10,000 Steps
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Paper 12:
10,000 Steps in the Primary School Environment: A Pilot Study, 2010

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EXECUTIVE SUMMARY

This report details the results of six focus groups conducted to determine applicability of the 10,000 Steps program in the primary school environment. Resources were discussed with both teachers (three focus groups) and students (three focus groups) from the participating schools to determine the response and awareness of the 10,000 Steps program, pedometer performance as well as which 10,000 Steps resources were used and their appropriateness for the school environment. Based on the findings, recommendations on how the 10,000 Steps program could be tailored to the primary school environment were proposed.

During the focus groups, respondents displayed a positive response and awareness to the 10,000 Steps program and resources. The following aspects were mentioned:

- Students enjoyed counting their physical activity as steps.
- The goal of 10,000 steps per day was achievable for the students with most students achieving a higher daily step count than this.
- Participants wished to continue with the program.
- Respondents all enjoyed using the 10,000 Steps pedometers to measure their daily steps.
- The teachers were actively involved in ensuring their students had some extra time during the school day to increase their daily steps.
- Two of the schools completed 10,000 Steps challenges while the other school integrated the program into their school curriculum.
- It was believed that the program would be more sustainable if integrated into the school curriculum.

Some difficulties that arose:

- Students and teachers disliked the ability to falsely accumulate steps.
- Students experienced difficulty in remembering to record daily steps.
- Students disliked being unable to wear the pedometer out of school hours.

Recommendations

Based on the above findings, it is recommended that:

- It is important to integrate the program into the school curriculum to ensure continued interest by both the teachers and students. Enabling the teachers to have time to dedicate to the program and also allowing the program to be sustainable and worthwhile in the long term.
- Options for increasing motivation and sustainability of the program may be achieved by conducting shorter distance challenges that are more suitable for students to complete over a school term or less, and based on pedometer use only during school hours.
- The development of a logbook for students to record their daily steps, as computers and computer time are limited for non-curriculum activities.
- School images being used for promotional materials for the primary school environment.

INTRODUCTION

Background

10,000 Steps Rockhampton was Australia's first 'whole of community' health promotion physical activity project. Funded by Queensland Health, the Rockhampton region was chosen for a two year trial of the project in 2001. During this period, the 10,000 Steps Rockhampton Project was an exemplary model of an effective multi-strategy, multi-sector physical activity project. [1] The project was successful in motivating local communities, workplaces and individuals to increase their physical activity levels. As a result of the success in Rockhampton, Queensland Health provided funding for 10,000 Steps to be developed as a sustainable state-wide and beyond initiative.

10,000 Steps now disseminates physical activity information, materials, resources and support via the interactive 10,000 Steps website (www.10000steps.org.au). Since 2004, organisations and community groups have adopted and implemented the 10,000 Steps resources across Queensland and nation-wide to promote physical activity and raise awareness of the associated health benefits. Individuals are also involved in the program by using the interactive online Step Log to record and monitor their physical activity levels. As of November 2010, the 10,000 Steps program has over 142,500 individual members and almost 5,300 Providers (organisations and community groups) registered with the 10,000 Steps website.

In modern society, a trend of increasing physical inactivity has emerged within the children and adolescent population. [2, 3] In Australia, rates of childhood obesity have increased from 5% to 8% between 1995 and 2007-8. [4] Obesity is linked to increased risk of chronic illness and health issues in young people. Childhood obesity can lead to hypertension, and numerous other cardiovascular disease risk factors, as well as Type 2 diabetes [5]. As has been highlighted in many studies, the compromise of health in young people today means dire implications for the future adult population and successive generations [6, 7]. The importance of implementing preventative interventions and/or initiatives within younger age groups to increase physical activity participation is invaluable and is vital to the future health of Australians.

A study of Queensland children aged 5-17 suggests that 21% of children are overweight or obese, between 16.0 % and 39.3% spent more than two hours per day in screen based entertainment media activity and between 4.8% and 16.5% reported engaging in one hour of moderate-vigorous intensity physical activity on all days in the previous week [8]. The low levels of physical activity and the volume of time children spend in the school setting provides an excellent setting to implement strategies to increase physical activity of children. Furthermore the school day offers the opportunity for daily physical activity to not only be undertaken by students but also to be promoted by classroom teachers [9]. One of the simplest ways to increase physical activity during school hours is to incorporate lessons into the classroom environment which promote academic learning through physical activity [9]. Currently, interventions outlining the integration of physical activity into the school curriculum are poorly represented in the literature [10] however a recent study, reports that the lack of space in the school curriculum is largely responsible for the reduction in physical activity observed in the school setting [11]. Given that the current school curriculum may not accommodate further stand alone subjects devoted to increasing physical activity, interventions such as the 10,000 Steps program which can be incorporated throughout the day to increase activity have considerable potential for successfully increasing physical activity levels amongst school aged children.

Since the establishment of 10,000 Steps, the program and its resources have been identified and used by primary schools as an initiative to increase physical activity in the student population. Although the 10,000 Steps program has been developed to target the adult population in particular, increasing numbers of primary schools seem to be utilising

it to increase physical activity in the student body. Despite this interest the appropriateness of the 10,000 Steps materials for student populations has not been evaluated.

Purpose of Study

The aim of this study is to assess the applicability of the 10,000 Steps Program and its resources in the primary school environment. The findings of this study will guide the development of 10,000 Steps resources for the primary school environment in the future.

Method

Three primary schools were selected to participate in the current study. Permission to conduct the study was sought from both Catholic Education and Education Queensland. The three schools were located in Rockhampton, Queensland and had implemented the 10,000 Steps program and its resources during Term 3 of the 2010 school year. To assist the schools with the implementation of the 10,000 Steps program into their schools, each school was provided with ninety pedometers which would accommodate three classes of thirty students. One of the schools that participated in the 10,000 Steps program allowed the students to take the pedometers home with them, however the other two schools did not allow their students to wear the pedometers while not in school to reduce the risk of the students losing the pedometers.

Several focus groups were coordinated at the end of Term 3 and beginning of Term 4, by 10,000 Steps Project staff. Separate focus groups were conducted with teaching staff involved with the 10,000 Steps program and resource implementation, and children from participating classes at each participating primary school. At each focus group a short demographic questionnaire was completed by both the teaching staff and the students to determine age, gender and for the teaching staff their position within the primary school. The teaching staff focus group sessions addressed which resources the primary schools had used, if the program and resources used were applicable to the primary school environment, why they were applicable, how the current resources could be improved, and whether more appropriate resources could be developed for the primary school environment. The student focus group sessions addressed how the students responded to the 10,000 Steps program, the use of the pedometers and how the program could be improved.

Participant Recruitment

In agreeing to take part in the 10,000 Steps school pilot study, the teachers also agreed to take part in a one hour focus group. 10,000 Steps staff asked the teachers involved in the Pilot Study to nominate students in their classes to be involved in the Student Focus Groups and parental consent was obtained for each of the participating students.

Focus Group Procedures

All of the focus group sessions were audio taped to ensure that no important information was overlooked. In addition to the focus groups, the teacher representatives from each school were asked to complete a post-pilot evaluation form. The post-pilot evaluation form required respondents to outline in an open ended response style with their own words how they utilised the 10,000 Steps program and resources in their primary school, to provide further insight of how each school implemented the10,000 Steps program. The study received ethical clearance from the Human Research Ethics Committee at CQUniversity Australia.

Data Analysis

Descriptive statistics were determined from the brief demographic questionnaires for both the teaching staff and students. The focus groups were transcribed verbatim and thematically analysed.

RESULTS

Focus group participants

Two focus groups were conducted at each school, one involving teachers, one involving students. For the teacher focus groups there were a total of ten participants overall (4 males, 6 females). Ages ranged between 18 and 55 or older. For the student focus groups there were a total of 18 participants overall (7 males, 11 females). Ages ranged between 10 and 12 years of age.

Focus Groups

Response to the 10,000 Steps Program

Overall, both teacher and student participants reported that they enjoyed participating in the 10,000 Steps program. Student respondents liked the concept of the program, recording their steps every day and attempting to improve on their previous days' step count. Students at two of the schools participated in a number of different activities such as walking, running and ball games and the students enjoyed comparing their step counts from the assorted activity types. Student participants from the two schools whose classes used the 10,000 Steps challenge maps, indicated that they enjoyed being able to track their steps and visit the different towns in the challenge. However the teacher respondents believed that a shorter distance would be of greater benefit to the students as this would allow them to complete the challenge within the school term. Overall, the student participants expressed interest in continuing with the 10,000 Steps program in their schools. The teacher participants did report some concerns with the amount of time they would need to put into a stand alone program, time that would be taken away from their regular class time. By a stand alone program, the teachers are referring to a program that is not part of their regular school curriculum. Even though the time that they would dedicate to this might be minimal such as encouraging the students to wear pedometers and log their daily steps, if the program is incorporated into the school curriculum it may lessen the time burden associated with completing the challenge activities outside of normal curriculum activities.

The students highlighted several difficulties during their participation in the 10,000 Steps program. It was commonly reported that the students did not like the ability to falsely accumulate steps with the pedometers, or increase daily step counts without actually completing the physical activity. At one of the schools, one class of students in particular tried to police the dishonest use of pedometers within the other two classes at their school by talking to the offending students about it, but with little success. It was also mentioned by the participants that they did not like being unable to wear the pedometers for their extra activities away from school. One explanation for this was the students were not allowed to take the pedometers home. Among those schools that did allow students to wear the pedometer outside of school, some students expressed regret at not being able to wear the pedometer during sport. This issue arose as some specific sport organisations have rules that do not allow players to wear devices such as pedometers during games due to the potential risk to players associated with impacting the device.

Teacher participants did note that students had some difficulties during their participation. These included students not remembering to record their daily steps, however this seemed to only occur at the schools where the students were in charge of recording their own daily steps, as opposed to the other school where one or two students were

nominated each week to record daily step counts for the entire class. When students were tasked with recording the steps for remaining class members teachers did not report any issues associated with students remembering to record steps.

Pedometers

Respondents all enjoyed using the 10,000 Steps pedometers in their school. Students from one of the involved schools were allowed to wear the pedometers home; however students from the other two schools handed the pedometers back at the end of the school day due to concerns about loss. Participants reported a high level of dishonest pedometer use by other participants to increase step counts through various means, including attaching pedometers to family pets, shaking pedometers while sitting in class and allowing pedometer to dangle from the safety strap. Student participants also expressed wishes that the pedometers could be designed to not detect steps accumulated in these ways. Some potential strategies to reduce the number of students misusing their pedometers would be to ensure the students are wearing the pedometers on their clothing correctly, and to stress the importance of the students being true to themselves and not falsely accumulating their daily step counts.

The teachers' reported that the pedometers did assist in getting some of the inactive students in their classes more active as they were interested in checking the pedometers to see how many steps they had accumulated. Overall, the teachers' responded to the pedometers in a variety of ways. At two of the schools it was reported that they had minor issues with the pedometers in regards to students losing, breaking or forgetting to wear them with a mix of in-school and home use; however, another school, which had clearly numbered the pedometer class sets before the pedometers were assigned to the students and restricted to in school use only, did not report any issues. All of the teacher respondents believed that the pedometers, when the students remembered to wear them, were a good tool for measuring their steps and in turn their physical activity levels.

Awareness of the 10,000 Steps Program

Many of the participating students at all three schools were aware of the 10,000 Steps program and what the program is about. Most of the participating students reported that they were reaching the goal of 10,000 steps a day; however there were a few students who achieved higher daily step counts per day closer to the recommended amount for children of between 11-12,000 steps for girls and 13-15,000 steps for boys [12]. Due to the variety of ways for schools to implement the 10,000 Steps program into their environment, it may be opportunistic to retain and capitalise on the 10,000 steps a day goal and branding but ensure the students understand that this goal is an absolute minimum that they should be achieving as well as encouraging the students using the alternate child specific daily step goals. The teachers were actively involved in assisting the students to obtain more steps by allowing them to do extra physical activity during the school day, outside of their normal lunch time exercise.

10,000 Steps Resources

Participants were asked about the 10,000 Steps resources that they used while implementing the 10,000 Steps program in their schools. All three of the schools used paper-based methods of tracking the students' steps and did express problems with this method. Two of the schools reported that they did use one of the 10,000 Steps challenge maps, specifically the Queenslander challenge map, to track their progress and another school integrated the program into their school curriculum. Curriculum integration of the program was performed by using student step counts to teach the students how to use the computer program Microsoft Excel, creating graphs as well as displaying the graphs on their classroom's interactive whiteboards and having the students report their progress back to the class. Although downloading class data is not a feature of the current 10,000

Steps website, if the program were integrated into the curriculum a class activity may involve entering the steps into the 10,000 Steps website, and downloading this data as materials for computer or math classes. This may reduce the occurrence of students forgetting to log steps and also provide a useful educational resource.

Suggestions for the Future

During the focus groups many of the participants had suggestions on how to increase the sustainability of the 10,000 Steps program by making the program more suitable for the school environment. In terms of increased sustainability of the program the teachers suggested that a logbook specifically developed for use by school students would be beneficial in regards to having the students record their daily steps. A student logbook would be simpler for the students to use and may be more attractive to the students then recording their steps on plain pieces of paper and may therefore increase the students' dedication to recording their daily steps. They also mentioned the need for tailoring of the program to suit different year levels at school. The use of school images on the 10,000 Steps posters was also mentioned so that the schools can promote the program in their schools to students and teachers alike.

Teachers suggested that it would be beneficial for the 10,000 Steps program to be integrated into the school curriculum. This was suggested by the teachers at the two schools who did not integrate the program into the school curriculum. These teachers felt that they had to put extra classroom time into the running of the program which would not be needed if it were a part of the curriculum. There were many suggestions for specific school units that the program could be paired up with, including but not limited to: health, maths, science, and study of science and education (SOSE) in terms of geography and history.

Another suggestion made by many of the teachers was that the duration of 10,000 Steps challenges be limited to a school term, however the students were happy for the program to run for longer than a school term but did suggest that perhaps different challenges could be completed each term. The teachers agreed that running the 10,000 Steps program for shorter time periods would maintain both teacher and student interest and participation, which would in turn support the long term sustainability of the program in a school setting.

RECOMMENDATIONS

The findings from the focus groups suggest that the 10,000 Steps program is suitable and applicable in the primary school environment. Teachers and students at all three schools enjoyed participating in the program and believed the program increased children's awareness of and participation in activity. Both teachers and students also agreed that the concept of the program worked well. The difficulties faced when conducting the 10,000 Steps program in the schools were issues that could occur with any similar physical activity program.

While suitable and applicable, the findings of the research demonstrated that the 10,000 Steps program can be adjusted and tailored to make it more appropriate for the primary school environment. These can be summarised as follows:

- It is important to integrate the program into the school curriculum to ensure continued interest by both the teachers and students. Enabling the teachers to have time to dedicate to the program and also allowing the program to be sustainable and worthwhile in the long term.
- Undertake studies to determine the most appropriate way for 10,000 Steps to be integrated into the curriculum

- Provide shorter distance challenges that are more suitable for students to complete over a school term or less, based on pedometer use only during school hours to increase motivation to complete the challenge and sustainability of the program.
- The development of a logbook specific to students to record their daily steps.
- School images being used for promotional materials for the primary school environment.

It is important to note that these recommendations are based on focus groups with only a small number of primary schools. These recommendations may not be suitable for all primary school environments due to the differences in school size as well as socio-economic status. It is recommended that further research be conducted to determine the appropriateness of the 10,000 Steps program in the primary school environment.

SUMMARY

This report highlighted the results of focus groups conducted to assess the applicability of the 10,000 Steps program and its resources in a primary school environment. It was determined that the 10,000 Steps program is applicable in this setting however it needs to be tailored to the school environment to increase sustainability and uptake. This may include investigating how it can be incorporated in the primary school curriculum, tailoring of resources to utilise images of school environments, and providing challenges that have durations that equate to or are less than school terms. By incorporating these features it is anticipated that the 10,000 Steps program could indeed deliver sustainable outcomes that promote increased activity levels and health awareness in primary school aged children.

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