

Feeling scale, when can I use in elderly? A brief review

Raul Cosme Ramos Prado¹, Rodrigo Silveira², Ricardo Yukio Asano¹**ABSTRACT**

Introduction: the Feeling Scale (FS) is an inexpensive and affordable tool that measure the affective responses and is used to prescription and control physical exercise intensity. Overall, the FS is used in several age groups, such as children and elderly. The particularity of elderly generates the necessity to better clarify how we can use the FS. Objective: the present review sought to verify which moments we can evaluate the FS in elderly. Materials and Methods: a brief search strategy found seven studies to current review. Results: overall, the selected studies used the FS before, during and after the exercise session, showing the practical application of this tool to prescription and in control of elderly feeling. Conclusion: we concluded that the FS can used to control feeling and prescription of exercise of elderly at the moments before, during and after sessions.

Key words: Exercise. Elderly. Affect

RESUMO

Escala de sensação, quando posso usar em idosos? Uma breve revisão

Introdução: a Feeling Scale (FS) é uma ferramenta barata e acessível que mede as respostas afetivas e é usada para prescrever e controlar o a intensidade do exercício físico. No geral, a FS é utilizada em várias faixas etárias, como crianças e idosos. A particularidade do idoso gera a necessidade de esclarecer melhor como podemos utilizar o FS. Objetivo: a presente revisão buscou verificar em quais momentos podemos avaliar o FS em idosos. Materiais e Métodos: uma breve estratégia de busca encontrou sete estudos para presente revisão. Resultados: no geral, os estudos selecionados utilizaram a FS antes, durante e após a sessão de exercícios, mostrando a aplicação prática dessa ferramenta na prescrição e no controle do sentimento do idoso. Conclusão: por fim, concluímos que o FS pode ser utilizado para controlar o sentimento e a prescrição de exercícios de idosos nos momentos antes, durante e após as sessões.

Palavras-chave: Exercício. Idoso. Afeto.

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INTRODUCTION

The Feeling Scale (FS) is a tool commonly used to measure pleasure in exercise (Ekkekakis et al., 2005). This scale can be anchored as "how you are feeling the exercise" or even "what your feeling now".

This tool consists of a bipolar scale of 11 points ranging from positive (+5) to negative (-5), it also consists of verbal anchors as very good (+5), good (+3), reasonably good (+1), neutral (0), fairly bad (-1), bad (-3), very bad (-5) (Hardy and Rejeski, 1989) and recently was validated to Brazilian Portuguese language (Alves et al., 2019).

This tool has already been explored in children and adolescents (Benjamin et al., 2012), adults (Ramalho et al., 2015), elderly (Chao et al., 2014), in addition, exercise researchers have used this as one of the tools used to reinforce theories of sedentary behavior.

The FS has also been used for training prescription aiming to exercise adherence (Elsangedy et al., 2018; Ladwing et al., 2017; Rose and Parfitt, 2008).

Figure 1 shows a summary of the possible behavior when exercise is prescribed disregarding/considering affect.

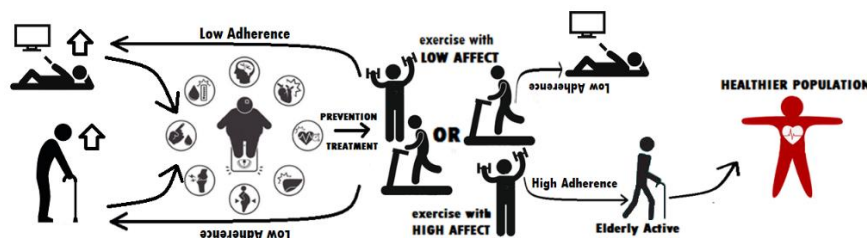


Figure 1 - Summary of prescription based or no-based on affective responses.

Through its easy access and understanding, Feeling Scale presents itself as an interesting tool, including for the elderly population, since in 2010 elderly wide world population (65 years) was stimulated in 524 million, and the perspective until 2050 it will be 1.5 billion (United Nations, 2012).

At the same time, sedentary behavior increase every day (Brownson et al., 2005; Stamatakis et al., 2013) being fourth leading cause of death in the world (Spanier and collaborators, 2014; Tremblay et al., 2010; WHO, 2009).

It is already known that both, elderly age, sedentary behavior are variables that can influence in the development of noncommunicable diseases (NCDs) and consequently mortality rate (Coelho-Júnior et al., 2015; Diabetes Prevention Program Research Group, 2002; Go and collaborators, 2013; International Agency for Research on Cancer, 2002; Lee and Hsieh, 1995; Paffenbarger, Hyde and Wing, 1986; Sampaio et al., 2014; Sewo et al., 2016; WHO, 2009).

If the FS show a promising proposal for use in the elderly population, it is eminent the necessity of a summarization of in which strategies and moments that this tool can be used, therefore, the present study carried out a

review highlighting how the researches and professionals can use the Feeling Scale to exercise.

MATERIALS AND METHODS

This study followed recommendations of PICO criteria for selection of articles, only studies in the English language and the study participants should be at least 50 years old. The animal models and review were excluded. Studies should address some type of exercise model (e.g, running, cycling etc.).

The studies could have transversal, longitudinal, randomized or non-randomized design. The last strategy search was performed in PubMed on 11/6/2018 without selections filters and using the strategy with the following terms: (AND (Feeling Scale * AND elderly) AND Exercise or Physical Active).

RESULTS

Of the 16 studies found 3 were excluded by title and abstract and 7 studies by full-text reading. Therefore, 6 articles were included for the synthesis of current review (Figure 2).

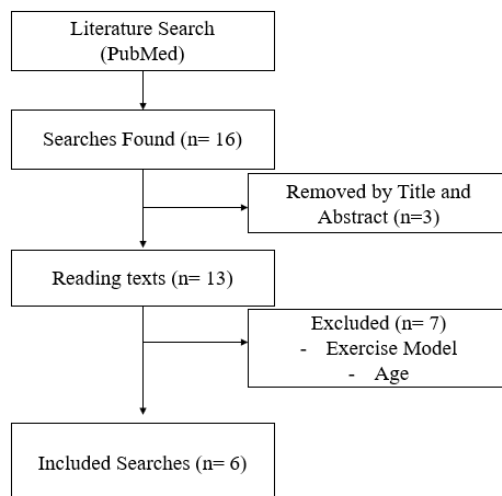


Figure 2 - Flowchart of selected studies.

Table 1 shows the characteristics of the participants of the included studies. A total number of 121 participants (88 women, 33 men) aged 50-85 years old.

Table 2 shows the characteristics of the research included in this review. The results show that 2 studies used bicycles (Barnett, 2013; Murrock, 2002), three used running or walking (Kopp et al., 2012; Lacharité-Lemieux et al., 2015; Murrock, 2002), one used arm-crank (Cavalcante et al.,

2017), one used Wu Tai Chi Chuan (Chao et al., 2014) and (Lacharité-Lemieux et al., 2015) was the only one who used, along with aerobic training, a circuit and strength training.

The studies report an exercise protocol between 20 minutes to 1 hour per session. 3 surveys used the FS pre exercise (Barnett, 2013; Kopp et al., 2012; Lacharité-Lemieux et al., 2015), in addition, the studies used the FS during and after the exercise session.

Table 2. Studies characteristics

Author (year)	Exercise model	Time of intervention	FS moment	Design	Variable of intensity	Prescription methods
Barnett (2013)	Cycling	20 minutes	Pre, 10 minutes during and 20 minutes post exercise	Transversal	Estimated VO ₂ max	Imposed
Cavalcante et al. (2017)	Arm-crank	15 x 2 minutes and 2 minutes passive rest intervals	1th, 5th, 10th and 15th time	Cross-over	HRP	Imposed
Chao (2014)	Wu Tai Chi Chuan	50 minutes; 3x week for 7 weeks	minutes 15, 30 and 45	Longitudinal	RPE	Imposed
Kopp et al. (2011)	Walk	20 minutes	10 minutes before, during (5, 10, 15, 20 minutes) and following (5, 10, 15, 20, 180 min)	Cross-over	RPE	Self-selected
Lacharite-Lemieux (2015)	Circuit /running/ weathered training	1 hour; 3x week for 3 months	before, 35 minutes during exercise and post exercise	Longitudinal	MHR	Imposed
Murrock (2002)	Cycling or running	40 minutes	last 5 minutes	Transversal	MHR	Imposed

HRP= Heart Rate Peak; MHR= Maximum Heart Rate; RPE= Rating of Perceived Exertion

DISCUSSION

Although the current study has presented a small number of studies that uses the FS, we can assume that the FS is tool that can be used to prescription of the exercise, which contributes of previous studies (Elsangedy et al., 2018; Ladwing et al., 2017; Rose and Parfitt, 2008). Highlight that the studies conduce the FS's application before, during and after exercise.

We call a consideration that the selected studies exclusively measured the elderly individually and laboratory environment. To practical proposal is important consider that the exercise group, the elderly may overestimate or underestimate the intensity based on affective responses (Prado et al., 2019).

Finally, we suggested that more studies elaborate designs to increase the standardization of anchorages of FS, considering that based on affective responses the elderly can increase the adherence to exercise.

CONCLUSION

The current review concludes that Feeling Scale is a tool that can be used to prescription exercise to elderly using before, during and after exercise session. Moreover, this inexpensive and affordable can be used to control feeling of elderly to increase the adherence to exercise.

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Revista Brasileira de Prescrição e Fisiologia do Exercício

ISSN 1981-9900 versão eletrônica

Periódico do Instituto Brasileiro de Pesquisa e Ensino em Fisiologia do Exercício

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Recebido para publicação 02/11/2019
Aceito em 17/05/2020