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Medical disorders affect health outcome and general functioning depending on comorbid major depression in the general population

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Abstract

Objective: The objective of this study was to compare health-related quality of life (HR-QoL), disability/work productivity, and health care utilization in a variety of medical disorders with and without comorbid major depressive disorder (MDD) in the general population. **Methods:** Twelve-month MDD (Composite International Diagnostic Interview) diagnosis was determined among 4181 participants from a community sample. Medical diagnoses (respiratory, cardiovascular, allergic, endocrine/metabolic, gastrointestinal, and neurological diseases) were made after medical examination. HR-QoL was evaluated with the MOS-SF-36. Outpatient doctor visits and disability/work productivity were assessed by self-report. **Results:** Comorbid MDD was associated with a lower SF-36 mental summary score in all medical diagnoses and with a lower physical summary score in comorbid allergic and neurological disorders. The number of coexisting medical disorders was strongly related to lower physical and mental summary scores in cases without comorbid depression. The number of outpatient doctor visits increased by 42% when any of the medical disorders without comorbid MDD was present, and comorbid MDD was associated with a further 24–42% increase, depending on the medical disorder. Comorbid MDD was strongly associated with lower full-time working status (37.1% with MDD vs. 51.0% without MDD) and with a significant increase in disability days (45%) in the presence of any medical disorder. **Conclusions:** Findings have consequences for diagnostic and treatment procedures, as well as in relation to the importance of the number of medical disorders in future studies.

Keywords: Major depressive disorder; Comorbidity; Primary health care; Quality of life; Community sample; Epidemiology

Introduction

Many previous studies have demonstrated that major depression significantly impairs health-related quality of life (HR-QoL), general functioning, and work productivity, and causes significant individual and economic burden with direct and indirect costs of illness [1–5]. Epidemiological studies show that depression is associated with substantial work impairment [5,6], and experimental studies indicate that adequate depression treatment can substantially reduce work impairment [7]. Since major depression shows a consistent prevalence of about 15% in general hospital patients [8] and is associated with increased somatic symptoms, morbidity, mortality, health care utilization, and costs in individuals with comorbid medical disorders [9–13], it is recognized as an important and frequent comorbid condition in medically ill patients [9]. The effects of untreated major depression on general functioning are at least equal to those of many somatic conditions, including low-back pain, arthritis, diabetes, and cardiac disease [14].

Available knowledge on the association of depression, medical comorbidity, HR-QoL, health care utilization, and disability/work productivity largely relies on clinical studies with selection bias for certain medical conditions, medical disciplines, and age groups. Most of these studies investigated either patients of a certain age group exhibiting a

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higher prevalence of medical conditions (e.g., elderly patients) or patients with specific medical conditions (e.g., heart failure, renal diseases, and asthma) [10,11,13,15,16]. These clinical studies may lack representativeness and generalizability, as opposed to studies in the general population. Interestingly, studies estimating loss of work productivity due to depression have not yet been carried out in relation to comorbid medical disorders [6,17]. However, the few general population studies on the outcome of comorbidity between medical conditions and depression are limited by the self-reported assessment of medical conditions without further medical verification and do not relate work productivity in depression to medical disorders at the general population level [18–21].

Aims of the study

The aim of this study is to compare HR-QoL, disability/work productivity, and health care utilization in a variety of medical disorders with and without comorbid major depressive disorder (MDD) in the general population. The paper addresses the following specific aims. First, we analyze the effects of various entities of medical disorders with and without MDD on HR-QoL expressed by the physical and the mental summary scores of the SF-36. Second, we examine the impact of the quantity of medical disorders on physical and mental HR-QoL among subjects with and without comorbid MDD. Third, we investigate the effect of MDD on the utilization of outpatient doctor visits, depending on specific entities of comorbid medical diseases. Fourth, we explore the effect of MDD on disability among subjects in the workforce compared to those currently not belonging to the workforce in relation to specific entities of comorbid medical disorders.

Materials and methods

Sample

The German Health Interview and Examination Survey consisted of a core survey (GHS-CS) and several supplemental surveys, including the mental health supplement (GHS-MHS). The study was commissioned by the German Ministry of Research, Education, and Science, and was approved by relevant institutional review board and ethics committee. It used a stratified random sample from 113 communities throughout Germany with 130 sampling units [random sampling steps: (a) selection of communities; (b) selection of sampling units; and (c) selection of inhabitants from population registries]. Data collection was performed between October 1997 and March 1999. The response rate of the core survey was 61.4% (N=7124). Of the nonresponders, 1860 (41%) did at least fill out a short questionnaire for nonresponder analysis (gender, age, educational level, self-rated subjective health status, and smoking status). There were no significant differences between these responders and the sample with regard to gender and age (exception: women 70–79 years old, but they were not eligible for the mental health part anyway, see below) and with regard to self-rated subjective health status (first item of the SF-36) and smoking status, but there was a tendency to have a lower educational level in nonresponders. Thus, the sample of the core survey up to 65 years (N=6159) was regarded as representative enough to be considered as a starting sample for the mental health supplement (GHS-MHS).

A screening questionnaire for mental disorders, with 11 questions representing essential *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (*DSM-IV*) and *International Classification of Diseases, Tenth Revision* (*ICD-10*) criteria (Composite International Diagnostic Screener) [22], was administered at the end of the medical examination of the core survey. One hundred percent of the participants from the core survey who answered "yes" (screen positives) to at least one of these items and a random sample of 50% of the participants who answered "no" (screen negatives) to all screening questions were included in the mental health supplement. Nonresponse did not differ between screen-negative and screen-positive respondents from the core survey. To account for the oversampling of screen positives and for differential nonresponse among

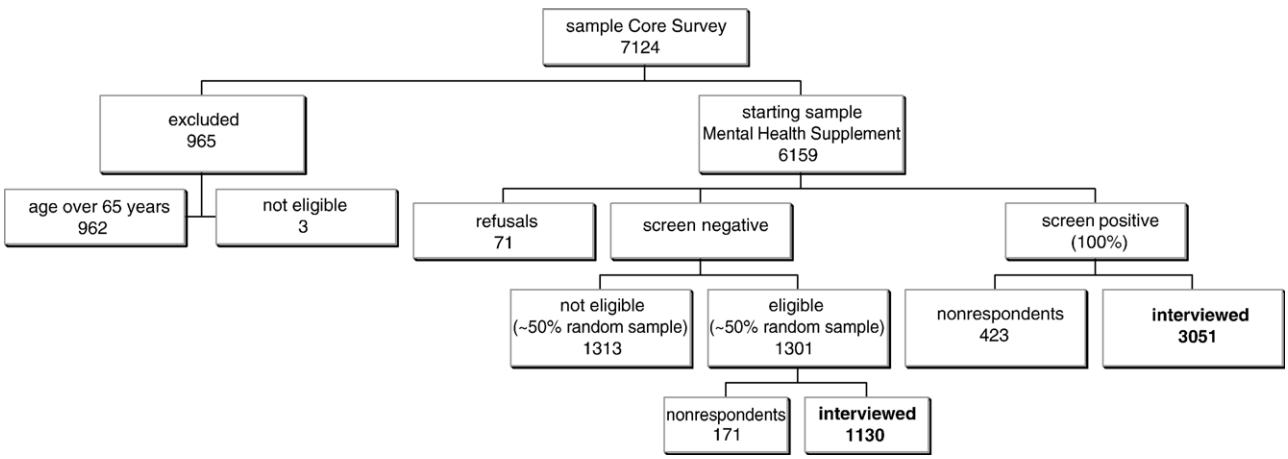

Fig. 1. Sampling process of the GHS-MHS.