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Prevalence and treatment of narcissistic personality disorder in the community: a systematic review

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Abstract

Background: Few studies have examined the prevalence and treatment of narcissistic personality disorder (NPD).
Method: We systematically reviewed studies of NPD that used suitable diagnostic methods in adult nonclinical samples and evaluated their strengths and weaknesses. Searches were conducted of MEDLINE (using both MeSH category and free-word search terms), PsycINFO, and PsycLIT for articles in English from January 1980 to August 2008 using the terms *Narcissis** and *prevalence*, of unpublished work identified via contacts with experts in the field, of books on personality disorders, and of reference lists from relevant articles and books. We evaluated articles using a 6-point epidemiologic quality tool that we developed. To determine the most efficacious treatments for NPD without other comorbidities, we performed searches using *Narcissis**, *pharmacology*, *clinical pharmacology*, *therapeutics*, and *psychotherapy* for reports of controlled trials from January 1980 to August 2008.
Results: We identified 7 prevalence studies that had used a structured or semistructured interview, 5 of which scored 5/6 using the epidemiologic quality tool. Mean prevalence was 1.06%, and the range was 0% to 6.2%. We found no studies of treatment meeting our inclusion criteria.
Conclusions: There was an overall finding of a low prevalence of NPD in adult nonclinical samples. Changes in the classification system might promote further empirical investigations.
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1. Introduction

Narcissus was immortalized by Ovid in the *Metamorphoses*, and narcissism has long been recognized as pathology by the psychiatric community [1-3]. The *Diagnostic and Statistical Manual of Mental Disorders, Third Edition* (*DSM-III*) first introduced narcissistic personality disorder (NPD) in 1980. Currently the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* characterizes NPD as a pervasive pattern of grandiosity, a striking sense of privilege or entitlement, an expectation of special treatment, an exaggerated sense of self-importance, and an angry response to criticism [4].

Persons with NPD lack empathy and selfishly exploit relationships. For example, they are prone to infidelity and both verbal and physical aggression [5,6]. In addition, persons with NPD experience clinically significant psychologic distress and are troubled by aging [7,8], contributing to an increased suicidal risk associated with NPD and narcissistic traits [9-11]. Persons with this disorder avoid treatment and distress significant others [7,12-17].

Despite this range of concerns, the literature shows an average of less than 10 studies per year on NPD, few empirical studies on prevalence and treatment, and fewer still using nonclinical samples [18-21]. With the *DSM-V* scheduled to appear in 2012, many have looked at refining the definition of personality disorders [22]. Empirical research examining NPD is part of this process.

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The authors have 2 questions: what is the prevalence of NPD in the community, and what treatments do clinical trials support? This review aims to systematically review the studies on NPD with respect to prevalence and treatment. We also sought to determine the strengths and weaknesses of the relevant studies to inform future research.

2. Methods

To determine the prevalence of NPD, the authors selected prevalence studies in nonclinical samples, ages more than 16 years. Only studies that used suitable diagnostic methods, such as a validated, structured interview, were included [23-28]. For the purposes of this review, we focused on studies of nonclinical samples because prevalence in clinical samples may be biased by a falsely elevated rate of the disorder, known as Berkson's bias [29]. In addition, we excluded any study that systematically removed patients who had a lifetime history of psychiatric diagnoses, as we were looking for nonclinical samples representative of the general population, which includes patients with psychiatric diagnoses.

Peer-reviewed publications investigating the community prevalence of NPD were identified using the following databases: MEDLINE, PsycINFO, and PsycLIT. Searches were conducted using the terms *Narcissis** and *prevalence*, and articles were limited to those in English. Because NPD was defined in the *DSM-III*, articles from January 1980 to August 2009 were searched. For the MEDLINE database, the MeSH category and the free-word search terms were used. There is not a MeSH category for NPD in MEDLINE, so the authors used only the free-word search. In addition, experts in the field were contacted to identify research that might not have been published. Books on the personality disorders were also searched for relevant studies. In addition, reference lists from relevant articles and books were searched to look for additional articles. In all, this yielded 13 articles, of which 7 prevalence studies fulfilled the above inclusion criteria.

The authors, who include a geropsychiatrist, 2 general psychiatrists who specialize in treating adults, and a psychiatry resident, used an epidemiologic quality tool to rate each article independently [30]. After a search of the literature and consultation with colleagues, we did not find an epidemiology quality tool appropriate for the purposes described here. The authors therefore devised a 6-point epidemiology quality tool specifically for this review. Articles received 1 point for each of the following: surveying a national population (because personality disorders are more prevalent closer to city centers [31], this disparity could influence locally obtained samples), obtaining a sample that was representative of the population being surveyed, accounting for nonrespondents, using a valid diagnostic instrument, having adequate training of interviewers, and assessing reliability. Assessment of the above criteria was determined after each question for each study was independently rated by each author. Then the authors met twice and came to a consensus regarding the scoring of each question.

The authors also searched for randomized or controlled trials to determine the most efficacious treatments for NPD with or without comorbidities. Searches were conducted using the search terms *Narcissis**, *pharmacology*, *clinical pharmacology*, *therapeutics*, and *psychotherapy*. Both MeSH category and free word were used for *pharmacology*, *clinical pharmacology*, *therapeutics*, and *psychotherapy*. Articles from January 1980 to August 2008 were searched.

3. Results

Seven prevalence studies, involving 49 812 participants, used a nonclinical adult population and calculated the prevalence of NPD, using a structured or semistructured interview. In these 7 trials, 2169 total participants met the diagnostic criteria for NPD. The remaining 11 studies were excluded because they were not published in English [32,33], or because an adolescent population [34] or only an adolescent population was included in the sample [35-40], because a convenience sample was recruited [41,42], or because a comorbid sample was used [43]. Prevalence rates ranged from 0.0% to 6.2%, with a mean prevalence of 1.06%. Prevalence rates, diagnostic tools, setting, and number of participants are summarized in Table 1. Table 2 summarizes the consensus that was achieved in the rating of quality of each of the individual studies. Studies used different diagnostic modalities, including the Structured Interview for *DSM-III-R* (SIDP-R), International Personality Disorder Examination (IPDE), Structured Clinical Interview (SCID-II), Wave 2 Alcohol Use Disorder and Associated Disabilities Interview Schedule *DSM-IV* Version, and National Institute of Mental Health Diagnostic Interview Schedule. The most common reason for losing a point in the quality ratings was for obtaining local rather than national samples.

The study by Lenzenweger et al [44] was 1 of only 3 nationally representative, face-to-face household studies. It achieved a good response, at a 70.9% response rate. The study involved 2 rounds of screening, with each subsample overrepresenting the positive-screen population. This process reduced the original 9282 participants to 5692 by screening for World Mental Health Survey–Composite International Diagnostic Interview core disorders [45,46]. The sample of 5692 included all participants that had met criteria for a core disorder and a 25% probability subsample that did not. This sample was further reduced to 214 participants using the IPDE screening instrument. The IPDE screen had a sensitivity of 100% and specificity of 61% among college students when using a clinician interview with the IPDE as a criterion standard [47]. The

Table 1
Included prevalence studies

Study	Prevalence[a]	Sample (n)	Setting	Diagnostic tool	Epidemiologic quality tool score
Torgersen et al [31]	n = 17, 0.8%	2053	Computer Registry of Oslo	SIDP-R	5/6
Lenzenweger et al [44]	n = 0, 0%	9282	Nationally representative face-to-face household sample	Screening with IPDE and then clinical reappraisal interview	5/6
Samuels et al [54]	n = 1, 0.3%	742	Residential sample of East Baltimore	Comprehensive assessment by masters level psychologist interview that included IPDE	4/6
Lenzenweger et al [47]	n = 3, 0.18%	1646	Local first-year undergraduates	Used IPDE-S as a screen. Positive screens were given IPDE.	5/6
Samuels et al [55]	n = 0, 0%	810	Residential sample of East Baltimore	Screen using part of NIMH-DIS, the General Health Questionnaire, and Mini-Mental State. Positive screen and 17% random sample of negative screen reinterviewed	4/6
Coid et al [51]	n = 0;0%	626	Private households in England, Scotland, and Wales participating in British National Survey of Psychiatric Morbidity	Sample of patients with scores on self-report of the SCID-II entered on laptop	
Stinson et al [70]	n ~ 2148, 6.2%	34653	Civilian, noninstitutionalized adults in households and group quarters	Wave 2 AUDADIS-IV	

IPDE indicates International Personality Disorder Examination; IPDE-S indicates International Personality Disorder Examination-Screen; *DSM-III-R* indicates *Diagnostic and Statistical Manual III Edition, Revised*; SCID indicates Structured Clinical Interview. NIMH-DIS indicates National Institute of Mental Health Diagnostic Interview Schedule; AUDADIS-IV, Alcohol Use Disorder and Associated Disabilities Interview Schedule *DSM-IV* Version.

[a] Prevalence rates are weighted in Lenzenweger et al [44], Lenzenweger et al [47], Samuels et al [55].

214 participants were in a clinical reappraisal sample for which 1 psychologist diagnosed personality disorders over the telephone. Because there was only 1 interviewer, there was no way to assess the reliability among raters. This method found no one with NPD. This sample was weighted to adjust for differential probabilities of selection within households [45].

Two other studies were nationally representative. A study by Stinson et al reconducted face-to-face interviews with 34 653 noninstitutionalized adults 18 years or older from participants of the Wave 1 National Epidemiologic Study on Alcohol and Related Conditions conducted in 2001 and 2002 [48]. The response rate was good, at 86.7% of the Wave 1 population. Nonresponse was accounted for by weights, using Wave 1 data of the nonrespondents. The weights accounted for death, institutionalization, deportation, or emigration from the United States. In addition to accounting for nonrespondents, the study ensured representativeness by weights to account for differences from 2000 Decennial Census data in region, age, race-ethnicity, and sex. Personality disorders were diagnosed by using the Wave 2 Alcohol Use Disorder and Associated Disabilities Interview Schedule *DSM-IV* Version, a structured interview for use by lay interviewers [21,46]. The interview methodology aimed to ensure that NPD symptoms were lifelong and not arising in the context of acute episodes of axis I disorders, such as a major depressive or a manic episode alone. This structured interview method was found to be reliable, with a κ of 0.70 for NPD, using large test-retest studies [49,50]. The study lost 1 point because it did not discuss the manner of training for interviewers or try to account for possible variabilities in diagnosis between different interviewers. This sample diagnosed NPD with a prevalence of 6.2%.

The remaining nationally representative study [51] drew a sample from the British National Survey of Psychiatric Morbidity, aged 16 to 74 years old, and used postal codes to sample private households in England, Wales, and Scotland.

Table 2
Epidemiologic quality tool results for included studies

Study	National sample	Representative sample	Nonrespondent accountability	Valid diagnostic instrument	Adequate training	Reliability	Sum
Torgersen et al [31]	No	Yes	Yes	Yes	Yes	Yes	5/6
Lenzenweger et al [44]	Yes	Yes	Yes	Yes	Yes	No	5/6
Samuels et al [54]	No	Yes	Yes	No	Yes	Yes	4/6
Lenzenweger et al [47]	No	Yes	Yes	Yes	Yes	Yes	5/6
Samuels et al [55]	No	Yes	Yes	Yes	No	Yes	4/6
Coid et al [51]	Yes	Yes	No	Yes	Yes	Yes	5/6
Stinson et al [70]	Yes	Yes	Yes	Yes	No	Yes	5/6

This was another 2-part study in which participants completed a computer-assisted interview if they screened positive on 2 self-report diagnostic measures. The second phase diagnosed NPD using the SCID-II, for which the interviewers, who were psychology graduates, were supervised throughout the study to ensure quality assurance. The first part had a response rate of 69.5%, and the second part had a response rate of 61.6%. When put together, this revealed a total response rate of 42.8%, which was too low to account for the nonrespondents, even if weights were in place. None of the study participants in the second part of the study met the criteria for NPD.

The other 2 studies that scored 5/6 using our epidemiologic quality tool were by Torgersen et al [31] and Lenzenweger et al [47], although these sampled locally. Torgersen et al randomly sampled individuals from a computer registry, not households, in Oslo. Lenzenweger et al [47] sampled first-year, 18- to 19-year-old, undergraduate students at Cornell University. Both studies shared similar strengths, including a very high response rate (57.2% and 80.2% for the study by Torgersen et al and the 1997 study by Lenzenweger et al, respectively), a validated screening instrument, adequate training of interviewers, and a high reliability among raters (.84 correlation among raters for any personality disorder diagnosis in the study of Torgersen et al, .83 correlation for NPD diagnosis in the Lenzenweger 1997 study). The validated screening instrument for the Torgersen study was the SIDP-R [52] and, for the 1997 study of Lenzenweger et al, was selected screening questions from the IPDE (IPDE-S) and then reappraisal with the full IPDE [53]. The IPDE screening tool was developed specifically for the 1997 study of Lenzenweger et al.

The Oslo study diagnosed 17 participants with NPD; the 1997 study by Lenzenweger et al diagnosed 3. One concern was a lack of clarity of diagnosis of participants in the study by Lenzenweger et al: 5 individuals with probable NPD were found in addition to the 3 definite NPD diagnoses.

The final 2 studies that met our inclusion criteria did not score as high (4/6). Both were part of the National Institute of Mental Health Epidemiological Catchment Survey and sampled the same East Baltimore population, although nearly a decade apart. One sample did not use a standardized diagnostic instrument [54], and the other did not provide adequate training of interviewers [55]. Strengths of the study included high response rates of 75% [55] and 60% [54] and high interrater reliability ($k = 0.88$ for the random 14 subjects and $k = 0.62$ for NPD diagnosis). The 1994 sample found no participants with NPD, and the 2002 sample diagnosed only 1 participant.

We found no studies of treatment of NPD that met our inclusion criteria. Two pharmacologic studies were considered but excluded because of a low sample size and outcomes that measured a comorbid disorder instead of narcissism [56,57]. Evidence on treatment was limited to anecdotal reports and case series [14,58-69].

4. Discussion

With the exception of 1 trial [70], our systematic review found a remarkably low prevalence of NPD. Two recent large, face-to-face, household studies of NPD in the United States provided contrasting results, with prevalences of 0% [44] and 6.2% [70]. The mean prevalence of NPD across the included studies was 0.26% when excluding the one prevalence of 6.2% [70]. The mean prevalence was 1.06% when including this one study. In fact, the prevalence of NPD was low for all included studies, except the Wave 2 National Epidemiologic Survey. Three of the studies, including 2 national face-to-face household studies [44], found no individuals with the disorder. This variation in prevalence is difficult to attribute to differences in quality because all included studies were of high quality. However, it should be noted that nearly all patients with NPD came from the Wave 2 study (n = 2148 vs n = 21 for all other studies combined). In addition, the Wave 2 study had a far greater sample size, representing 69.57% of all patients sampled.

Of note, the Wave 2 methodology found a comparable increased prevalence of borderline personality disorder [71] compared with the other included trials. The increased prevalence found in the Wave 2 studies may suggest that the Wave 2 study was more sensitive to personality disorders than other trials. Other reasons for the increase in prevalence include differences in the diagnostic tool and the reliability of lay interviewers diagnosing NPD. It should be noted that all studies used *DSM-III-R* or above criteria to diagnose NPD. In addition to differences in study methodology, differences of prevalence across studies could reflect the sample selected, different geographies, and local as opposed to national samples.

Of interest, a comparison between prevalence studies of clinical versus nonclinical samples using structured clinical interviews reveals a lower NPD prevalence in nonclinical samples. Prevalence rates in clinical samples varied from 2.3% to 35.7% [72-75]. The lower prevalence of NPD in the nonclinical samples is perhaps an indicator of Berkson's bias [29].

Currently, experts are revisiting the definition of NPD, as well as all personality disorders [76]. Variability in prevalence of NPD across studies might help inform the debate. For example, some are debating replacing the categorical definition of personality disorders with a dimensional one [23,77-79], which would approach personality pathology as a progression, as opposed to counting symptoms to arrive at a discrete diagnosis, as occurs with the current categorical approach.

Other possible changes include modifying NPD criteria, creating subtypes for NPD such as the hypervigilant or shy narcissist [76,80-84], or removing the diagnosis. However, NPD is of clinical significance, as studies show worse prognosis with comorbid samples [11,85-88] and increased suicidality [9,10,89]. Our review suggests that

it is worth considering a new approach, given the low prevalence overall of NPD in nonclinical samples. Our review of treatment studies is consistent with a previous finding [90] that no trials of treatment for NPD exist in the literature, except for perhaps relatively low-quality case series, case reports, and anecdotal reports that are highly vulnerable to bias [91-94]. Treatment guides state that, when NPD patients do come to treatment, they are difficult to treat [59] because of decreased insight and countertransference responses that can unhinge or interfere with treatment [95-97].

Our review has several limitations. For one, we looked only at articles in English. Second, we could not assess for the possibility of publication bias. Systematic reviews are also dependent on the quality of the included studies. The included studies in this review, however, were of high quality.

Possibilities for research include developing a prospective trial that evaluates the treatment for NPD. One area of future investigation would be to evaluate the relative merits of different approaches to the diagnosis of NPD and to evaluate the implications of these approaches for efficacious treatment. We do recognize, however, that a low prevalence of the disorder in the community makes such studies challenging to conduct in this setting. Changes in the definition of NPD could promote further empirical investigations in the community.

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