accessibility to healthy food choices and a fear of crime/high crime rates. Evidence has shown that for obese and overweight individuals' environmental barriers such as traffic safety concerns, disconnected pavements, a lack of destinations and services, and limited seating can prevent them from undertaking physical activity. These barriers can further be compounded by age, which may make interventions more effective if they are age specific. Environmental motivators can include proximity to walking paths/trails, the cleanliness of streets and neighbourhoods, seating facilities, and proximity to recreational services/parks.[19]

Therefore, individual responsibility for health and physical activity will be more successful with healthier lifestyle options and the modification/removal of the environmental barriers above. This presents opportunities for all sectors and partners to work together to change the societal and environmental factors, whilst supporting individuals who want to make healthy choices. Focusing on environmental barriers gives the opportunity to influence a larger population overall, rather than one-to-one interventions, or small-scale exercise programmes.

Other barriers

There tends to be a decrease in participation in sports and activities among teenage girls and younger women, although those that do participate have been shown to report pressure to conform to societal ideals of body shape and beauty as a reason for undertaking activities. However, emphasis on increasing self-esteem, improving fitness, developing social networks and learning new skills can also be a strong motivator for young women. There may also be a contradiction between wanting to be fit and feminine, but not muscular or masculine and appearing 'butch'.[20] Improved facilities and activities which focus on single-sex groups could motivate more people who may have concerns or embarrassment about exercising in front of others. Female-only swimming sessions can be popular, particularly with some black and minority ethnic (BME) communities.

Having realistic role models can encourage people into physical activities – being able to identify with an exercise group leader can be extremely effective. For those from the South Asian and black communities, the lack of realistic role models can be particularly pertinent. There can be a tendency to see physical activity as a white, middle class male preserve. This is also the case for disabled people where a study in 1999 reported few relevant or positive role models existing for adults with disabilities. With the success of the Paralympic games in London in 2012 and the winter games in Sochi in 2014, this position is hopefully changing and there are now more opportunities for individuals with a disability.[21]

Self-perception and perception of others can also be powerful in encouraging or discouraging activity. Male sports can be dominated by masculine stereotypes and this can provide a challenge to a number of men. Concerns such as not fitting in, body issues, and not being 'one of the lads' are prominent, alongside feeling uncomfortable in associated social situations. The links between aggression, misogyny and homophobia and the assumption that all men are competitive and tough, with a desire to win, also make it difficult for some men to participate in sports.[22]

Self-esteem and body confidence can also play a huge part in people's motivation to participate in sports and activities. Understandably, some people who are overweight or obese may experience more anxiety and distress when exercising and this becomes a self-perpetuating barrier to adopting more healthy behaviours. Whilst this can be partially attributed to the physical discomfort of exercising with additional weight, the psychological discomfort can be a bigger barrier.[23]

The theory of planned behaviour proposes that an individual's belief about consequences of a particular behaviour, their attitude towards that behaviour and perceptions of others who are important to them can shape their positive intentions. Higher self-efficacy (perceived belief/strength of an individual's ability to control their behaviour to complete tasks and reach goals) also plays a large part in an individual changing their behaviour. Interventions based on this theory have shown to produce large effects on behaviour for web-based interventions.[24] Taking this further, particularly with regards to positive changes to the public realm, could help to instigate personal responsibility and support the role of the other partners in the public health arena.

Conclusion

Whilst addressing barriers is important, building on motivating factors will also encourage more physical activity levels. The responsibility for increasing physical activity levels includes the individual, public health, those responsible for the built environment and those who can or do provide facilities.

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