

SHORT REPORT

Transforming waiting pauses into opportunity for physical activity: the “Activate your Wait” pilot study

Cesira Pasquarella¹, Assunta Bizzarro¹, Rosamaria Martini², Raffaella Martini², Maria Eugenia Colucci¹, Deanna Rossi¹, Lorenzo Faetani¹, Daniele Ghizzoni¹, Chiara Seidenari¹, Eleonora Paroni¹, Pierantonio Muzzetto³, Davide Romiti¹, Janis Ruggeri¹, Maria Luisa Pasquarella⁴, Paola Affanni¹, Roberta Zoni¹, Carlo Signorelli⁵, Giuliana Gobbi¹, Valentina Presta¹, Cosimo Costantino¹, Licia Veronesi¹

¹Department of Medicine and Surgery, University of Parma, Italy; ²Terme S. Egidio (Suio Terme, Castelforte, Latina, Italy); ³President of the Order of the Physicians of Parma; ⁴PhD in Educational Science; ⁵“Vita-Salute San Raffaele” University of Milan, Italy

Abstract. *Background and aim:* Physical activity is recognized as a major health determinant. However, the prevalence of inactivity can be as high as 80% in some adult subpopulations. From the urgent need to implement strategies to fight sedentary behaviour, considering that physical activity is defined as any bodily movement produced by skeletal muscles that require energy expenditure, the pilot study “Activate your Wait” was born. The project aim is to transform waiting pauses during everyday life into opportunities to perform simple stretching and active mobilization exercises. *Methods:* The pilot study was carried out in 2019 at Terme S. Egidio (Italy). It was divided in three phases: in the pre-intervention a questionnaire was used to evaluate the interest in the project (96 responders); during the intervention, examples of simple exercises that people can do by themselves were illustrated and undertaken by about 120 participants; in the post-intervention an evaluation questionnaire was administered (71 responders). *Results:* The intervention aroused enthusiastic participation and high approval and resulted in an increase both in willingness to perform exercises during daily waiting pauses (68% vs 94%) and belief in positive results of physical activity on health (74% vs 96%). *Conclusions:* In a context where the opportunities for physical activity are decreasing and a sedentary lifestyle has reached a high level, this project represents a contribution to the increase in the awareness of the importance of physical activity and the promotion of the culture of movement in the entire population, with an opportunity of easy accessibility in different contexts of life, at all ages. (www.actabiomedica.it)

Key words: Physical activity, physical exercise, waiting pauses, health, prevention, health promotion

Introduction

Physical activity is recognized as a major health determinant, with positive effects on health, environmental sustainability and economy (1-3).

However, worldwide, 1 in 4 adults, and 3 in 4 adolescents do not currently meet the recommendations for physical activity set by the World Health Organization (WHO). Notably, the prevalence of

inactivity varies considerably within and between countries, and can be as high as 80% in some adult subpopulations, due to changing patterns of transportation, increased use of technology and urbanization (1).

The PASSI (Progressi delle Aziende Sanitarie per la Salute in Italia) surveillance shows that in the period 2017-2020 36.6% of Italians between 18 and 69 years of age declare themselves sedentary, with a continuously increasing trend, everywhere in the Country and

especially in the southern Regions. Sedentary lifestyle is more frequent among women and among people with the more disadvantaged socio-economic status (due to economic difficulties or low level of education) and with advancing age, reaching 39.8% in over 64 years of age (PASSI d'Argento surveillance 2017-2020) (4, 5). In 2020 the growing trend of sedentary lifestyle has continued, probably also supported by the COVID-19 control measures (4).

Therefore, it is urgent to implement strategies to promote physical activity, as confirmed by the WHO in the Global Action Plan on Physical Activity 2018-2030 which defines the following strategic objectives: create active societies, active environments, active people, active systems. The target set by the Action Plan is a 15% relative reduction, using the baseline of 2016, in the global prevalence of physical inactivity in adults and in adolescents (1).

The Action Plan emphasizes the need for an integrated and intersectoral life-course approach that acts on several levels and on different aspects, as also supported by the Programme "Guadagnare Salute" (6) and by the Piano Nazionale della Prevenzione 2020-2025 (7) on the model of health promotion in the Ottawa Charter (8).

Physical activity is defined as any bodily movement produced by skeletal muscles that requires more energy expenditure than basal conditions (9). This definition includes not only sport activities, but also simple daily movements.

In 2010 WHO produced recommendations on the type and frequency of physical activity for optimal health benefits for youth, adults and older adults (9). Recent evidence shows that relevant health benefits can be accrued by any level of physical activity, without necessarily meeting the threshold-centered physical activity WHO recommendations (10).

Also the Italian Guidelines on physical activity confirm these important messages: doing a little physical activity is better than nothing, increasing the amount of physical activity allows you to obtain additional health benefits, any type of movement counts (2).

From these considerations and the collaboration between the Schools of Specialization in "Hygiene and Preventive Medicine" and "Physical and Rehabilitation

Medicine" of the University of Parma, the "Activate your Wait" pilot study was born. The project aim is to transform the waiting pauses during everyday life (e.g., medical waiting areas, offices, public transport stops) into opportunities to perform simple stretching and active mobilization exercises.

The pilot study was carried out in September 2019 at the Terme S. Egidio, Suio Terme Castelforte (Italy). It was divided in three phases: in the pre-intervention phase a questionnaire was used to evaluate the interest in the project; during the intervention phase, examples of simple exercises that people can do by themselves were illustrated and undertaken by participants; in the post-intervention an evaluation questionnaire was administered.

This paper deals with the results of the second and third phases of pilot study, while the first phase was presented in a previous briefing-on (11).

Methods

In the intervention phase, lasting three days, the users (about 120 subjects in total) in various spa waiting rooms (e.g., reception room, mud waiting room, insufflation and inhalation waiting room) received a brochure in which exercises that could easily be carried out while sitting or standing were illustrated, some of which were performed with postural changes (Figure 1).

These exercises were explained and demonstrated to the participants by residents of Specialization Schools in "Hygiene and Preventive Medicine" and "Physical and Rehabilitation Medicine". Throughout the activity the participants were constantly guided and supervised in the performance of exercises, which included mobilization in flex-extension, rotation and circumduction of the main joint groups.

In the post-intervention phase, a satisfaction questionnaire was administered to the participants. The questionnaire was semi-structured with eight questions relating to the understanding and the ability to perform the exercises by themselves, the willingness to repeat these exercises during the pauses in daily life, the positive impact on health, the suggestion for others to perform such exercises.

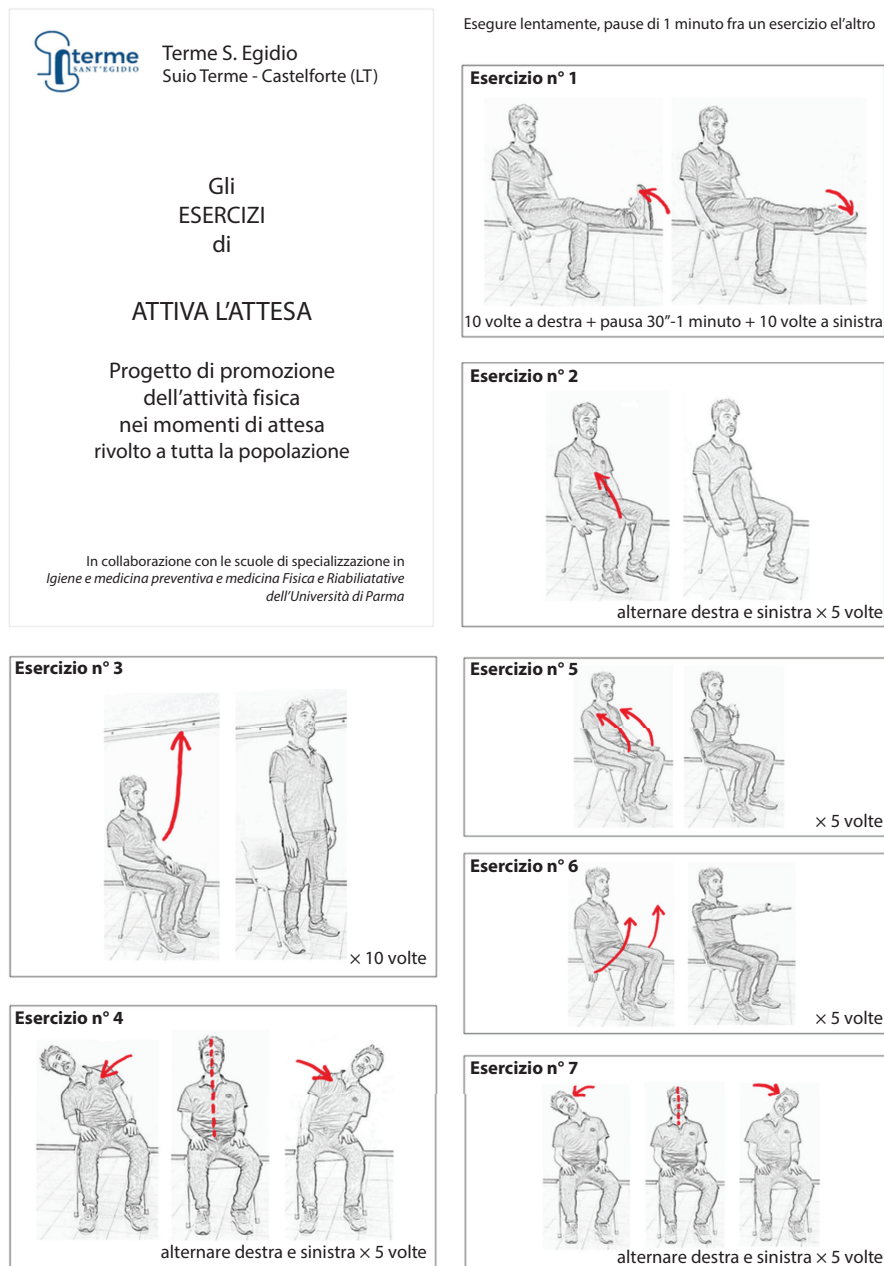


Figure 1. Brochure summary of exercises: pages 1, 2, 3, 4.

A descriptive analysis of the results was carried out and the percentage of respondents were calculated for each question.

It was not deemed necessary to submit the study to the ethical committee for its approval as the activity was part of the professional training of the two

Schools of Specialization involved. This was approved in September 2019 and ratified by the Council of the School of Specialization in Hygiene and Preventive Medicine on December 19th, 2019. The activity carried out was non profitable. All participants gave their informed consent to participate in this activity.

Results

In the intervention phase large participation and strong interest from the users of the Terme was found. During the activity most participants asked for a higher number of repeats, variety and difficulty of the exercises.

The questionnaire administered in the post-intervention phase was answered by 71 participants, 30% of whom were men and 70% were women, aged between 40 and 90 years (median 70 years), with mainly lower level of education (primary 48%, secondary 41%).

All the 71 responders considered that the proposed exercises were understandable (both in the explanation and in the brochure) and easy to perform, and 57/71 responders (80%) estimated themselves able to carry out such exercises autonomously.

A total of 67/71 responders (94%) said they were willing to do exercises during the waiting pauses in

their daily lives; the only person unwilling to do the exercises said they were not necessary.

The 96% of responders (68/71) said that physical activity during waiting pauses can have health benefits; among the reasons emerged benefits on musculo-skeletal system and mobility, pain reduction, improvement of the psycho-physical state in general and 67/71 responders (94%) would advise others to do this activity during pauses. The totality of responders (69/69) believed that the method proposed during the intervention was appropriate, including some suggestions (e.g. widening the variety of exercises and increasing the difficulty).

The intervention aroused enthusiastic participation and high approval and resulted in an increase both in willingness to perform exercises during daily waiting pauses (68% *vs* 94%) and belief in positive impact of physical activity on health (74% *vs* 96%).

Detailed answers are reported in Table 1.

Table 1. Details of the post-intervention questionnaire.

Questions (total responders)	Answers	Responders (no./total) (% on total responders)
How do you consider the exercises proposed while waiting from the understanding point of view? (71 responders)	Very understandable	66/71 (93%)
	Quite understandable	5/71 (7%)
	Not easy to understand	0/71 (0%)
	Not understandable	0/71 (0%)
How do you consider the exercises proposed while waiting from the execution point of view? (71 responders)	Very easy	63/71 (89%)
	Quite easy	8/71 (11%)
	Difficult	0/71 (0%)
	Very difficult	0/71 (0%)
In your view, is the graphical reproduction of the exercises comprehensible? (71 responders)	Very understandable	67/71 (94%)
	Quite understandable	4/71 (6%)
	Not easy to understand	0/71 (0%)
	Not understandable	0/71 (0%)
Would you be willing to perform such exercises during daily waiting pauses? (71 responders)	Very willing	52/71 (73%)
	Willing enough	15/71 (21%)
	Not willing enough	3/71 (4,5%)
	Unwilling, why?	1/71 (1,5%)
Would you be able to perform these exercises on your own using the brochure that was given to you? (71 responders)	Yes	57/71 (80%)
	Just some exercises	11/71 (15,5%)
	No	2/71 (3%)
	I don't know	1/71 (1,5%)

Questions (total responders)	Answers	Responders (no./total) (% on total responders)
Do you think that performing these exercises while waiting can have a positive impact on your health? (71 responders)	Yes, motivate	68/71 (96%)
	No, motivate	1/71 (1%)
	I don't know	2/71 (3%)
Would you advise others to do physical activity during waiting pauses (e.g. medical waiting areas, post office, bank office)? (71 responders)	Yes	67/71 (94%)
	Maybe	4/71 (6%)
	No, why?	0/71 (0%)
Do you think that the proposed method is appropriate to encourage people to perform mobilization exercises/joint stretching while waiting? (69 responders)	Very appropriate	67/69 (97%)
	Appropriate	2/69 (3%)
	Hardly appropriate	0/69 (0%)
	Inappropriate	0/69 (0%)

Conclusions

The results of the pilot study show great approval; moreover, the enthusiastic participation and the interest in the project confirm that the proposed modality appears to be valid and appropriate, even though some aspects need to be improved. To this aim, the suggestions given by participants (e.g., increase of variability and difficulty of exercises) will be carefully considered in future development of the project.

Although the majority of people was willing to do physical activity in waiting pauses of everyday life, there remains a limited percentage of subjects who express embarrassment in performing exercises in public places, while being willing to carry them out at home or in a private place.

Interestingly, some participants reported that they really repropose and carried out the exercises performed during the intervention phase at the Terme even at home with their grandchildren and other family members.

At the end of the pilot study, agreements were made with Medical Board of Surgeons and Dentists of Parma for the extension of the project to the General Practitioners' (GP) ambulatories, recruiting GP voluntarily, but unfortunately the COVID-19 pandemic blocked this further phase of the project.

As a result of the application of COVID-19 pandemic control measures (lockdown, isolation for positive patients, quarantine for contacts, spacing in large

waiting rooms), the usefulness of application of the "Activate your Wait" project emerges still further.

In a context where the opportunities for physical activity are decreasing and a sedentary lifestyle has reached a high level, this project represents a contribution to the increase in the awareness of the importance of physical activity and the promotion of the culture of movement, through information, education and empowerment of the entire population, with an opportunity of easy accessibility in different contexts of life, at all ages.

Conflict of Interest: Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article.

References

1. Global Action Plan in Physical Activity 2018-2030: more active people for a healthier world. <https://apps.who.int/iris/bitstream/handle/10665/272722/9789241514187-eng.pdf> (last access 02/07/2022)
2. Linee di indirizzo sull'attività fisica: revisione delle raccomandazioni per le differenti fasce d'età e situazioni fisiologiche e nuove raccomandazioni per specifiche patologie. http://www.salute.gov.it/imgs/C_17_notizie_5693_1_file.pdf (last access 02/07/2022)
3. The Toronto Charter for Physical Activity: A Global Call for Action. <https://www.globalpa.org.uk/pdf/torontocharter-eng-20may2010.pdf> (last access 02/07/2022)

4. Sorveglianza PASSI – Epicentro. <https://www.epicentro.iss.it/passi/dati/attivita> (last access 08/07/2022)
5. Sorveglianza PASSI d'Argento – Epicentro. <https://www.epicentro.iss.it/passi-argento/dati/attivita> (last access 08/07/2022)
6. Progetto “Guadagnare salute: rendere facili le scelte salutari”. https://www.salute.gov.it/imgs/C_17_pubblicazioni_605_allegato.pdf (last access 02/07/2022)
7. Piano Nazionale della Prevenzione 2020-2025. https://www.salute.gov.it/imgs/C_17_notizie_5029_0_file.pdf (last access 02/07/2022)
8. The Ottawa Charter for Health Promotion. <https://www.who.int/healthpromotion/conferences/previous/ottawa/en/> (last access 02/07/2022)
9. Global recommendations on physical activity for health. Geneva: World Health Organization; 2010. <https://www.who.int/news-room/fact-sheets/detail/physical-activity> (last access 02/07/2022)
10. Darren ER Warburton, Shannon SD Bredin. “Health benefits of physical activity: a systematic review of current reviews”. *Curr Opin Cardiol* 2017 Sep;32(5):541-556. doi: 10.1097/HCO.0000000000000437.
11. Pasquarella C, Bizzarro A, Martini R, et al. Attiva l'Attesa: studio pilota presso uno stabilimento termale. *Acta Biomed* 2020; 91(Suppl 3): 146–149. doi: 10.23750/abm.v91i3-S.9429

Correspondence:

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Cesira Pasquarella, MD, PhD

Department of Medicine and Surgery,

University of Parma, Italy

Via Volturno, 39 - Parma, 43125 Italy

Phone: +39 0521 903793 - Fax: +39 0521 903832

E-mail: ira.pasquarella@unipr.it

ORCID number: <https://orcid.org/0000-0001-7579-4827>

Cosimo Costantino, MD

Department of Medicine and Surgery,

University of Parma, Italy

Via Gramsci, 14 - Parma, 43125 Italy

E-mail: cosimo.costantino@unipr.it