Predictors of return to work in European cancer survivors: a systematic review

Sophie Schellack, Clara Breidenbach, Christoph Kowalski

German Cancer Society, Berlin, Germany

Background:

- 4.4 million new cancer diagnoses in Europe in 2020¹
- 36% of the new diagnoses in working-age population (20-64 years)¹
- Indirect costs of 20 billion € in Europe in 2018²
- Temporary withdrawal from work due to treatment and side effects³
- Work is an self-efficacy and identity-promoting factor impacting peoples well-being and quality of life^{4,5}
- Return to work (RTW) rates vary between cancer populations, European countries, and study design and operationalization of RTW $(39\%-77\%)^6$

Research question: What are predictors of return to work in European cancer survivors?

Methods:

- Within the EU Joint Action CraNE
- Systematic literature search in PubMed, Web of Science, Embase in February 2023
- Eligibility criteria:
 - Studies published in German and Englisch language
 - Published between 2013-2023
 - Population: Cancer survivors in working-age (study cohort $n \ge 200$), excluding childhood cancer
 - Outcome: RTW
 - Study designs: Cohort studies, cross-sectional designs, RCTs, qualitative designs
- Screening and data extraction examined by two reviewers
- Quality assessment with the Mixed Methods Appraisal Tool

Results: Identification of studies via databases Records removed before Records identified (*n*=9610) Identification screening: Duplicates Databases: (n=2317)PubMed (*n*=3210) Web of Science (*n*=3260) Embase (*n*=3140) Records excluded Records screened (n=7065)(n=7293)Records sought for retrieval Records not retrieved/ ning (n=228)Abstracts (*n*=37) Records excluded Records assessed for eligibility wrong outcome (n=38) (n=191)wrong population (n=39) wrong study design (n=2)study cohort <200 (*n*=25) no predictors (*n*=12) wrong publication year (n=1)Included wrong language (n=2)Studies included in review (n=76)Records identified from reviews $(n=41) \rightarrow (n=4)$

Sociodemographic predictors: Age, education, income, region, family status Work-related predictors: workplace characteristics, work-ability, intention to RTW, work situation before and after diagnosis Psychosocial and health behavior-related predictors: Physical activity, lifestyle decisions, mindset regarding return to work Disease-related predictors: Cancer entity and prognosis, comorbidities, consequences of disease Treatment-related predictors: Treatment decisions, side effects Social welfare system-related predictors: Country-specific programs, rehabilitation **Pre-diagnosis** Rehabilitation Follow-up Diagnosis **Treatment** Figure 2: Predictors of return to work over the time course of a patient pathway

Discussion:

Figure 1: PRISMA Flowchart

- The review identified work, treatment, disease and health behaviorrelated predictors as well as predictors relating to the psychosocial and sociodemographic situation and the social welfare system
- Predictors vary over the patient pathway: pre-diagnosis, at diagnosis, during treatment, during rehabilitation, at follow-up
- Heterogenous results: Associations between predictors and RTW differ depending on the cancer entity, the time point of measurement, the country and social welfare system, and the definition and operationalization of RTW

Conclusion:

- Cancer survivors at risk can be identified by involved providers
- It is important to consider the type and stage of cancer for RTW
 - Predictors can be used to develop cancer survivorship programs
 - Lack of knowledge regarding when and by whom the needs of cancer survivors need to be addressed

References:

¹WHO. Cancer today [Internet]. 2020 [zitiert 26. Juli 2023]. Verfügbar unter: http://gco.iarc.fr/today/home

² Hofmarcher T, Lindgren P, Wilking N, Jönsson B. The cost of cancer in Europe 2018. Eur J Cancer. April 2020;129:41–9.

³ Pascual J, Duffau H. The need to consider return to work as a main outcome in patients undergoing surgery for diffuse low-grade glioma: a systematic review. ACTA NEUROCHIRURGICA. 2022;164(10):2789–809.

⁴ Grad FP. The Preamble of the Constitution of the World Health Organization. Bulletin of the World Health Organization. 2002;80(12):981–4. ⁵ Ehresmann C, Badura B. Sinnquellen in der Arbeitswelt und ihre Bedeutung für die Gesundheit. In: Badura B, Ducki A, Schröder H, Klose J, Meyer M, editors. Fehlzeiten-Report 2018: Sinn erleben

- Arbeit und Gesundheit [Internet]. Berlin, Heidelberg: Springer; 2018 [cited 2023 Jul 26]. p. 47-59. (Fehlzeiten-Report). Available from: https://doi.org/10.1007/978-3-662-57388-4 4

⁶ Paltrinieri S, Fugazzaro S, Bertozzi L, Bassi MC, Pellegrini M, Vicentini M, et al. Return to work in European Cancer survivors: a systematic review. Support Care Cancer. 2018 Sep;26(9):2983–94.



