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Risk Factors for Disability Pension: Studies of a Swedish Twin Cohort

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Abstract

Background & aims: Mental disorders are today the major diagnosis behind newly granted disability pensions (DP) in the Western world. Yet, studies of risk factors for DP due to mental diagnoses are scarce, are often based on small or selective samples, and have a cross-sectional design, or short follow-up. Moreover, previous studies of this topic, based on unrelated individuals, have not been able to account for familial confounding (i.e., genetic and shared environmental factors), which is an issue that can be handled by investigating a population-based twin cohort. The aims were to study risk factors for DP (in general, and due to mental diagnoses), and to consider whether familial confounding explained any associations found. The following kinds of risk factors were investigated: socio-demographic (Study I & II), work- (Study III), and health-related (Study IV). Further, sex differences in relation to occurrence of DP and socio-demographic factors were considered (Study I & II).

Methods: Prospective cohort studies were conducted, using twins identified in the Swedish Twin Registry (STR) (N=55 875; 51% women). To the twin cohort, information of DP, including diagnoses, and other background factors was linked from national registries. Survey data on self-rated health (SRH), health behaviours, etc. were also available in the STR. Logistic regression or Cox proportional hazards regression models were conducted for the whole cohort and for discordant twin pairs.

Results: The average annual prevalence of DP from 1992 to 2007 was 10%. The incidence rate of DP for the period 1993 to 2008 was 1.4%. There were significant sex differences in both occurrence of DP and in the socio-demographic risk factors for prevalent and future DP (Study I & II). Female sex, and older age (≥ 45) were found to be associated with risk of prevalent or future DP, irrespective of extent and diagnosis (Study I & II). Low educational level (≤ 12 years), being unmarried, and living outside the capital Stockholm were associated with increased risk of prevalent or future DP in general, independent of familial confounding (Study I & II). High educational level (≥ 12 years), being unmarried, living in Gothenburg & Malmö region, not being self-employed and having high SES were associated with risk of DP due to mental diagnoses, independent of familial confounding. Each one unit increase in job demands, and working in 'health care & social work' or 'service & military work', were found to increase the risk of DP due to mental diagnoses, while each one unit increase in job control decreased the risk of such DP, independent of familial confounding and other background factors (Study III). Poor or moderate SRH, under- or overweight, former use of tobacco products, and abstention from alcohol increased the risk of DP due to mental diagnoses, independent of familial confounding and other background factors (Study IV).

Conclusions: The socio-demographic risk factors of future DP, and the influence of familial confounding on the associations, tended to vary between DP in general, and DP due to mental diagnoses. Some work- and health-related factors, e.g., job control and SRH, seem to be strong direct (i.e. being independent from familial confounding) predictors of future DP due to mental diagnoses. However, indications exist that some associations between risk factors, e.g., social support and leisure-time physical activity, and DP due to mental diagnoses may be influenced by familial factors.

Key words: Disability pension, sick leave, twins, mental disorders, epidemiology, risk factors.