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DEPRESSION: A DIAGNOSIS APTLY USED?

DEPRESSION: WIRD DIE DIAGNOSE RICHTIG VERWENDET?

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ZUSAMMENFASSUNG

Depression ist eine häufige psychische Erkrankung. Untern den zahlreichen negativen Folgen für die Betroffenen sind unter anderem Beeinträchtigungen der Lebensqualität und ein erhöhtes Suizidrisiko zu finden. Nicht-psychiatrische Ärzte übersehen im klinischen Alltag immer wieder Depressionen, was zur Folge hat, dass sie oft zu selten behandelt werden. Es gibt aber auch Fälle, in denen psychisch Gesund irrtümlich als depressiv diagnostiziert werden oder der Begriff „Depression" fälschlich für andere psychische Erkrankungen verwendet werden. Somit gibt es sowohl ein Unter- als auch ein Überdiagnostizieren. Um solche Fehler zu vermeiden, wurde immer wieder vorgeschlagen, im klinischen Alltag Screening-Instrumente zu verwenden. Zahlreiche Studien haben gezeigt, dass übliche Screening-Instrumente wie zum Beispiel die Geriatric Depression Scale (GDS) zufriedenstellende Kennwerte der Kriteriumsvalidität aufweisen. Extrem kurze Fragebögen, bestehend aus einer oder zwei Fragen, haben aber sehr hohe Fehlerquoten und sollten daher nicht verwendet werden. Eine Metaanalyse von randomisierten kontrollierten Studien über Screening bei Depressionen weist darauf hin, dass Screening dann wirksam sein dürfte, wenn es mit anderen unterstützenden Interventionen wie Schulungsangeboten für Allgemeinmediziner kombiniert wird.

Schlüsselwörter: *Depression – Epidemiologie – Erkennen – Massenscreening – Sensitivität – Spezifität – Metaanalyse*

SUMMARY

Depression is a very common mental disorder which often results in relevant negative consequences ranging from impaired quality of life to an increased suicide rate. Unfortunately, non-psychiatric physicians frequently underdiagnose and under-treat depression. Nevertheless, sometime the diagnosis "depression" is used for mentally well and other mental disorders (i.e. sometimes depression is overdiagnosed). Screening tools were suggested to improve the recognition of mental disorders in everyday clinical work. Studies have shown that the criterion validity of usual screening questionnaires such as the Geriatric Depression Scale (GDS) is sufficient, while very short questionnaires consisting of one or two questions must not be used because of high misclassification rates. A meta-analysis of randomized trials of screening for depression indicate that screening for depression is probably effective when it is coupled with additional activities such as educational programs for primary care physicians.

Key words: *depression - epidemiology - recognition - mass screening - sensitivity - specificity - meta-analysis*

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INTRODUCTION

The most common diagnostic classifications ICD-10 (World Health Organization 1993) and DSM-IV (American Psychiatric Association 1994) define depressive disorders based on the number of symptoms and on their duration. Dysthymia means a chronic mood disorder (i.e. lasting at least two years), with less severe symptoms than major depression. Beside these two diagnostic categories, the Text Revision of DSM-IV (American Psychiatric Association, 2000) suggests criteria for future research of minor depression. The criteria for minor depression are the same as of those for major depression, but the number of symptoms necessary for diagnosis is smaller. Paykel (2002) mentioned that the boundaries between minor depression and dysthymia are not well investigated, and other authors questioned the usefulness of this diagnostic subtype (Schotte & Cooper 1999, Pincus et al. 1999). Despite the fact that the two most important diagnostic classifications do no consider minor depression as a useful diagnosis, epidemiological studies often report prevalence estimates for minor depression (Paykel 2002, Glaesmer et al. 2010).

Of course, the overall prevalence of depressive disorders is influenced by the fact if frequencies are given only for major depression or also for other depresssion subtypes such as dysthymia or minor depression. Alsonso et al (2004a) reported a 12-month-prevalence of 3.9% (2.6% among men and 5.0% among women) for major depression, and a 12-month-prevalence of 1.1% for dysthymia. The review of Wittchen and Jacobi (2005) found an overall median 12-month-prevalence of 6.9% for all depressive disorders. This indicates that depressive disorders are among the most common mental disorders in the general population. Several studies have shown that depression is more common among those being admitted to general hospitals or nursing homes (Wancata et al. 1998, Wancata et al. 2001). Similarly, those caring for a person with dementia or schizophrenia suffer more often from depression (Kaiser et al. 2005, Krautgartner et al. 2005). Beside risk factors for increased probability to develop a depression such as physical comorbidity or caring for a

mentally ill family member, nearly all studies published worldwide reportrf higher prevalence estimates for affective disorders among women than among men (Kühner 2003). While female gender is clearly a risk factor for depression, the influence of age is not yet clear. Some studies report increasing prevalence and incidence with rising age (Palsson et al. 2000), while others did not find this association.

CONSEQUENCES OF DEPRESSION

Depressive disorders often show serious conesquences in everyday life. Alonso et al. (2004b) and other authors reported that depression is the main cause for impaired quality of life and for inability to work (Kreiner et al. 2009). For example, in the ESEMeD study in several European countries (Alonso et al. 2004b) persons with major depression had lost 25% of their working days during the last year. Persons with dysthymia lost 28% of their working days in the same period. In contrast, people with diabetes or heart diseases lost only 12% and 18%, respectively. Recent studies have shown that the inability to work (either sickness leave or early retirement) cost a lot of money (König et al. 2010, Stamm et al. 2010). For example, the costs due to affective disorders are nearly 2.5 billion Euro per annum in a small country like Austria. The annual costs due to inability to work are even higher than the costs for the treatment of depression (Wancata et al. 2007). But beside costs depressive disorders often have serious medical consequences such as prolonged physical morbidity or suicide (Richter et al. 2009, Neuner et al. 2009, Pompili et al. 2010).

IS DEPRESSION UNDER-DIAGNOSED OR OVER-DIAGNOSED?

The majority of depressive disorders are treated by non-psychiatric physicians in primary care, nursing homes or general hospitals, while only a small proportion is in contact with psychiatric services (Wancata et al. 2001). Thus, the main work of recognition and diagnosis has to be done by non-psychiatric physicians. Many papers have been published concerning the finding that a large proportion of psychiatric cases are missed by non-psychiatric physicians (Moffic & Paykel 1975). Obviously, the recognition of psychiatric disorders by physicians is the basis for an adequate treatment of those with psychiatric comorbidity. An Austrian study among admissions to non-psychiatric hospital departments showed that about the half of all depression cases were not recognized as being depressed by their doctors (Wancata et al. 2000). Nevertheless, a small proportion of the mentally well were given erroneously a psychiatric diagnosis such as depression. Surprisingly, correct identification by ward physicians were mot associated with severity of symptoms, but with the intake of psychotropics before hospital admission. Similaily, the ESEMeD study reported from six European countries that nearly two thirds of all depression cases (63.5%) were not in contact with health services during the preceding year (Alonso et al 2004 a). Further, about a sixth (15.1%) of those being in contact with health services did not receive any treatment (i.e. neither psychotropic medication nor psychological interventions). Surprisingly, a small proportion of the mentally well received antidepressant treatment. The reasons for this mismatch are not clear yet.

Psychiatrists providing consultation and liaison for non-psychiatric inpatients report that the term “depresssion” is frequently used in an inappropriate manner by non-psychiatric doctors. It seems that medical doctors who do not know the correct psychiatric term for a mental status sometimes use the word “depression”. Further, some medical doctors who are very engaged concerning the psychological component of their patients’ physical illness, sometimes say that these patients are “depressed”, i.e. they over-diagnose depresssion.

Surprisingly, another phenomenon was observed in the last years. While mental disorders are often stigmatised by lay people (Kohlbauer et al. 2010), the term “depression” is frequently used for all kind of psychological burden and stress such as conflicts within the family or tensions among colleagues at the workplace.

CAN SCREENING SUPPORT THE CORRECT DIAGNOSIS OF DEPRESSION?

Beside guidelines and training programmes for non-psychiatric physicians self-report screening instruments have been suggested for improving the correct identification of depressive disorders in primary care or in general hospitals (Goldberg 1986, Schmitz et al. 1999). Many authors favoured the use of screening instruments because they are usually fast and easy to use in busy clinical settings (Pignone et al. 2002).

Most screening instruments are questionnaires consisting of about 10 to 20 questions (Wancata et al. 2004). Usually, they ask for psychological symptoms (e.g. feeling unhappy, nervous or depressed) or for potential negative consequences of psychiatric illness (e.g. diminished social contacts). Then, the positive responses are added (i.e. sum-score). Person who are above a specific cut-off value of this sum-score are called “screening positives”. Nevertheless, screening instruments are not equal to diagnostic tools. A positive screening result is only an indicator for an increased probability of a mental disorder, a negative screening result for a high probability for the absence of such a disorder. Thus, for every screening instrument, there is a number of persons who are not correctly identified (= overall misclassification rate = OMR).

When using screening tools in everyday clinical practice in order to detect psychiatric disorders some general aspects are essential to consider (Ford 1988, Harris et al. 2001):

- There must be a negative impact of the disease that poses a substantial burden on those affected.
- Acceptable methods of screening must be available at reasonable costs to detect the disorder, and acceptable methods of treatment must be available.
- After screening treatment of the disorder must yield a therapeutic result superior to that obtained when no screening is performed.
- The use of screening procedures should avoid being harmful to the patient.

IMPORTANCE OF THE DISEASE

In order to justify screening, it was requested that there must be a negative impact of the disease that poses a substantial burden on those affected. This negative impact includes, for example, severe impairment, productivity loss, risk of suicide, health costs and grief for the patient.

As mentioned above depression is usually associated with grief and a reduced quality of life. In addition, persons with depression show high rates of unemployment and an increased risk for committing suicide.

ACCEPTABILITY OF METHODS FOR SCREENING AND FOR TREATMENT

Another precondition for screening are the availability of acceptable methods of screening at reasonable costs and of acceptable methods of treatment.

Most of the screening tools for depression have been used in many studies and have been proved acceptable (Herrmann 1997, Sielk et al 2009). The effectiveness of antidepressants and of psychological interventions has been confirmed in numerous studies (DGPPN 2000). In contrast, psychiatric disorders and their treatment are sometimes not very well accepted (Kohlbauer et al. 2010).

SCREENING MUST BE OVERALL EFFECTIVE

After screening treatment of the disorder must yield a therapeutic result superior to that obtained when no screening is performed. Some years ago, a review of randomized controlled trials investigating this question for depression has been published. Of the studies reviewed by the US Preventive Services Task Force (2002) some have shown benefits in terms of a shorter duration of illness or a decreased number of symptoms after screening, but other studies did not show such effects. The results of meta-analysis led to the conclusion that screening for depression is probably effective when screening is coupled with additional activities such as educational programs for primary care physicians. The authors emphasize that their conclusions are limited to adults in primary care and should not be applied to other medical settings (e.g. inpatients). The same group reported that until now there is insufficient evidence for other mental disorders (e.g. drug abuse or dementia) to recommend for or against routine screening. However, considering the multiple limitations reported by this review it seems that additional research is urgently needed to better understand this procedure.

SCREENING SHOULD NOT BE HARMFUL

The questions if routine screening could be harmful to the patient (and if patients could benefit from screening) are influenced by the criterion validity of the screening tool. Criterion validity means the different aspects of agreement of the screening procedure when compared with an exact clinical diagnosis of the disorder. Every screening procedure results in a number of persons being correctly identified as mentally ill (= true positives) and a number being correctly identified as mentally well (= true negatives). In addition, there are some persons who are erroneously identified as mentally ill (= false positives) or as mentally well (= false negatives).

The sensitivity is the proportion of true positives of all mentally ill, and the specificity the proportion of true negatives of all mentally well. But, beside these two frequently used indices other coefficients are important. The Positive Predictive Value (= PPV) means the proportion of true positives of all those who were positive in the screening procedure, and the Negative Predictive Value (= NPV) means the proportion of true negatives of all screening negatives. The PPV and the NPV are of outstanding importance when analyzing the question if routine screening could be harmful. All screening instruments identify a proportion of the mentally well falsely as suffering from a psychiatric disorder. Thus, if a non-psychiatric physician makes his psychiatric diagnoses merely on the results of a screening procedure he will give psychiatric treatment to some persons who are not mentally ill. Considering that all psychiatric interventions have the risk of adverse effects a number of mentally well persons will suffer from side effects without having any benefits (US Preventive Services Task Force 2002). A similar problem exists with false negatives.

SELECTED EXAMPLES FOR THE CRITERION VALIDITY OF SCREENING QUESTIONNAIRES

A systematic review of the screening accuracy of both versions of the Geriatric Depressions Scale (GDS-30, GDS-15) was performed recently (Wancata et al.

2006 a). For this purpose, an electronic search was performed using Medline, Embase, Cinahl, Psyndex and the Cochrane library. The selection and examination of papers was done by two reviewers independently. Among the 42 papers which could be included, important methodological aspects such as sampling methods or blinding of research workers often were not reported. This must be considered as an important limitation.

Of all studies analysed, 33 reported validity data for the GDS-30 and 21 for the GDS-15. About three quarters of the studies (N=32) had investigated the GDS in the original language (i.e. English language). The other 10 studies used translated versions of the GDS in a variety of languages (Spanish, Italian, Cantonese, Mandarin, Dutch, Hebrew, Italian, Portuguese, French, Swedish). For the GDS-30 most often a cut-off value of 10 (eight studies) or 11 (thirteen studies) was used. For the GDS-15 most often a cut-off value of 5 (six studies) or 6 (seven studies) was used.

For the GDS-30, the sensitivity varied between 0.340 and 1.000, the specificity between 0.629 and 0.964 (Table 1). Not considering the slightly modified Mandarin and Cantonese versions, the sensitivity of the GDS-15 showed a range between 0.600 and 0.940, and the specificity between 0.570 and 0.870. Of all GDS-30 studies the mean sensitivity was 0.753 and the mean specificity was 0.770. All GDS-15 studies taken together, the mean sensitivity was 0.805 and the mean specificity 0.750.

Table 1. Mean validity indices of the GDS-15 and GDS-30

Version (No. of studies)	Size of all samples (N)	Sensitivity	Specificity	PPV	NPV	OMR
GDS-15 (21 samples)	3005	0.805	0.750	0.435	0.942	0.239
GDS-30 (33 samples)	5093	0.753	0.770	0.438	0.929	0.233

A single question, “Do you often feel sad or depressed?”, has been recommended for depression screening (Lacks et al. 1990). This question was denominated by some authors as the “Yale-1-question” screen (18). We found four studies (6 samples) comparing the Yale-1-question screen with the GDS-15 and 3 studies (5 samples) comparing it with the GDS-30. Both, the mean sensitivity and the mean specificity of the Yale-1-question screen were significantly lower than those of the GDS-15 (Table 2). The mean OMR was significantly higher (indicating a higher proportion of false classifications) for the Yale-1-question screen than for the GDS-15. The comparison with the GDS-30 showed a significantly lower mean specificity and a significantly higher mean OMR for the Yale-1-question screen. Similarly, for the 2 questions of the PRIME-MD the overall misclassification was very high (Wancata et al. 2006 b)

Table 2. Mean validity indices of the Yale-1-question compared with those of the GDS-15 and GDS-30 (only studies with identical samples)

	Size of all samples (N)	Sensitivity	Specificity	PPV	NPV	OMR
Yale-1-question versus GDS-15						
All Yale-1 (6 samples)	825	0.769	0.635	0.318	0.925	0.341
All GDS-15 (6 samples)	825	0.801	0.790	0.458	0.947	0.208
Yale-1-question versus GDS-30						
All Yale-1 (5 samples)	718	0.770	0.628	0.265	0.940	0.351
All GDS-30 (5 samples)	718	0.795	0.729	0.338	0.953	0.261

CONCLUSIONS

For this overview we have selected only some aspects. It seems that the term depression is frequently not used in an appropriate matter. Non-psychiatric physicians frequently under-diagnose and under-treat depression. Nevertheless, sometime the diagnosis “depression” is used for mentally well and other mental disorders (i.e. sometimes depression is over-diagnosed).

Regarding the question if screening instruments can improve accurate diagnoses of depression, we present some selected results. The GDS which was especially developed for the elderly often shows moderate to sufficient criterion validity. When comparing the validity of the very brief questionnaires consisting of only one or two questions with that of the GDS, the GDS shows markedly better results. These very brief questionnaires show very high proportions of mis-

classifications. Thus, these very short questionnaires should not be used for clinical work.

Frequently, screening tools were suggested to improve the recognition of mental disorders in everyday clinical work. Analyzing the results of the very small number of studies comparing the accuracy of screening instruments with that of non-psychiatric physicians shows that it is difficult to draw general conclusions. Taken all these aspects together we must conclude that until now many questions remain open. Perhaps, research guidelines for the future investigation of the criterion validity of psychiatric screening tools might be helpful.

REFERENCES

1. *Alonso J, Angermeyer MC, Bernert S, Bruffaerts R, Brugha TS, Bryson H and the ESEMeD /MHEDEA 2000 investigators. 12-Month comorbidity patterns and associated factors in Europe: results from the European Study of the Epidemiology of Mental Disorders (ESEMeD) project. Acta Psychiatr Scand 2004a; 109 (Suppl 420):28-37.*
2. *Alonso J, Angermeyer MC, Bernert S, Bruffaerts R, Brugha TS, Bryson H and the ESEMeD /MHEDEA 2000 investigators. Disability and quality of life impact of mental disorders in Europe: results from the European Study of the Epidemiology of Mental Disorders (ESEMeD) project Acta Psychiatr Scand 2004 b; 109 (Suppl 420): 38-46.*
3. *American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders: Fourth Edition. Washington DC: American Psychiatric Association, 1994.*
4. *American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders: Fourth Edition, Text Revision. Washington DC: American Psychiatric Association, 2000.*
5. *DGPPN - Deutsche Gesellschaft für Psychiatrie, Psychotherapie und Nervenheilkunde (Ed.): Behandlungsleitlinie Affektive Erkrankungen. Steinkopff-Verlag: Darmstadt, 2000.*
6. *Ford D: Principles of screening applied to psychiatric disorders. Gen Hosp Psychiatry 1988; 10: 177-188.*
7. *Glaesmer H, Kallert TW, Brähler E, Hofmeister D, Gunzelmann T: Die Prävalenz depressiver Beschwerden in der älteren Bevölkerung der Bundesrepublik Deutschland und die Bedeutung methodischer Aspekte für die identifizierten Prävalenzen. Psychiatrische Praxis 2010; 37:71-77.*
8. *Goldberg D: Use of the general health questionnaire in clinical work. Brit Med J 1986; 293:1188-1189.*
9. *Harris R, Helfand M, Woolf S, Lohr K, Mulrow C, Teutsch S, Atkins D (for the Methods Word Group, third U.S. Preventive Services Task Force): Current methods of the U.S. Preventive Services Task Force: a review of the process. Am J Prev Med 2001; 20: 21-35.*
10. *Herrmann C: International experiences with the Hospital Anxiety and Depression Scale - a review of validation data and clinical results. J Psychosom Res 1997; 42:17-41.*
11. *Kaiser G, Krautgartner M, Alexandrowicz R, Unger A, Marquart B, Weiss M, Wancata J: Die Übereinstimmungsvalidität des „Carers' Needs Assessment for Dementia" (CNA-D). Neuropsychiatrie 2005; 19: 134-140.*
12. *Kohlbauer D, Meise U, Schenner M, Sulzenbacher H, Frajo-Apor B, Meller H, Günther V: Verändert der Unterricht über Depression die Einstellung gegenüber Schizophrenie? Eine zielgruppenorientierte Anti-Stigma-Intervention. Neuropsychiatrie 2010; 24:132-140.*
13. *König H-H, Luppa M, Riedel-Heller St: Die Kosten der Depression und die Wirtschaftlichkeit ihrer Behandlung. Psychiatrische Praxis 2010; 37:213-215.*
14. *Krautgartner M, Unger A, Friedrich F, Stelzig-Schöler R, Rittmannsberger H, Simhandl C, Grill W, Doby D, Wancata J: Risiken für Depressivität bei den Angehörigen Schizophrenie-Kranker. Neuropsychiatrie 2005; 19:148-154.*
15. *Kreiner B, Baranyi A, Stepan A, Rothenhäusler H-B: Psychoedukation und Lebensqualität bei depressiven Erkrankungen - Ergebnisse einer Grazer Evaluationsstudie. Neuropsychiatrie 2009, 23:101-114.*
16. *Kühner C: Gender differences in unipolar depression: an update of epidemiological findings and possible explanations. Acta Psychiatr Scand 2003; 108:1-12.*
17. *Lacks MS, Reinstein AR, Cooney LM: A simple procedure for general screening for functional disability in elderly patients. Ann Intern Med 1990; 112:699-706.*
18. *Moffic HS, Paykel ES: Depression in medical in-patients. Brit J Psychiat 1975; 126:346-353.*
19. *Neuner T, Hübner-Liebermann B, Spießl H, Hausner H: Begleiteter Suizid zur Prime Time: Das „Recht zu Sterben". Psychiatrische Praxis 2009; 36:155-156.*
20. *Palsson S, Johansson B, Berg S, Skoog I: A population study on the influence of depression on neuropsychological functioning in 85-year-olds. Acta Psychiatr Scand 2000; 101:185-93.*
21. *Paykel ES: Mood disorders: review of current diagnostic systems. Psychopathology 2002; 35:94-99.*
22. *Pignone P, Gaynes B, Rushton J, Burchell C, Orleans C, Mulrow C, Lohr K: Screening for depression in adults: a summary of the evidence for the US Preventive Services Task Force. Ann Intern Med 2002; 136:765-776.*
23. *Pincus HA, Davis WW, McQueen LE: 'Subthreshold' mental disorders: a review and synthesis of studies on minor depression and other 'brand names'. Br J Psychiatry 1999; 174: 288-196.*
24. *Pompili M, Innamorati M, Giupponi G, Pycha R, Del Casale GSA, Dominici G, Iacorossi G, Forte A, Girardi N, Ferracuti St, Tatarelli R: Suizidversuche bei affektiven Störungen in der Notaufnahme. Neuropsychiatrie 2010; 24:56-63.*
25. *Richter D, Baune BT, Vennemann M, Berger K: Suizide im sozialen Kontext des Wohnumfeldes: Eine ökologische Analyse in einer deutschen Großstadt. Psychiatrische Praxis 2009; 36:137-141.*
26. *Schmitz N, Kruse J, Heckrat C, Alberti L, Tress W. Diagnosing mental disorders in primary care: the General Health Questionnaire (GHQ) and the Symptom Checklist (SCL-90-R) as screening instruments. Soc Psychiatry Psychiatr Epidemiol 1999; 34:360-366.*
27. *Schotte K, Cooper B: Subthreshold affective disorders: a useful concept in psychiatric epidemiology? Epidemiol Psichiatr Soc 1999; 8:255-261.*
28. *Sielk M, Altiner A, Janssen B, Becker N, de Pilars M, Abholz H-H: Prävalenz und Diagnostik depressiver Störungen in der Allgemeinarztpraxis. Ein kritischer Vergleich zwischen PHQ-D und hausärztlicher Einschätzung. Psychiatrische Praxis 2009; 36: 169-174.*

29. Stamm K, Reinhard I, Salize H J: Kosten und Kostenverläufe von Versicherten mit Depressionsdiagnose und ohne psychische Störung im Vergleich - eine Sekundäranalyse von Routinedaten einer Betriebskrankenkasse. Neuropsychiatrie 2010; 24:99-107.
30. US Preventive Services Task Force: Screening for depression: recommendations and rationale. Ann Intern Med 2002; 136:760-764.
31. Wancata J, Alexandrowicz R, Marquart B, Weiss M, Friedrich F: The criterion validity of the Geriatric Depression Scale: a systematic review. Acta Psychiatric Scandinavica 2006a; 114:398-410.
32. Wancata J, Alexandrowicz R, Marquart B, Weiss M, Friedrich F: Ist die Geriatric Depression Scale (GDS) bei älteren Menschen valider als andere Depressionsscreening-Instrumente? Neuropsychiatrie 2006b; 20:240-249.
33. Wancata J, Benda N, Bach M, Meise U: Recognition of psychiatric disorders in nonpsychiatric hospital wards. J Psychosom Res 2000; 48:149-155.
34. Wancata J, Benda N, Hajji M, Lesch OM, Müller Ch: Prevalence and course of psychiatric disorders among nursing home admissions. Soc Psychiatry Psychiatr Epidemiol 1998; 33:74-79.
35. Wancata J, Benda N, Windhaber J, Nowotny M: Does psychiatric comorbidity increase the length of stay in general hospitals? Gen Hosp Psychiatry 2001; 23:8-14.
36. Wancata J, Sobocki P, Katschnig H (für die "Cost of Disorders of the Brain in Europe" Study Group): Die Kosten von „Gehirnerkrankungen" in Österreich im Jahr 2004. Wiener Klinische Wochenschrift 2007; 119:91-98.
37. Wancata J, Weiss M, Marquart B, Alexandrowicz R: Screening instruments for general hospital and primary care patients. In: Diefenbacher A (Ed.): Consultaion-Liaison Psychiatry in Germany, Austria and Switzerland. Basel; Karger, 2004; p 74-97.
38. Wittchen HU, Jacobi F: Size and burden of mental disorders in Europe - a critical review and appraisal of 27 studies. Eur Neuropsychopharmacol 2005; 15:357-376.
39. World Health Organization: The ICD-10 Classification of Mental and Behavioural Disorders: Diagnostic Criteria for Research. Geneva: WHO, 1993.

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