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► **To cite this version:**

Bertrand Porro, Angela G E M de Boer, Monique H W Frings-Dresen, Yves Roquelaure. Self-efficacy and return to work in cancer survivors: Current knowledge and future prospects. *European Journal of Cancer Care*, 2020, 29 (6), pp.e13304. 10.1111/ecc.13304 . hal-02930168

HAL Id: hal-02930168

<https://hal.science/hal-02930168>

Submitted on 10 Mar 2021

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Self-efficacy and return-to-work in cancer survivors: current knowledge and future prospects

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Commentary

2 Introduction

3 Self-efficacy (SE) is a cognitive mechanism based on expectations or beliefs about
4 one's ability to perform actions necessary to achieve specific goals (Bandura, 1977,
5 1997). SE affects individuals' decision-making process and subsequent actions such
6 as engaging in physical activity, changing eating behaviours, managing cancer or
7 returning to work (RTW) (Bandura, 1977, 1997; Brouwer et al., 2009). The Attitude-
8 Social influence-self-Efficacy model (ASE model) indicated SE as one of the main
9 behavioural determinants for RTW in patients with musculoskeletal disorders
10 (Vermeulen et al., 2009). In relation to cancer, theoretical knowledge on behavioural
11 determinants, such as SE, is still limited (Duijts, Bleiker, et al., 2017; Duijts, van
12 Egmond, et al., 2017). Knowledge on the associations between SE and RTW would
13 allow appropriate interventions to be targeted to enhance cancer survivors' RTW
14 (Duijts, Bleiker, et al., 2017; Leensen et al., 2017).

15 In the literature concerning RTW following a cancer diagnosis, SE has been
16 categorised based on three broad domains of functioning: general-SE (Koch et al.,
17 2015), cancer management-SE (Bains et al., 2012) and job-SE / RTW-SE (Bains et
18 al., 2012; Leensen et al., 2017; Rosbjerg et al., 2020; Wolvers et al., 2018). Some
19 authors used a RTW-SE questionnaire to describe job-SE (Bains et al., 2012;
20 Wolvers et al., 2018) despite a temporal difference between RTW-SE and job-SE. On
21 one hand, the patient plans to RTW (RTW-SE). On the other hand, the patient has
22 RTW and plans to remain at work (job-SE). Therefore, special attention should be
23 paid to the vocabulary used to interpret results in order to avoid misunderstanding.

24 First, this commentary aims to clarify which of general-SE, cancer management-SE
25 or RTW-SE is the most relevant for occupational outcomes in cancer survivors.

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3 1 Secondly, we aim to discuss the questionnaires used to evaluate RTW-SE in
4
5 2 quantitative studies focusing on the RTW of cancer survivors. Finally, this
6
7 3 commentary proposes possible interventions that could enhance RTW-SE, and
8
9 4 explores future research perspectives.

6 **General-SE, cancer management-SE and RTW-SE**

7 According to Bandura (1997), it does not make sense theoretically to talk about
8
9 8 general-SE. No significant relationship has been found between RTW of cancer
10
11 9 survivors and general-SE or cancer management-SE, respectively (Bains et al.,
12
13 10 2012; Koch et al., 2015). Conversely, cancer patients showing low levels of RTW-SE
14
15 11 are more likely to be on sick leave upon diagnosis (Bains et al., 2012) and are more
16
17 12 likely to have longer delays before full-RTW (Wolters et al., 2018).

18
19 13 The predictive power of RTW-SE on cancer survivors' RTW should be discussed.
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21 14 Rosbjerg et al. (2020) suggested that RTW-SE does not appear as the strongest
22
23 15 predictor of RTW among cancer patients undergoing chemotherapy. However, the
24
25 16 small sample size of this study does not permit any generalisation of this result
26
27 17 (Rosbjerg et al., 2020). Among workers with psychological or upper-body
28
29 18 musculoskeletal injuries, RTW-SE showed the strongest relationship with RTW
30
31 19 (Black et al., 2018). Job-SE also showed a strong predictive association with
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33 20 remaining at work following a RTW attempt (Black et al., 2018).

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35 21 To study the RTW process, there is a significant need to focus on RTW-SE.
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37 22 Complementary investigations, within a large sample, are therefore necessary to
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39 23 understand the strength of the association between RTW-SE and RTW in cancer
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41 24 patients.

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Quantitative studies focusing on RTW-SE have generally used three questionnaires: the RTWSE-19 (Shaw et al., 2011), the RTWSE-10 (Brouwer et al., 2011), or the RTWSE-11 (Lagerveld et al., 2010).

The RTWSE-19 (Shaw et al., 2011) and the RTWSE-10 (Brouwer et al., 2011) aim to assess workers' beliefs about their current ability to resume normal job responsibilities following pain onset among patients with musculoskeletal disorders. Although they show good predictive validity for RTW of patients with musculoskeletal disorders (Brouwer et al., 2011, 2015; Shaw et al., 2011), these questionnaires do not appear totally appropriate for patients with cancer. These scales do not question the patients' beliefs in their abilities to face problems with decreased cognitive functioning and increased emotional distress, induced by cancer treatments, in order to RTW (de Boer et al., 2015; Duijts et al., 2014; Porro, Bertin, et al., 2019; Porro, Michel, et al., 2019).

The RTWSE-11 (Lagerveld et al., 2010) integrates beliefs in the patients' abilities to support the physical (e.g., *"I can deal with the physical demands of my work"*), the cognitive (e.g., *"I will be able to concentrate on my work"*), the emotional (e.g., *"I won't be able to complete my work tasks due to my emotional state"*), the relational (e.g., *"I won't be able to handle potential problems at work"*) and the professional (e.g., *"I will be able to perform my tasks at work"*) aspects of the work environment that have been identified as strong predictors of RTW following a cancer diagnosis (de Boer et al., 2015; Gagnano et al., 2018; Porro, Bertin, et al., 2019). However, there is no consensus on the factor structure of this questionnaire. Lagerveld et al. (2010) defend a one-dimensional questionnaire without having used factor analysis for validation. Conversely, exploratory and confirmatory analysis conducted by Silva-

1 Junior et al. (2018) yielded a bidimensional questionnaire. To increase knowledge on
2 RTW-SE, the RTWSE-11 (Lagerveld et al., 2010) should be adapted for cancer
3 survivors by using rigorous reliability and validity testing.

4 5 **Interventions**

6 An interventional study has been proposed by Leensen et al. (2017), that includes
7 physical exercise and occupational counselling programmes aimed at enhancing
8 RTW-SE, work ability, and finally, the RTW of cancer patients. Despite the fact that
9 Leensen et al. (2017) showed significant increases in RTW-SE and subsequent
10 RTW-SE over time, the study lacked a control group. To evaluate the effectiveness of
11 interventions aimed at increasing RTW-SE, and promote RTW in cancer patients,
12 randomised controlled trials should be conducted. For example, a meta-analysis
13 conducted by Merluzzi et al. (2019) revealed medium effect sizes of
14 complementary/integrative medicine, social support, cognitive behaviour therapy and
15 self-management interventions in enhancing cancer patients' SE related to specific
16 behaviours (e.g., pain, physical activity, coping with cancer, and stress
17 management). This study also revealed a small/medium effect size of physical
18 activity on cancer patients' SE (Merluzzi et al., 2019).

19 In order to improve RTW-SE, several possibilities could be taken into account.
20 According to Bandura (1997), SE is enhanced through:

- 21 • *mastery experience*, which could be implemented by a progressive succession
22 of small professional tasks that are easy to carry out (Gollwitzer, 1999).
- 23 • *vicarious experience*, which could be induced with support groups focusing on
24 vocational rehabilitation after cancer (De Blasi et al., 2014).

- 1 • *verbal persuasion*, which could be articulated around positive discourse from
2 supervisors and colleagues (Greidanus, de Boer, et al., 2018; Greidanus,
3 Tamminga, et al., 2018).
- 4 • *physiological feedback*, which refers to a virtuous circle between enhancing
5 RTW-SE, RTW and promoting cancer management (Kennedy et al., 2007).

7 **Future research perspectives**

8 Leensen et al. (2017) observed temporal changes in RTW-SE followed by actual
9 RTW. However, not all cancer patients are able to develop RTW-SE. We therefore
10 hypothesise that there are several developmental pathways for RTW-SE.
11 Investigating developmental trajectories of RTW-SE, and identifying their association
12 with RTW over time, will allow for better identification of cancer patients at risk of
13 non-RTW, in order to improve supportive care. Furthermore, knowledge on the
14 developmental pathways of RTW-SE and its association with subsequent RTW will
15 allow the development of innovative interventions which could be aimed at improving
16 the RTW-SE of cancer patients, potentially leading to actual RTW.

18 **Conclusion**

19 RTW-SE is an emerging topic of interest in psycho-oncology for cancer patients who
20 have not yet RTW. Research in patients with other chronic diseases has highlighted
21 the importance of studying the association between RTW-SE and RTW (Black et al.,
22 2018). To make this research possible in cancer patients, it is important to use
23 reliable and valid measurements of RTW-SE. It also seems wise to investigate the
24 temporal aspects of RTW-SE developmental pathways because of the psychological
25 or physical changes cancer patients experience during their treatment. Interventional

1 studies should revolve around the improvement of RTW-SE by integrating a
 2 randomised controlled design that evaluates the effectiveness of these interventions
 3 in order to improve RTW after a cancer diagnosis.

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