Available online at www.sciencedirect.com

Public Health

journal homepage: www.elsevier.com/puhe

Short Communication

‘Summer of Sport’: the development of a 6-week programme in increasing physical activity to improve public health outcomes

S. Abdin [a,b,*,c], R.K. Welch [b], A.J. Fieldhouse [b], A.L. Baker [b], S.L. McBurney [b], A. Reed [b], O.I. Martino [b], J.O. Denley [b], J.Z. Byron-Daniel [a]

[a] University of the West of England, Frenchay Campus, Coldharbour Lane, Bristol BS16 1QY England, UK
[b] City of Wolverhampton Council, Civic Centre, St. Peter's Square, Wolverhampton WV1 1SH England, UK

ARTICLE INFO

Article history:
Received 18 April 2019
Received in revised form
10 June 2019
Accepted 25 July 2019
Available online 12 September 2019

Keywords:
Physical activity
Public health
Population
Exercise

ABSTRACT

Objectives: A population-based physical activity (PA) programme was implemented to increase PA levels and encourage individuals to join the local council leisure facility.
Study design: This is a cross-sectional design.
Methods: The 6-week programme Summer of Sport (SOS) involved a total of 487 individuals registered for PA sessions. The sessions were held at three local council leisure facilities included badminton, swimming, table tennis, squash and group cycle. The programme was assessed using a survey based on the Theory of Planned Behaviour. Individuals were asked for their current fitness levels, whether the programme encouraged them to be more active and for their intentions to join the leisure centre after the programme.
Results: Of the 487 who originally registered for the programme, there were 161 users of SOS, with 112 not already members of the leisure facility. After the programme, 83% considered themselves already being active, with 78% stating that they partook in at least 30 min of exercise, 3 times per week. Although a large proportion of individuals were already physically active, 78% stated that taking part encouraged them to become more active. More than half suggested that they would not join the leisure facility, 30% said that they had joined after the programme and 17% stated their intention to join. Many individuals highlighted that the programme provided an opportunity to be active with their family.
Conclusions: Public health teams should work with partner organisations to embed robust processes for measuring outcomes that impact on population health.

* *Corresponding author*. University of the West of England, Frenchay Campus, Coldharbour Lane, Bristol BS16 1QY England, UK.
E-mail addresses: Shanara2.abdin@live.uwe.ac.uk (S. Abdin), Richard.Welch@wolverhampton.gov.uk (R.K. Welch), Andrea.Fieldhouse@wolverhampton.gov.uk (A.J. Fieldhouse), Amy.Baker@wolverhampton.gov.uk (A.L. Baker), Sean.McBurney@wolverhampton.gov.uk (S.L. McBurney), Abigail.Reed@wolverhampton.gov.uk (A. Reed), Lina.Martino@wolverhampton.gov.uk (O.I. Martino), John.Denley@wolverhampton.gov.uk (J.O. Denley), james.byron-daniel@uwe.ac.uk (J.Z. Byron-Daniel).
[c] Present/permanent address: University of the West of England, Frenchay Campus, Coldharbour Lane, Bristol BS16 1QY, UK.
https://doi.org/10.1016/j.puhe.2019.07.021
0033-3506/

The positive health effects of physical activity (PA) are widely documented, including lowering blood pressure, increasing psychological well-being and reducing the risk of heart disease and other chronic illnesses.[1] Increasing PA in populations can reduce morbidity, premature mortality and healthcare costs,[1] with effectiveness of PA programmes demonstrated across several settings including workplaces[2] and communities.[3]

In Wolverhampton, 33% of adults are inactive, that is, doing less than 30 min of PA per week.[4] In addition, only 14.9% of children and young people are active in and outside the school, with just 7.2% participating in daily PA.[4] The problem increases during holiday periods as research showed that British schoolchildren lost 80% of cardio fitness gained during term time through 'inactive summer holidays'.[5] The rate of increase in the children's body mass index also increased by 2.5-fold during the summer break, rising from an average of 17.64kg/$m^{2.}$ in the spring to 18.26kg/$m^{2.}$ in September. Furthermore, the detrimental effects of the summer break among schoolchildren who participated in PA were less than those on those who did not.

Yet results from the Wolverhampton Healthy Lifestyles survey[6] indicated that 58% of adults and 67% of young people wanted to be more active and 32% of adults wanted help to do so. UK Active (2016) recommends that families should be supported to develop active lifestyles to promote lifelong habits for regular PA from the earliest stage, including supporting the availability of active choices during weekends and holiday periods.[5]

Nevertheless, different patterns of behaviour are deeply embedded in people's social, material and cultural context.[7] In this programme, Theory of Planned Behaviour (TPB) served as a conceptual framework to target the health behaviour and outcomes.[8] The TPB maintains that human behaviour is governed by an individual's attitudes and behavioural intentions, characterised by the presence of social norms and control.[8] The intentions of a behaviour are based on personal attitudes of the individual or their perception of the intended behaviour. The TPB has been effective in numerous PA programmes.[8]

Consistent with the TPB model, the Wolverhampton population wanted to be more active and requested support in achieving this,[6] highlighting intentions and perceived lack of control within individuals. A collaboration between public health (PH) and the corporate leisure service was established to promote the use of leisure facilities over the summer holidays and contribute to PH priorities around reducing levels of physical inactivity in the population.

The population

The programme was implemented in Wolverhampton, a city in the West Midlands in England. The city is home to 256,621 people (including 59,038 people aged 0–17 years), and although life expectancy is improving, it remains lower than the national average.[4] Wolverhampton is one of the 20% of the most deprived districts in England, with about 30% of children living in low-income families;[4] more than 27% of children at reception age are overweight, and more than 40% of children at the age of six years are obese.[4]

Summer of sport programme development

The PA programme consisted of family-based activities across the city throughout the 6-week summer break. The PA sessions consisted of badminton, tennis, squash, table tennis, family swimming lessons and fitness classes. An existing free-swimming initiative was operating alongside the programme. The programme was open to all-age residents of Wolverhampton. However, children had to be accompanied by an adult to promote family activity and ensure data could be obtained. Residents were asked to register their interest for the 6-week programme to manage demand and provide information on intentions to increase PA.

Summer of sport communication development

Children, young people and families were asked for their feedback on posters to ensure that the marketing materials were appropriate. Many individuals suggested that the use of the word 'free' needed to be bigger and bolder as this helped inform their decision.

A high-profile marketing campaign promoted the programme across the city, using billboard posters (Fig. 1), newspaper advertisements, banners, digital advertising and social media. Flyers were sent out to every child via schools, and a launch day was organised with the local football team. The programme was promoted in local magazines with a supporting article describing the benefits of PA as individuals are more likely to change their behaviour if they can see the benefits of doing so.

More than 1000 individuals registered their interest to participate in the programme. A total of 487 individuals including children signed up for PA sessions. Across the 6-week programme, there were 161 users of Summer of Sport. Of the 161 individuals who attended, 112 were not already members of the leisure facilities. Attendance data were captured via a membership system used by the leisure facilities, and an online survey was sent out to all individuals who attended. Individuals were asked for their current fitness levels, whether the programme encouraged them to be more active and for their intentions to join the leisure facility at the end of the programme.

After the programme, the majority (83%) considered themselves already being active, with 78% stating that they currently take part in at least 30 min of exercise, 3 times per week. Although a large proportion of individuals were already physically active, 78% stated that participating encouraged them to become more active. Thirty percent had already joined after the programme, and 17% mentioned their intention to join. Many individuals highlighted that the programme provided an opportunity to be active with their family and praised that it was available at no cost.

This pilot programme primarily sought to increase PA during the summer period in which activity levels tend to be

Fig. 1 – Poster.

low. This is a topic of interest to the population and the local authority in Wolverhampton as they seek to live a happier and healthier lifestyle during an economic climate where services have been reduced.[9]

With Wolverhampton being among the most deprived districts nationally with almost a third of children in low-income families,[4] clearly more needs to be done in targeting this population to improve their health and well-being. The previous literature has highlighted a number of barriers into increasing PA in deprived areas including lack of facilities, dilapidated parks and costs.[4] Interestingly, Wolverhampton is the highest performer across the country for utilisation of open space for exercise, suggesting that people are using open space more.[4]

Currently, less than 4% of the Wolverhampton population (<10,000 people) are members of WV Active, with numbers having grown steadily over several years. In just a few weeks leading to the launch of the programme, more than 1000 people demonstrated an intention to take part by signing up; almost half of those individuals went on to do so, with the opportunity to be active with their families, and the fact that it was free of charge was cited as motivating factors. This suggests that actively promoting opportunities to participate in PA can bring about intentions to change behaviour and that in many cases, intentions will translate to action.

Among those who registered, one of the barriers to attendance was that people did not feel there were enough activities they could do with their children. There are plans to

address this through the introduction of a family membership and increasing the availability of activities that parents and children can do together. It is important to note that this does not necessarily reflect the views of those who did not engage at all with the programme, either through intention to participate or acting on that intention. Further research would be needed to better understand barriers to participation among the local population.

A key limitation of the pilot study is that the data system did not allow measurement of individual participation. This means that we cannot make inferences about the effectiveness of the programme for increasing PA. This reflects more general challenges around evaluating interventions in naturalistic settings and applying performance measurements across populations to improve health outcomes.[10] Within the complex context of a population, fidelity is compromised, and factors such as adherence, continuity of messages, accuracy of measurement and participation can never be fully controlled.

Nevertheless, there are important implications for collaboration between PH teams and local partners, including leisure facilities. Embedding robust data collection and appropriate data sharing protocols into the wider system as standard would have mutual benefits by supporting the measurement and evaluation to increase usage and improve population health outcomes. With behaviour change being a key outcome for both PH teams and leisure facilities, it is vital that behaviour change theories are embedded among future programmes.

To conclude, this pilot study suggests that providing opportunities to participate in PA can lead to intentions to change behaviour and that these intentions often lead to action. Working with leisure providers to embed robust measures into standard practice would support more rigorous evaluations of population-based PA programmes. Although the TPB somewhat underpinned this programme, future programmes will need to ensure a range of behavioural constructs to guide the implementation of such programmes. Future programmes would require a robust and methodological measure to ensure the effectiveness of such programmes.

Author statements

Acknowledgements

The authors wish to thank all individuals who took part in the programme. The authors would specifically like to thank the communication team, the project management team and local leisure facility for their support in implementing this programme.

Ethical approval

None sought.

Funding

The programme was solely funded by the City of Wolverhampton Council.

Competing interests

There are no competing interests declared by the authors.

REFERENCES

1. Warburton DE, Bredin SS. Health benefits of physical activity: a systematic review of current systematic reviews. *Curr Opin Cardiol* 2017;**32**(5):541–56.
2. Abdin S, Welch RK, Byron-Daniel J, Meyrick J. The effectiveness of physical activity interventions in improving well-being across office-based workplace settings: a systematic review. *Public Health* 2018 Jul 31;**160**:70–6.
3. Baker PR, Francis DP, Soares J, Weightman AL, Foster C. Community wide interventions for increasing physical activity. *Cochrane Database Syst Rev* 2015;(1).
4. Public Health England. *Public health outcomes framework*. 2019. Retrieved from, https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/0/gid/1000042/ati/102.
5. UK Active. *Blueprint for an active britain – children and families'*. 2016.
6. City of Wolverhampton Council. *Wolverhampton health lifestyle survey*. 2016. Wolverhampton.
7. Bandura A. Health promotion from the perspective of social cognitive theory. *Psychol Health* 1998;**13**(4):623–49.
8. Armitage CJ, Conner M. Efficacy of the theory of planned behaviour: a meta-analytic review. *Br J Soc Psychol* 2001;**40**(4):471–99.
9. City of Wolverhampton Council. *Public health annual report 2017- health in the city of Wolverhampton at a glance*. 2018. Wolverhampton.
10. Stoto MA. Population health measurement: applying performance measurement concepts in population health settings. *eGEMs* 2014;**2**(4).

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.puhe.2019.07.021.