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Vocational reintegration in coronary heart disease patients – the holistic approach of the WHO biopsychosocial concept

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Coronary heart disease (CHD) is the most common acquired cardiac disease and the leading cause of morbidity and mortality, contributing to over 8.75 million deaths in 2015 worldwide.[1] After suffering an acute cardiac event, return to work (RTW), particularly in younger CHD patients, is a crucial step in the interdisciplinary disease management. The successful occupational reintegration is determined by medical parameters, including cardiopulmonary function (left ventricular function, residual ischaemia, heart rhythm stability, exercise capacity), as well as by the occupational requirement profile such as blue or white collar work, night shifts and the ability to commute. Psychosocial factors including anxiety and depression, self-perceived health situation, and pre-existing cognitive impairment determine the reintegration rate to a significant extent.[2–4] While depression and a negative subjective occupational prognosis serve as important barriers of RTW, physical fitness acts as facilitator for reintegration.[5] A comprehensive review including determinants of vocational reintegration has been recently published.[6]

Numerous determinants are interacting on diverse levels and must be considered multi-dimensionally. In this context, the biopsychosocial model of the International Classification of Functioning, Disability and Health by World Health Organization represents a suitable approach for integrating all factors in a parent model (Figure 1).[7] The correct interlink of both environmental and personal, that is, individual, factors is essential for effective occupational reintegration.

On this topic, the paper by van de Cauter and coworkers, published in this issue of the *European Journal of Preventive Cardiology*, investigated the relationship of RTW, psychosocial well-being and health-related quality of life in CHD patients.[8] Based on data of the EUROASPIRE IV survey population the authors performed a secondary data analysis. EUROASPIRE is a large European cross-sectional study in coronary patients and individuals at high risk for developing CHD, starting in the mid-1990s. As part of the latest update, the European Society of Cardiology (ESC) published the EUROASPIRE V survey under the EURObservational Research Program in February 2019.[9] The present study includes clinical, psychosocial and vocational parameters of 2661 CHD patients younger than 63 years across 24 countries (mean age 53.6 ± 6.6 years, 85% male). Key objectives were the analysis of association between RTW and psychosocial well-being as well as health-related quality of life as outcome parameters. After a median time of 1.38 years after index event (range 0.96–2.01 years) the patients were interviewed. The interview contained the Hospital Anxiety and Depression Scale (HADS) and the health-related quality of life questionnaire for patients with ischaemic heart disease (HeartQoL) as well as self-reported status of RTW and attendance in cardiac rehabilitation. The total RTW rate was 76%. As the main result, a higher psychosocial distress ($HADS \geq 8$) was negatively associated with occupational resumption (HADS-Depression: odds ratio (OR) 0.58, 95% confidence interval (CI) 0.46–0.74; anxiety: OR 0.54, 95% CI 0.44–0.67, respectively). The quality of life was higher in patients who returned to work (adjusted mean 2.20 *vs.* 1.95, $p < 0.001$). Particularly in younger, high-educated patients without a foregoing cardiovascular event the probability of RTW was more likely. Notably, no significant associations between RTW and cardiovascular risk factors, gender or participation in cardiac rehabilitation were found, although the underrepresentation of women should be considered.

These findings of the EUROASPIRE IV survey once more emphasize the importance of vocational

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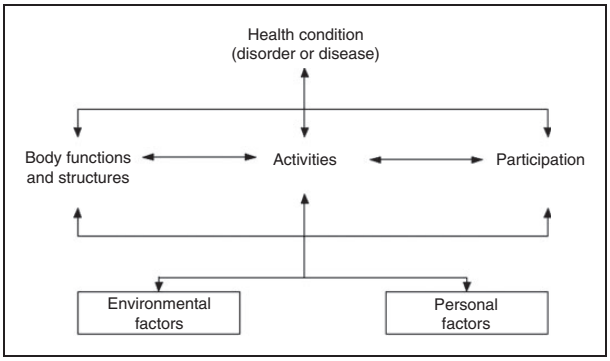

Figure 1. The International classification of functioning, disability and health (ICF) model: interaction between ICF components.
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reintegration for psychological well-being. However, both the outcome variables and the status of RTW were documented for the same time frame. Therefore, although the detected associations are meaningful, interpretations regarding causality must be taken with caution.

In accordance with earlier data, the authors emphasize the high value of psychological parameters for the ability to work. While on the one hand a lower depression score was predictive for a higher probability of professional reintegration, on the other hand a reintegration failure resulted in a poorer scoring in the HeartQoL domains. There is strong evidence that anxiety and depression are each a negative predictor of occupational reintegration following a cardiac event.[10,11] A recent study confirms the association between disease-specific workplace-related anxieties, unfavourable psychosocial working conditions and occupational reintegration.[10]

Cardiac rehabilitation offers the opportunity to identify in particular vulnerable patients with a high risk of RTW failure and provides a multidisciplinary tailored reintegration strategy. Occupational recovery and subsequent professional reintegration can be significantly improved by the institutional infrastructure (dialogue between cardiologists trained in occupational medicine, psychologists and social workers). In particular, occupationally focused socio-medical interviews and psychological support as specific work place training can be provided in cardiac rehabilitation. However, regarding the present survey it is remarkable that still less than half of the CHD patients across Europe participate in cardiac rehabilitation programmes. Throughout European countries, a substantial heterogeneity in scope and schedule of cardiac rehabilitation programmes continues to be detected.[12–14] Due to the increasing spacial and political fusion of the EU a transnational ESC recommendation for RTW after acute cardiac event is very desirable.

Based on a large number of patients, the paper by van de Cauter et al. gives interesting information on the value of mental comorbidity in cardiological patients; anxiety and depression show a significant prognostic value, not only for major adverse cardiovascular event endpoints, but also in socio-medical issues, including quality of life and professional reintegration. Beyond classical cardiovascular risk parameters, the focus must be placed on a holistic view of accompanying psychological, environmental and occupational determinants.

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