

Development of a Tool to Measure Possible Health Gains of Sport Events; Studying the Additionally Performed Physical Activity of a Mass Participation Running Event

van Genderen, Simon and Schoemaker, Jelle

HAN University of Applied Sciences, Institute of Sports and Exercise, The Netherlands
simon.vangenderen@han.nl

Aim and Background

Mass participation events are becoming more popular worldwide and have the potential to stimulate its participants to increase and less likely also sustain their physical activity (PA) (Weed et al., 2015; Lane et al., 2012; Murphy et al., 2015). Although research shows that every 30 minutes of physical activity (PA) contributes to 0.00022 gained Quality Adjusted Life Years (QALY's) for people who are not active enough (Fordham & Barton, 2008), very little evidence is available about the health benefits of sporting events (McCartney, 2010). In this study the additionally performed PA for inactive people and therefore the gained QALY in the preparation period of a mass participation running event of 5, 7.5 or 10 kilometers (KM) for female participants (Marikenloop 2017) was studied.

Design and Implementation

In a cross-sectional study, participants were asked to complete a questionnaire in the following week after the event. Questions regarded the performed PA (training and sport) in minutes/week during the preparation for the event, as well as the amount weeks this preparation had lasted. Participants were also asked to estimate the minutes/week they were physically active before registering for the sport event. Other measures included sport specific and demographic information as well as the current perceived health status.

Findings and Discussion

Of a total population of N=7300 females that took part in the Marikenloop, n=471 participants (mean age 42 ± 12 y) completed the questionnaire. About 70% of the participants were higher educated and had a normal BMI, 24% was overweighted (BMI >25) and a small proportion was obese, 3% (BMI >30). Participants perceived their current health status as excellent (9%), very good (33%), good (54%) or poor (4%). During the preparation of the event, 38% trained in a group but most participants (62%) trained individually.

The reported average training time was about one hour spread over 2,5 training sessions/week during an average total preparation period of 9 weeks. Participants who took part in the 5KM run (45% of total), on average performed 128 minutes/week of PA during the preparation, the 7.5KM group (22%) 139 minutes/week and the 10KM group (33%) 195 minutes/week.

As for the additionally performed PA estimated for all 7,300 participants, one third indicated that they performed extra training / sports because of the Marikenloop, which was during the preparation an average of 164 minutes/week. Subsequently, these 164 minutes/week were subtracted by the time spent in training/sport before the start of the preparation which was on average 84 minutes/week, meaning that the participants on average sported/trained an additional 80 minutes/week. The average preparation period was nine weeks bringing the total number of additional PA for a third of all participants to approximately 1.8 million minutes equivalent to 30,000 hours. However, the overall value for health of additionally performed PA is not the same in for every person. Following, PA-guidelines, extra PA performed by someone who is insufficiently active has more influence on the health of a person than if he or

she would already meets the guideline of 3 times a week 20 minutes of vigorous PA (WHO, 2010). These are about 13% of all participants in the Marikenloop or a 1,000 (39%) of the participants who performed additional PA. This group trained on average 91 minutes/week in preparation of the Marikenloop and would train only 25 minutes per week without the Marikenloop. Their average preparation period was also 9 weeks. As a result of which nearly 600,000 effective minutes were made extra due to the event by people who were formerly inactive.

In the preparation period alone, the 1.000 inactive participants of the Marikenloop established a total of approximately 4.4 QALY. Interestingly, 74% of the formerly inactive participants had the intention to maintain their level of activity. The results imply the importance of possible interventions in line with the sport event, that help participants to at least maintain their level of activity so in time it will not be additional but habitual.

Conclusion and Implications

This study indicated the potential health benefits that the preparation period of sport event can have, by improving the PA of persons that would be insufficiently active without participating in the event. By further implementing this developed standard, it would be interesting for policymakers and event organizers to compare the recent results with similar measures of other mass sport events to provide more insights in the possible health effects.

References

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