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## Peer coaching as a population approach to increase physical activity in older adults

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# CHAPTER 6

## Círculos de Abuelos: Cuba's population wide physical activity intervention for older adults

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## ABSTRACT

Most countries worldwide face an increasing prevalence of age-related diseases. Physical activity is effective in delaying and preventing these diseases. Current interventions to improve physical activity are effective, but do not reach large numbers of older adults for longer periods. Cuba, however, does have a long-standing population-wide program, *Círculos de Abuelos*, that has not been described in the English literature yet. *Círculos de Abuelos* are local peer groups of 10 to 30 older adults that exercise three days a week under the guidance of a professional sport coach and that engage in self-organized social activities. The Cuban Ministry of Public Health founded *Círculos de Abuelos* in 1987 and during the last count in 2018, the program promoted physical activity in 908,412 participants, 39.7% of Cuba's older population. Appointed by the National Institute for Sports, Physical Education and Recreation, the professional sports coach initiates new *Círculos de Abuelos* in cooperation with the family doctor and forms a lasting link between the *Círculos de Abuelos* and the local community. Because of its success, *Círculos de Abuelos* is implemented in other countries including Venezuela, Panama and Colombia. *Círculos de Abuelos* is a proof-of-principle of a longstanding population-wide program to promote physical activity in older adults. Therefore, it could serve as an example for physical activity programs to decrease the burden of age-related diseases worldwide.

## INTRODUCTION

The number of older adults is increasing worldwide, resulting in rising healthcare costs, shortage of healthcare professionals, and many healthcare systems are not prepared for the multimorbidity of older adults.<sup>1</sup> With many countries facing the same challenge, it offers an opportunity to identify best practices. Here we describe such a best practice from Cuba.

Many of the age-related diseases are influenced by healthy lifestyle of which physical activity has most broad beneficial effects.<sup>2</sup> Although physical activity is beneficial, many older adults do not reach the recommended level.<sup>3</sup> Many current interventions are proven to be effective during the intervention period, but when most interventions stop the majority of older adults return to their inactive behaviour.<sup>4</sup> Also, interventions rarely reach practice and large numbers of older adults.<sup>5,6</sup> In Cuba we identified an intervention that increased physical activity in large numbers of older adults for a longer period of time.<sup>7,8</sup>

## THE CÍRCULOS DE ABUELOS PROGRAM

Cuba focuses on prevention instead of curation and is internationally praised for its public health policy that results in high life expectancy with low economic resources.<sup>9</sup> It has been running a successful population-wide program promoting physical activity in older adults. Founded in 1987, the so-called *Círculos de Abuelos*, increases physical activity and social interaction in 908,412 participants, 39.7% of Cuban's older adults in 2018.<sup>10,11</sup> The program is also implemented in other Spanish speaking countries, including Venezuela, Panama and Colombia. However, it has not been discussed in the English literature.

*Círculos de Abuelos* are social groups of older adults that focus on physical activity to increase health and well-being. The groups are self-organizing and activities are organized within the possibilities of the participants and area where they are situated. Some *Círculos de Abuelos* engage in various social, physical and educational activities. Universities or high schools regularly organize *conversaciones* (talks), theme nights during which personal concerns are shared and advice and support is given. Participants are invited with family and friends. Other social activities are initiated and paid for by the participants themselves. Some *Círculos de Abuelos* organize social activities and excursions. Groups also organize dance nights or read poetry and literature together. Furthermore, they share food and medicine, which can be in short supply in Cuba, and visit each other when they are ill.

Regarding the physical aspect, *Círculos de Abuelos* organize exercise sessions one to three times a week in public spaces in neighbourhoods throughout Cuba. The exercise sessions are led by a professional sport coach called *profesor de deporte* and consists of three parts: the warming-up, core-exercises and the cooling down, all accompanied by music. After the cooling down, the group plays a memory game and sings their group specific song. According to the last publicly available official count in 2018, 15,663 groups of *Círculos de Abuelos* were active.<sup>12</sup> This number has probably diminished since the US embargo has strengthened over the last years, which affected the available funds for the program. A group of *Círculos de Abuelos* consists of 10 to 30 participants. Since *Círculos de Abuelos* are open to all older adults, the participants vary in their level of physical and mental fitness.

### *Organizational structure*

The *Círculos de Abuelos* program was founded in 1987 by the Ministry of Public Health (MINSAP).<sup>11</sup> Dr Cosme Ordóñez (Plaza Polyclinic) was the first who implemented the program, followed by Dr Fernández Sacasas (Alamar Polyclinic) and Dr Benito Pérez

Maza (Playa Polyclinic), encouraged and supported by Dr Raúl Mazorra, from the National Institute for Sports, Physical Education and Recreation (INDER).<sup>13,14</sup> INDER collaborated by recommending sport specialists fitting to serve as *profesores de deportes* (sports coaches).

MINSAP and INDER formulated an implementation program with an executive responsibility for the *profesor de deporte*. The format describes the objectives of the *Círculos de Abuelos*, the outline of the exercise sessions, several exercise examples and special exercises for people with diseases such as type 2 diabetes, obesity and hypertension. The *profesor de deporte* is instructed to create new groups, guide the exercise sessions and link the local community and the family doctor (FD). All FD's in Cuba focus on prevention and health promotion.<sup>15</sup> The family nurse identifies people who would be interested in or who benefit from physical exercise and provides the addresses of these potential participants to the *profesor de deporte*. The *profesor de deporte* actively reaches out to the potential participants and invites them personally for the program.

The cooperation between INDER and the healthcare system is also visible when a participant experiences discomfort during the physical exercise, when a participant is ill, or is recovering from a disease. In this case, the *profesor de deporte* accompanies the participant to the FD and cooperates with the FD in reintegrating the participant in the exercise sessions.

### *Monitoring & Evaluation*

INDER continuously evaluates the effect of the program. Data for monitoring and evaluation is collected by the FD and the *profesor de deporte*—showing again a close cooperation among them. Every FD provides information on the percentage of older adults in their population that participate in *Círculos de Abuelos*, the medical history and self-reported functional independence. The *profesor de deporte* conducts a physical performance test of the participants every six months. This includes an examination of heart, lungs, muscles, bones and joints, and the central nervous system. Data from the FD and the *profesor de deporte* is collected at municipal, provincial and national level and information is returned to the participants, the *profesor de deporte* and INDER's policymakers. This data was not publicly available, but several Cuban studies show improvements on many aspects, including hypertension, chronic obstructive pulmonary disease, anxiety and sleeping disorders and reduction in the use of medication and cigarettes, intake of alcohol and quality of life.<sup>16-19</sup>

### *COVID-19 Pandemic*

Since the outbreak of the Sars-CoV-2 virus many of the activities of the *Círculos de Abuelos* have been cancelled. Most groups are connected via phone or through WhatsApp if this was available to the participant. The lockdown has had several negative effects on the physical and mental health of older adults in Cuba.<sup>20</sup>



## ANALYSIS

Although *Círculos de Abuelos* reaches large numbers of older adults for a long period, no data is available on health or social effects in the English scientific literature. However, since extensive evidence demonstrates that daily physical activity and social interaction is effective in the prevention of age-related diseases and improvement of quality of life, we assume that *Círculos de Abuelos* positively influences physical and mental health.<sup>21</sup>

To explain the success of the longstanding, population wide *Círculos de Abuelos*, we identified four key factors for success. The first key factor is the combination of physical exercise and social activities. This is also supported by a growing body of evidence showing that peers have a large influence on lifestyle.<sup>22-24</sup> The second key factor for success is the easy accessibility of *Círculos de Abuelos*, a free program that forms an integrated part of the Cuban society and does not require a certain level of fitness. Third, the cooperation of the sports coaches with the Cuban healthcare system and their door-to-door approach of inviting new participants to *Círculos de Abuelos* lead to the inclusion of large numbers of people, including those that are not intrinsically motivated to exercise. The last key factor for success is the *Círculos de Abuelos'* structure of three exercise sessions a week. In this regular structure, physical activity may more easily become a routine than in exercise sessions that occur only once a week.

Several aspects must be considered concerning the generalization of *Círculos de Abuelos* for possible use in other countries. First, the success of *Círculos de Abuelos* could be explained by Cuba's socialist political structure. Cuba's political structure operates in a top-down approach that has facilitated the dissemination of the program everywhere in Cuba. In countries with a different political structure, it could be more difficult to spread out, evaluate and adjust a national program like *Círculos de Abuelos*. Second, the success of *Círculos de Abuelos* can also be the result of the cultural environment in Cuba. In contrast to western cultures, characterized as individualist, the Cuban culture is described as collectivist.<sup>25</sup> This difference in experiencing the self and the relationship with others influence cognition, emotion and motivation and may thus affect the motivation to engage in physical activity.<sup>26</sup> Third, Cuba's climate enables the participants to exercise outside at every possible location, whereas a colder or wetter climate could demotivate older adults to exercise outdoors and could challenge a similar program to find appropriate locations. Fourth, since INDER and all *profesores de deporte* are paid by the government, we assume that costs would be high if implemented in countries

with a different political structure. However, when looked at the health care costs and the effect on population health, the health care costs of the USA, \$8863 per capita corrected for purchasing power parity (PPP), are four times higher than the Cuban health care costs, \$2235 GDP per capita corrected for PPP.<sup>27</sup> Despite the difference in costs, both countries have the same health outcome, an average life-expectancy of 79 years and a healthy life-expectancy of 69 years.<sup>27</sup> Although there are many reasons for this difference, it is a general fact that prevention is more cost-effective than the treatment of care for chronic diseases.

The *Círculos de Abuelos* is an example that increases physical activity in large number of older adults in a sustainable way. Thirty years after the founding, it has reached 908,412 older adults to exercise up to three times a week. The program is effective by using paid professionals and peer coaches, in which older adults themselves are trained to serve as exercising guides. To reach these large numbers of older adults there is close collaboration with local representatives and FD's. To make it sustainable, the group also indulges in social activities that bind participants to the group and the program is financially secured by a governmental organization. It should be recognized that it cannot be implemented in other countries without adaptation. We should for example acknowledge Cuba's socialist political top-down structure that has facilitated the dissemination of the program in Cuba. Policy makers could also argue that a financial contribution from the government isn't sustainable, but Cuba's health care costs per capita are much lower than in the USA with a similar life expectancy.<sup>28</sup> The scarcity of professionals and long-term financial security could be a barrier to implement this in other countries. However, in the Netherlands we have studied the use of peer coaches to sustainably increase physical activity with low costs with success.<sup>29</sup>

## CONCLUSION

*Círculos de Abuelos* is unique worldwide due to its scale and duration. *Círculos de Abuelos* provides an opportunity to learn how to sustainably increase daily physical activity on a population level.

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