Pathway to effective treatment for common mental and substance use disorders in the World Mental Health Surveys: Perceived need for treatment

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Abstract

Background Perceived need for treatment is a first step along the pathway to effective mental health treatment. Perceived need encompasses a person's recognition that they have a problem and their belief that professional help is needed to manage the problem. These two components could have different predictors.

Methods Respondents aged 18+ years with 12-month mental disorders from 25 representative household surveys in 21 countries in the World Mental Health Survey Initiative (n = 12,508). All surveys included questions about perceived need; 16 surveys (13 countries) included additional questions about respondents' main reason for perceived need—problem recognition or perceived inability to manage without professional help (n = 9814). Associations of three sets of predictors (disorder, socio-demographics, past treatment) with perceived need and its components were examined using Poisson regression models.

Results Across the 16 surveys with additional questions, 42.4% of respondents with a 12-month mental disorder reported perceived need for treatment. In separate multivariable models for each predictor set: (1) Most disorder types (except alcohol use disorder, specific phobia), disorder severity, and number of disorders were associated with perceived need and both of its components; (2) Sociodemographic factors tended to differentially predict either problem recognition (females, 30–59 years, disabled/unemployed) or need for professional help (females, homemakers, disabled/unemployed, public insurance); (3) Past treatment factors (type of professional, psychotherapy, helpful or unhelpful treatment) were associated with perceived need and both components, except number

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of past professionals differentially predicted problem recognition. In a consolidated model: employment and insurance became non-significant; type and number of past professionals seen became more important; helpful past treatment predicted greater need for professional help while unhelpful treatment predicted lower problem recognition. Problem recognition was the more important component in determining perceived need for some groups (e.g., severe disorder, people who consulted non-mental health professionals).

Conclusions Greater clinical need is a key determinant of perceived need for treatment. Findings suggest a need for strategies to address low perceived need (e.g., in males, older people, alcohol use disorders) and lower endorsement of professional treatment in some groups, and to improve patient's treatment experiences which are important enablers of future help-seeking.

Keywords Perceived need for treatment, Mental disorders, Substance use disorders, Mental health services, Health professionals, Perceived helpfulness, Treatment history

Introduction

Conservatively, more than 20% of the world's population experience a mental disorder every year, and up to 50% over the course of a lifetime [1, 2]. Yet, even in well-resourced countries, at least two-thirds of people with a disorder in a given year receive no treatment [3]. A central problem is that insufficient services are available to reach all the people in need and, if they are available, structural barriers such as cost and convenience deter some people from using them [4, 5]. However, that facet of the problem ignores another, maybe more critical, issue: only half of people with a current mental disorder perceive they need treatment [6–10]. Indeed, studies show that lack of perceived need is the most common reason people give for not accessing treatment [5, 11, 12] and that among people with similar clinical profiles, those who perceive a need for treatment are many times more likely to access it than those who do not [13–15].

Perceived need for treatment refers to an individual's judgement about whether they require services to address a health problem. Whether a person perceives a need can be understood as a joint function of two components. First is that they recognize they have a problem, which requires an awareness of symptoms and their impact on functioning, quality of life, and interpersonal relationships. Second is that they believe professional help is necessary to manage that problem (i.e., that they cannot manage the problem on their own) [16, 17]. These components could have different predictors, or shared predictors that are more important for determining one component than the other.

The most robust predictors of perceived need for treatment for mental disorders are female sex, younger and middle age, and poorer clinical status as measured by severity, comorbidity and disability [13, 14, 17–28]. Less attention has been paid to the role of past treatment, an important omission given that most people with a disorder in any given year will have received treatment in the past for that, or another, disorder [29–31]. A few studies

show receipt of past treatment to be positively associated with perceived need. Whether this associated might be mediated by other aspects of treatment (types of professionals seen, treatments received, perceived helpfulness) or might vary according to the reasons for perceived need (problem recognition or perceived inability to manage without professional help) is less well understood [17, 32–34]. For example, people who received treatment in the past may have acquired knowledge and insights that better equip them to recognize a similar problem in the future [30]. Receipt of helpful treatment might validate the person's decision to seek help and predispose them to expect a positive outcome from professional help next time, while unhelpful treatment might lead to a preference to deal with the problem on their own in the future [21].

These possible associations are important to study, not least because lack of perceived need for treatment prevents many people from reaching necessary care in a timely way [7–9, 35, 36]. Perceived need is also a precondition for treatment advances such as personalized or patient-centered care. People who do not perceive the need for treatment will not access treatments even if they are personalized, advanced, evidence-based, or otherwise touted to be suited to the problems that they experience. Epidemiological surveys can help to elucidate patterns of perceived need in and across whole populations, yet most studies to date have taken place in single (usually high income) countries or regions [37, 38] and have tended to focus on specific disorders [33, 39–42]. There is a need for cross-national investigations of perceived need that consider the relative importance of the reasons for perceived need, and that include more nuanced consideration of treatment history.

The present study was conducted as part of a systematic investigation of the 'coverage cascade', or steps in the pathways to effective treatment [43], drawing on a large, cross-national survey dataset including people with different types of mental disorders. Here, we examine the

first step in this pathway, perceiving a need for treatment. Our aims were to examine the prevalence and factors associated with perceived need overall and its two components, problem recognition, and perceived inability to manage without professional help.

Methods

Samples and procedure

Data come from 25 WMH surveys administered between 2001 and 2019 in 21 countries (see Supplementary Table 1), with a combined sample size of n = 117,739 respondents aged 18 and older. Ten of the 25 surveys were administered in countries classified by the World Bank as low- or middle-income (LMIC; a regional survey in São Paulo Brazil, two national surveys in Bulgaria, two in Colombia including one national survey and a regional survey in Medellín, Lebanon, Mexico, Nigeria, Peru, and Romania) and the others in countries classified as high-income (HIC; Argentina, Belgium, France, Germany, Israel, Italy, Japan, Netherlands, Northern Ireland, two national surveys in Poland, Portugal, two in Spain including one national survey and another in Murcia, and the United States). All surveys, other than Japan, used multistage clustered area probability household sample designs; Japan's design was unclustered, with households selected at random. Sixteen were nationally representative surveys (Belgium, two in Bulgaria, France, Germany, Israel, Italy, Lebanon, the Netherlands, Northern Ireland, two in Poland, Portugal, Romania, Spain, United States) and the others were representative of selected regions, metropolitan areas, or urbanized areas. Response rates ranged between 45.9 and 97.2%, with a weighted (by sample size) average response rate of 69.3% using the American Association for Public Opinion Research RR1w definition [44].

The interview was divided into two parts to reduce respondent burden. Part I, administered to all respondents, assessed core mental disorders. Part II, administered to 100% of the Part I respondents who met lifetime criteria for any disorder in Part I plus a probability subsample of the remaining Part I respondents (n = 56,927), assessed disorders of secondary interest as well as correlates. Part II data were weighted to adjust for the under-sampling of Part I non-cases, thereby making the prevalence estimates of Part I disorders in the weighted Part II sample equivalent to prevalence in the Part I sample. A within-household probability of selection weight was also applied to adjust for the fact that respondents were randomly selected within households and the number of eligible potential respondents varied across households. Finally, a calibration weight was applied to the data within each survey to adjust for discrepancies between the joint sample and population distributions on a range

of socio-demographic and geographic variables. A total of n = 12,508 Part II respondents met criteria for one or more of the 9 disorders consistently assessed across the 25 surveys (see next subsection) in the 12 months before interview. However, we focus in the current report on the subset of n = 9814 of these respondents who came from 16 WMH surveys in 13 countries (see Supplementary Table 1 for details) that included more in-depth questions about perceived need for treatment described below in the subsection on measuring perceived need for treatment.

Measures

The interview

Trained lay interviewers administered a fully structured diagnostic interview, the Composite International Diagnostic Interview Version 3.0 (CIDI 3.0) [45], in all surveys face-to-face to respondents in their homes. The interview and training materials were developed in English and then translated into other languages following a standard translation protocol [46]. Interviewers were required to complete a standardized training course successfully before they could undertake fieldwork and collect data for the study. Consistent procedures were then used across surveys to check interviewer accuracy and ensure the use of consistent data cleaning and coding procedures [47]. Informed consent was obtained before starting the interview. Local institutional review committees approved and monitored the surveys to ensure protection of human subjects as per appropriate international and local guidelines. The local ethics or institutional review committee at each survey site reviewed and approved the protocol to ensure protection of human subjects, in line with appropriate international and local guidelines.

Disorders

The CIDI assesses lifetime and 12-month disorders using the definitions and criteria of the *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition (DSM-IV). Blinded clinical reappraisal studies carried out in Asia [48, 49], Europe [50, 51], Latin America [52], the Middle East [53], and the US [54] have found consistently good concordance between diagnoses based on the CIDI 3.0 and diagnoses based on blinded clinical gold standard diagnostic interviews with the Structured Clinical Interview for DSM-IV [55]. As noted above in the subsection on samples, we consider here 12-month prevalence of the 11 separate common DSM-IV disorders that were assessed in common across the WMH surveys. These disorders were collapsed into nine summary categories for analysis, including five anxiety disorders (generalized anxiety disorder [GAD], panic disorder and/or agoraphobia [PD/AGO], specific phobia [SP], social phobia

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[SoP], post-traumatic stress disorder [PTSD]), two mood disorders (major depressive disorder [MDD], bipolar spectrum disorder [BD], where the latter includes either bipolar I disorder, bipolar II disorder, or subthreshold bipolar disorder; see [56] for details), and two substance use disorders (alcohol use disorder [AUD] and drug use disorder [DUD], where each combines respondents who met criteria for either abuse or dependence). DSM-IV organic exclusion rules were applied but diagnostic hierarchy rules were not applied other than between major depressive disorder and bipolar spectrum disorder.

Twelve-month disorder severity at the person level was defined as either severe, moderate, or mild. Respondents were defined as having severe disorder either if they (i) met criteria for Bipolar-I disorder and/or substance use disorder with a physiological dependence syndrome; or (ii) if they made a suicide attempt in the 12 months before the interview; or (iii) if they reported having severe role impairment due to their mental or substance use disorders for at least one month in the past 12 months. If not severe, respondents were defined as moderate if they had 12-month substance dependence without a physiological dependence syndrome or reported having moderate role impairment for at least one month. All other respondents with 12-month disorders were defined as mild.

Perceived need for treatment

Prior WMH reports showed that an important barrier to obtaining treatment for mental disorders is lack of perceived need [5]. We assessed perceived need differently for WMH respondents who did versus did not receive 12-month treatment. Respondents who received treatment were asked: "*When you went to see a professional about your emotions or substance use in the past year, was this something you wanted to do, or did you go only because someone else was putting pressure on you?*" Those who said they wanted to obtain professional help and those who said they recognized they needed help but did not want to see a professional because they didn't think it would be useful were coded as having perceived need, whereas the others were coded as not having perceived need. It is noteworthy that this is a narrow definition given that some people who recognize that they need help might nonetheless say that they did not want to obtain professional treatment and did so only because someone else put pressure on them. Respondents who did not receive 12-month treatment were asked: "*Was there ever a time during the past 12 months when you felt that you might need to see a professional because of problems with your emotions or nerves or your use of alcohol or drugs)?*" Those who responded yes were coded as having perceived need along with those who responded no but when asked the follow-up question about why they

didn't feel they needed treatment responded that they recognized they had a problem but did not think professional treatment would help. All others who responded "no, they did not feel they needed treatment in the past 12 months" were coded no on perceived need.

Based on the observation in early WMH surveys that a substantial proportion of respondents with 12-month disorders reported no perceived need for treatment [5], we carried out post hoc qualitative interviews and discovered that there are two distinct subgroups of this sort: those who do not think they have a problem and those who recognize that they have a problem, but think they can handle the problem on their own or with the help of family and friends. Based on this finding, we expanded the WMH interview in later surveys to ask respondents who reported lack of perceived need which of these two, or any other volunteered reason, was their most important reason for not wanting to see a professional in the past 12 months for problems with their emotions, nerves, or use of alcohol or drugs. As noted above in the section on the sample, we focus in the current report on the WMH surveys that included this more detailed assessment of perceived need for treatment, although we also present supplementary results in the full set of 25 surveys.

Individual-level predictors

The individual-level predictors considered here, other than information about diagnoses, included measures of socio-demographics and health insurance and information about treatment history. The socio-demographics included self-reported sex, age (18–29, 30–44, 45–59, 60+), education (a four-category variable coded low, low-average, high-average, and high specific to the educational system of the country; see [57]), marital status (married/cohabiting, never married, separated/widowed/divorced), employment status (employed or self-employed, homemaker, retired, student, disabled/unemployed/other), and family income (coded into quartiles using a country-specific coding schema described elsewhere [57]. Insurance was coded as two dichotomous dummy-coded variables for having private insurance (including both occupational insurance/social security insurance) and public insurance (government-funded, universal or other insurance), noting that it was possible for individual respondents to have either, both, or neither type of insurance. Respondents in countries with universal insurance were all coded as having public insurance. Treatment history was assessed in a series of questions asking all respondents if they ever in their life saw each of a list of 11 different types of professionals for problems with emotions, nerves, mental health, or use of alcohol or drugs and, if so, age at first receiving treatment

of each type. Separate questions were also asked about ever obtaining and, if so, ages at first obtaining pharmacotherapy and psychotherapy. Finally, respondents with treatment histories were asked whether they ever received treatment for each of the focal disorders that they considered *helpful or effective* and, if so, their age at first receiving this type of helpful treatment. Past history was distinguished from current history of treatment by requiring that the onset of treatment was at least 2 years before the respondent's age at interview. All these reports of past treatment were used as predictors of having a perception of needing treatment in the past 12 months. We also considered country-level indicators (barriers to accessibility, healthcare resources and spending, and human development) but excluded them from the current report because previous analyses of the coverage cascade indicated that these did not predict perceived need [43].

Analysis methods

As noted above in the description of the sample, weights were applied to the data to adjust for differences in within-household probabilities of selection and to calibrate the samples to match Census population distributions on socio-demographic and geographic variables. Part II data were also weighted to adjust for differential probabilities of selection into Part II. The Taylor series linearization method implemented in SAS 9.4 [58] was used to adjust standard errors for the effects of these weights as well as for the effects of geographic clustering of the WMH data.

Analysis of these weighted data began by using cross-tabulations to estimate 12-month prevalence of each disorder along with disorder-specific probability of 12-month perceived need for treatment. Regression analysis was then carried out to examine the associations of 12-month disorder types, number, and severity as predictors of perceived need. Parallel models were then estimated to see whether each significant predictor of perceived need was associated with problem recognition, belief that professional help was needed to manage the problem, or both. The outcomes for the parallel models were coded as follows. "Has problem" was coded 1 for those with perceived need and 0 for those who replied that their reason for not having perceived need was that they didn't have a problem. Respondents without perceived need who reported any other reason (including that they could manage the problem on their own) were dropped from the model. The outcome "Can't manage" was coded 1 for those with perceived need and 0 if the reason for not needing treatment was that they thought they could manage the problem on their own. Respondents who reported any other reason (including that they

didn't have a problem) were dropped from the model. Regression models were then estimated for the predictive associations of socio-demographics (including information on health insurance) and treatment history with the same outcomes. Finally, a series of models was estimated looking at the joint associations of all three sets of predictors with perceived need and the two main components of perceived need.

All regression models were estimated using a Poisson link function with robust standard errors [59]. The regression coefficients from these models were exponentiated to create risk ratios (RRs), while the coefficients ±2 design-based standard errors were exponentiated to create design-based 95% confidence intervals (CIs) of the RRs. Significance of RR sets defining a single categorical variable (e.g., the two dummy variables distinguishing married, never married and previously married respondents to define marital status) was evaluated with Wald χ^2 tests based on design-corrected coefficient variance−covariance matrices. Statistical significance was evaluated consistently using two-sided design based 0.05-level tests.

Results

Socio-demographic distribution of the sample

As noted earlier, this study draws on data from 25 WMH surveys. The total unweighted Part II WMH sample for these 25 surveys (n=56,927) comprised 57.7% females and had a median age of 43 years (inter-quartile range 31–57 years) (Supplementary Table 2). The weighted distributions differed somewhat from these observed distributions due to sex and age differences in survey response rates as well as differences in selection into the Part II sample. Comparable differences between weighted and unweighted distributions were found for other socio-demographic characteristics of the sample. Distributions were somewhat different for the subsample of respondents with one or more 12-month disorders (n=12,508) given the existence of significant associations between socio-demographic variables and these disorders. Distributions for the subsample of respondents with one or more 12-month disorders were similar in the subset of 16 WMH surveys that included the more in-depth questions about perceived need for treatment (n=9814) as in the full set of 25 surveys. These 16 surveys are the focus of the remainder of this report; where relevant, however, we also comment on correspondence of results with the full set of 25 surveys.

Perceived need

Across the 16 WMH surveys with in-depth perceived need questions, 42.4% (SE 0.6) of respondents with 12-month mental disorders perceived a need for

treatment (Supplementary Table 3). Among those *without* perceived need, 54.5% (SE 0.9) did not think they had a problem and 45.6% (SE 0.9) recognized they had a problem but thought they could handle it on their own. The proportion with perceived need in these 16 surveys was somewhat higher than in the full set of 25 WMH surveys. The table also puts perceived need in the context of the treatment coverage cascade for mental disorders, showing that it is a key bottleneck in the cascade; further information is provided elsewhere [43].

12-month disorder-related predictors of perceived need
The pooled weighted (by sample size, not population size) 12-month prevalence of any disorder was 14.6% across the 16 WMH surveys (Supplementary Table 3). The most common 12-month disorders among respondents with any disorder were specific phobia (37.2%) and major depressive disorder (31.5%) (Table 1). 69.3% of respondents with any 12-month disorder had exactly one, 20.0% had two, and the remainder had more than two disorders. 33.7% were mild, 38.1% moderate, and 28.1% severe. These distributions were very similar in the full set of 25 WMH surveys (Supplementary Table 4).

When considered in univariable models (i.e., with no other predictors considered), RR of perceived need varied significantly by disorder type ($\chi^2_9 = 865.l$, $p < 0.001$), number of disorders ($\chi^2_5 = 562.3$, $p < 0.001$), and disorder severity ($\chi^2_2 = 406.5$, $p < 0.001$) (Table 1). In terms of disorder type, RRs from univariable models varied significantly across disorders ($\chi^2_8 = 321.7$, $p < 0.001$), with RR = 1.7–1.2 for six disorders (MDD, PD/AGO, GAD, BD, PTSD, DUD, SoP) and RR = 0.9–1.0 for the final two (SP, AUD). This variation changed only modestly in a multivariable model that controlled for number and severity of disorders. In terms of disorder number, RR increased significantly in a univariable model from respondents with one to two (RR = 1.5), three (RR = 1.8), and more than three (RR = 2.2–2.3) disorders ($\chi^2_5 = 562.3$, $p < 0.001$) disorders. However, the RRs reversed and became increasingly less than 1.0 with additional disorders in the multivariable model that controlled for type and severity of disorders (RR = 0.9–0.4, $\chi^2_4 = 37.7$, $p < 0.001$), indicating that RR increases at a decreasing rate with number of disorders in a nonadditive model. Finally, RR was significantly higher for moderate (RR = 1.6) and severe (RR = 2.3) than mild disorders ($\chi^2_2 = 406.5$, $p < 0.001$) in a univariable model and remained significant but somewhat decreased (RR = 1.4–1.7, $\chi^2_2 = 149.0$, $p < 0.001$) when controlled for type and number of disorders. These associations were very similar in the full set of 25 WMH surveys (Supplementary Table 4). Decomposition of the multivariable model in the last two columns of Table 1 showed that the disorder-related variables as a set (and

globally) were stronger predictors of problem recognition than of belief that professional help was needed to manage the problem ($\chi^2_{15} = 216.6$, $p < 0.001$). This was also the case for disorder type (as a set and for MDD, GAD, BD, PTSD, PD/AGO and SoP individually) and severity (as a set and for moderate and severe disorders individually).

Socio-demographic predictors of perceived need
In univariable models, statistically significant but substantively modest associations were found between perceived need and sex (RR = 1.2 for females relative to males), age (RR = 1.2–1.3 for respondents aged 30–44 and 45–59 relative to those 60+), employment status (RR = 1.2 for homemakers and disabled/unemployed relative to the employed persons) and having public health insurance (RR = 1.1) (Table 2). Associations changed only modestly in a multivariable model that considered all these socio-demographic variables at once. These associations were very similar in the full set of 25 WMH surveys (Supplementary Table 5). Decomposition of the multivariable model in the last two columns of Table 2 showed that the demographic variables as a set were stronger predictors of problem recognition than of perceived inability to manage without professional help ($\chi^2_{13} = 40.7$, $p < 0.001$). This was also true for sex and for age group (as a set and those aged 30–59). In contrast, one of the employment categories (homemaker) was a stronger predictor of perceived inability to manage without professional help.

Past treatment predictors of perceived need
Nearly half (47.1%) of WMH respondents with 12-month disorders in the 16 WMH surveys had previously seen a professional for problems with their mental health or substance use (Table 3). 20.4% saw a psychiatrist at some time in the past, 24.5% saw some other mental health professional, 24.0% saw a general medical professional, and smaller proportions saw a human services professional (5.8%) or complementary/alternative medicine (CAM) professional (7.2%). Roughly half of individuals with a history of past treatment (25.9% of the total sample) previously saw exactly one type of these professionals and the others more than one. Equal proportions received medication-only (13.8%) and counselling-only (13.8%), and a higher proportion received a combination of medication and counselling (19.5%) in these past treatments. 21.3% (of the total sample) reported that these past treatments were helpful in treating at least one of the respondent's 12-month disorders, whereas 10.7% reported that past treatments were never helpful in treating 12-month disorders and the remaining 15.2% reported that they received treatments only for other

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Table 1 Pooled within-country associations of disorder-related predictors with 12-month perceived need for treatment among respondents with 12-month disorders[a]

	Distribution		Univariable		Multivariable[c]					
			Perceived need		Perceived need		Reasons for perceived need			
							Has problem		Can't manage	
	%	(SE)	RR	(95% CI)	RR	(95% CI)	RR	(95% CI)	RR	(95% CI)
I. Type of disorder										
GAD	14.1	(0.4)	1.3*	(1.2–1.4)	1.3*	(1.2–1.4)	1.3*[†]	(1.2–1.4)	1.1*	(1.1–1.2)
Panic or agoraphobia	11.2	(0.4)	1.5*	(1.4–1.6)	1.5*	(1.4–1.7)	1.4*[†]	(1.3–1.5)	1.3*	(1.2–1.3)
PTSD	9.1	(0.4)	1.3*	(1.2–1.4)	1.3*	(1.2–1.5)	1.2*[†]	(1.1–1.3)	1.2*	(1.1–1.3)
Specific	37.2	(0.7)	0.9	(0.9–1.0)	1.0	(0.9–1.1)	1.0	(0.9–1.1)	1.0	(0.9–1.1)
Social	16.9	(0.5)	1.2*	(1.1–1.3)	1.2*	(1.1–1.3)	1.2*[†]	(1.1–1.3)	1.1	(1.0–1.1)
MDD	31.5	(0.6)	1.7*	(1.6–1.8)	1.6*	(1.5–1.7)	1.5*[†]	(1.4–1.6)	1.2*	(1.1–1.3)
BD	8.1	(0.3)	1.6*	(1.5–1.7)	1.4*	(1.3–1.6)	1.4*[†]	(1.3–1.5)	1.2*	(1.1–1.3)
AUD	15.3	(0.5)	1.0	(0.9–1.1)	1.0	(0.9–1.1)	1.0	(0.9–1.1)	1.0	(0.9–1.1)
DUD	3.8	(0.3)	1.3*	(1.1–1.5)	1.3*	(1.2–1.5)	1.3*	(1.2–1.5)	1.1*	(1.0–1.3)
χ^2_9	–		865.1*		318.7*		335.5*[†]		117.1*	
$\chi^{2,b}_8$	–		321.7*		247.6*		259.2*[†]		88.3*	
II. Number of disorders										
1	69.3	(0.6)	1.0	–	1.0	–	1.0	–	1.0	–
2	20.0	(0.5)	1.5*	(1.4–1.6)	1.0	–	1.0	–	1.0	–
3	6.6	(0.3)	1.8*	(1.7–2.0)	0.9	(0.8–1.0)	0.9*	(0.8–1.0)	1.0	(0.9–1.1)
4	2.9	(0.2)	2.3*	(2.0–2.5)	0.8*	(0.7–1.0)	0.8*	(0.7–0.9)	0.9	(0.8–1.0)
5	0.9	(0.1)	2.3*	(2.1–2.5)	0.6*	(0.5–0.8)	0.6*	(0.5–0.7)	0.8*	(0.7–1.0)
6+	0.3	(0.1)	2.2*	(1.9–2.6)	0.4*	(0.3–0.6)	0.5*	(0.4–0.6)	0.7*	(0.5–0.9)
$\chi^2_{5/4}$	–		562.3*		37.7*		62.5*[†]		12.4*	
III. Severity										
Mild	33.7	(0.7)	1.0	–	1.0	–	1.0	–	1.0	–
Moderate	38.1	(0.6)	1.6*	(1.5–1.8)	1.4*	(1.3–1.5)	1.4*[†]	(1.3–1.5)	1.1*	(1.0–1.2)
Severe	28.1	(0.6)	2.3*	(2.1–2.5)	1.7*	(1.6–1.9)	1.7*[†]	(1.5–1.8)	1.3*	(1.2–1.4)
χ^2_2	–		406.5*		149.0*		165.0*[†]		63.6*	
(n)	(9814)		(9814)		(9814)		(6996)		(6831)	

Abbreviations: *SE* the design-based standard error of % taking into consideration the weighting and geographic clustering of observations, *RR* relative-risk of the outcome defined by the column heading as a function of the predictor defined by the row heading, *95% CI* the design-based 95% confidence interval of R, *GAD* generalized anxiety disorder, *Panic or agoraphobia* panic disorder or agoraphobia, *PTSD* post-traumatic stress disorder, *Specific* specific phobia, *Social* social phobia, *MDD* major depressive disorder, *BD* bipolar spectrum disorder, *AUD* alcohol use disorder (either abuse or dependence), *DUD* drug use disorder (either abuse or dependence), *(n)* the unweighted number of survey respondents in the denominator (i.e., who met 12-month criteria for any disorder in the first three columns, who either reported perceived need or reported lack of perceived need because of not believing they had a problem in the fourth column, and who either reported perceived need or reported lack of perceived need because of believing they could manage the problem in the fifth column)

[a] Pooled across the 16 WMH surveys that asked about reasons for lack of perceived need (Colombia, Peru, Brazil, Colombia (Medellin), Mexico, Romania, Israel, Spain (Murcia), N Ireland, Poland 1, Portugal, Japan, USA, Argentina, Bulgaria 2, and Poland 2), with surveys weighted by sample size rather than by country population size

[b] The χ^2_8 values evaluate the global significance of differences in RR across the 9 disorders

[c] Multivariable models control for all disorder-related predictors shown in the table

*Significant at the 0.05 level, two-sided design-based test

[†] Indicates stronger association with differential probability of problem recognition than with differential probability of perceiving that professional help was needed to manage the problem. Significant at the 0.05 level, two-sided design-based test

emotional problems (i.e., disorders not assessed in WMH or sub-clinical problems on the diagnoses we did assess).

These past treatment experiences were strongly associated with perceived need for 12-month treatment. Each type of professional seen in the past was associated with a significantly increased RR of perceived need in a univariable model, from a high of $RR = 1.5$ for past treatment by a psychiatrist to a low of $RR = 1.1$ for past treatment by a CAM professional ($\chi^2_5 = 934.3$, $p < 0.001$). These five RRs differed significantly from each other ($\chi^2_4 = 35.6$,

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Table 2 Pooled within-country associations of socio-demographic predictors with 12-month perceived need for treatment among respondents with 12-month disorders[a]

			Univariable		Multivariable[c]					
							Reasons for perceived need			
	Distribution		Perceived need		Perceived need		Has problem		Can't manage	
	%	(SE)	RR	(95% CI)	RR	(95% CI)	RR	(95% CI)	RR	(95% CI)
I. Sex										
Male	40.0	(0.7)	1.0	–	1.0	–	1.0	–	1.0	–
Female	60.0	(0.7)	1.2*	(1.1–1.3)	1.2*	(1.1–1.3)	1.2*[†]	(1.1–1.3)	1.1*	(1.0–1.1)
χ^2_1	–		38.0*		33.2*		36.2*[†]		10.5*	
II. Age										
18–29	30.9	(0.6)	1.1	(1.0–1.3)	1.2*	(1.0–1.4)	1.1	(1.0–1.3)	1.1	(1.0–1.2)
30–44	32.4	(0.6)	1.3*	(1.1–1.4)	1.3*	(1.2–1.5)	1.3*[†]	(1.2–1.4)	1.1	(1.0–1.2)
45–59	25.3	(0.5)	1.2*	(1.1–1.4)	1.3	(1.1–1.5)	1.2*[†]	(1.1–1.4)	1.1	(1.0–1.2)
60+	11.4	(0.4)	1.0	–	1.0	–	1.0	–	1.0	–
χ^2_3	–		26.9*		23.7*		36.4*[†]		4.4	
III. Education[b]										
Low	18.7	(0.5)	0.9	(0.9–1.0)	0.9*	(0.8–1.0)	1.0	(0.9–1.0)	0.9*	(0.8–1.0)
Low-average	26.0	(0.7)	1.0	(0.9–1.1)	0.9	(0.9–1.0)	1.0	(0.9–1.0)	0.9	(0.9–1.0)
High-average	35.8	(0.7)	1.0	(0.9–1.0)	0.9	(0.9–1.0)	1.0	(0.9–1.0)	1.0	(0.9–1.0)
High	19.4	(0.6)	1.0	–	1.0	–	1.0	–	1.0	–
χ^2_3	–		1.5		5.7		2.2		4.7	
IV. Employment status										
Employed	57.6	(0.7)	1.0	–	1.0	–	1.0	–	1.0	–
Homemaker	12.4	(0.4)	1.2*	(1.1–1.3)	1.1*	(1.0–1.2)	1.1	(1.0–1.1)	1.1*[‡]	(1.1–1.2)
Retired	9.3	(0.4)	0.9	(0.8–1.1)	1.1	(0.9–1.3)	1.1	(1.0–1.2)	1.0	(0.9–1.2)
Student	4.6	(0.3)	1.0	(0.8–1.1)	1.0	(0.8–1.2)	1.0	(0.9–1.1)	1.0	(0.9–1.2)
Disabled/unemployed	16.2	(0.5)	1.2*	(1.1–1.3)	1.3*	(1.2–1.4)	1.2*	(1.1–1.2)	1.2*	(1.1–1.2)
χ^2_4	–		47.0*		34.9*		20.7*		27.6*	
V. Insurance										
Private/occupational	55.1	(0.8)	1.0	(0.9–1.0)	1.0	(0.9–1.1)	1.0	(0.9–1.0)	1.0	(0.9–1.0)
Public insurance	34.6	(0.7)	1.1*	(1.0–1.2)	1.1*	(1.0–1.2)	1.0	(1.0–1.1)	1.1*	(1.0–1.2)
Any insurance	83.4	(0.5)	1.0	(0.9–1.1)	–	–	–	–	–	–
χ^2_2	–		8.5*		6.3*		1.4		7.0*	
(n)	(9814)		(9814)		(9814)		(6996)		(6831)	

Abbreviations: *SE* the design-based standard error of % taking into consideration the weighting and geographic clustering of observations; *RR* relative-risk of the outcome defined by the column heading as a function of the predictor defined by the row heading; *95% CI* the design-based 95% confidence interval of R; *(n)* the unweighted number of survey respondents in the denominator (i.e., who met 12-month criteria for any disorder in the first three columns, who either reported perceived need or reported lack of perceived need because of not believing they had a problem in the fourth column, and who either reported perceived need or reported lack of perceived need because of believing they could manage the problem in the fifth column)

[a] Pooled across the 16 WMH surveys that asked about reasons for lack of perceived need (Colombia, Peru, Brazil, Colombia (Medellin), Mexico, Romania, Israel, Spain (Murcia), N Ireland, Poland 1, Portugal, Japan, USA, Argentina, Bulgaria 2, and Poland 2), with surveys weighted by sample size rather than by country population size

[b] In quartiles defined by country-specific distributions (see [57] for details)

[c] Multivariable models control for all socio-demographic predictors shown in the table

*Significant at the .05 level, two-sided design-based test

[†] Indicates stronger association with differential probability of problem recognition than with differential probability of perceiving that professional help was needed to manage the problem. Significant at the .05 level, two-sided design-based test

[‡] Indicates stronger association with differential probability of perceiving that professional help was needed to manage the problem than with differential probability of problem recognition. Significant at the .05 level, two-sided design-based test

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Table 3 Pooled within-country associations of past treatment predictors with 12-month perceived need for treatment among respondents with 12-month disorders[a]

| | Distribution | | Univariable | | Multivariable[d] | | Reasons for perceived need | | | |
| | | | Perceived need | | Perceived need | | Has problem | | Can't manage | |
	%	(SE)	RR	(95% CI)	RR	(95% CI)	RR	(95% CI)	RR	(95% CI)
I. Professional types seen[b]										
Psychiatrist	20.4	(0.5)	1.5*	(1.4–1.6)	1.5*	(1.4–1.7)	1.5*	(1.4–1.7)	1.3*	(1.1–1.4)
Other mental health	24.5	(0.6)	1.3*	(1.2–1.4)	1.3*	(1.2–1.5)	1.4*[†]	(1.2–1.5)	1.1*	(1.0–1.2)
General medical	24.0	(0.5)	1.4*	(1.3–1.5)	1.4*	(1.2–1.6)	1.5*[†]	(1.3–1.6)	1.1*	(1.0–1.3)
Human services	5.8	(0.3)	1.2*	(1.1–1.3)	1.5*	(1.3–1.7)	1.5*[†]	(1.4–1.7)	1.2*	(1.0–1.3)
CAM	7.2	(0.3)	1.1*	(1.0–1.2)	1.4*	(1.2–1.6)	1.4*[†]	(1.3–1.6)	1.1	(1.0–1.2)
χ^2_5	–		934.3*		47.4*		86.0*[†]		22.9*	
χ^2_4 [c]	–		35.6*		12.1*		15.8*		12.3*	
II. Number of professionals										
1	25.9	(0.5)	1.0	–	1.0	–	1.0	–	1.0	–
2	11.7	(0.4)	1.7*	(1.6–1.8)	0.9*	(0.7–1.0)	0.8*	(0.7–0.9)	0.9	(0.8–1.1)
3	6.4	(0.3)	2.0*	(1.9–2.2)	0.7*	(0.5–0.9)	0.6*	(0.5–0.7)	0.9	(0.7–1.1)
4	2.4	(0.2)	2.2*	(2.1–2.4)	0.5*	(0.4–0.7)	0.4*	(0.3–0.6)	0.8	(0.6–1.0)
5	0.8	(0.1)	2.2*	(2.0–2.5)	0.4*	(0.2–0.6)	0.3*	(0.2–0.4)	0.7	(0.5–1.0)
χ^2_4	–		747.2*		33.3*		91.2*		5.6	
III. Treatment type										
Medication-only	13.8	(0.5)	1.0	–	1.0	–	1.0	–	1.0	–
Psychotherapy-only	13.8	(0.4)	1.6*	(1.5–1.7)	1.1*	(1.0–1.2)	1.1	(1.0–1.1)	1.1*	(1.0–1.2)
Combined	19.5	(0.5)	1.9*	(1.8–2.0)	1.1	(1.0–1.2)	1.0	(1.0–1.1)	1.1	(1.0–1.1)
χ^2_2	–		433.7*		5.8		2.7		4.8	
IV. Perceived helpfulness of past treatment										
Helpful/current disorder	21.3	(0.6)	2.0*	(1.8–2.1)	1.2*	(1.1–1.3)	1.1*	(1.1–1.2)	1.1*	(1.1–1.2)
Not helpful/current disorder	10.7	(0.4)	1.6*	(1.5–1.8)	1.1*	(1.0–1.2)	1.0	(0.9–1.1)	1.1	(1.0–1.2)
Only for other problems	15.2	(0.4)	1.0	–	1.0	–	1.0	–	1.0	–
No past treatment	52.9	(0.7)	–	–	–	–	–	–	–	–
χ^2_1	–		21.8*		8.2*		12.0*		2.6	
χ^2_2	–		535.3*		27.4*		24.5*		12.0*	
(n)	(9814)		(9814)		(9814)		(6996)		(6831)	

Abbreviations: CAM, Complementary or alternative medicine; SE, the design-based standard error of % taking into consideration the weighting and geographic clustering of observations; RR, relative-risk of the outcome defined by the column heading as a function of the predictor defined by the row heading; 95% CI, the design-based 95% confidence interval of R; (n), the unweighted number of survey respondents in the denominator (i.e., who met 12-month criteria for any disorder in the first three columns, who either reported perceived need or reported lack of perceived need because of not believing they had a problem in the fourth column, and who either reported perceived need or reported lack of perceived need because of believing they could manage the problem in the fifth column)

[a] Pooled across the 16 WMH surveys that asked about reasons for lack of perceived need (Colombia, Peru, Brazil, Colombia (Medellin), Mexico, Romania, Israel, Spain (Murcia), N Ireland, Poland 1, Portugal, Japan, USA, Argentina, Bulgaria 2, and Poland 2), with surveys weighted by sample size rather than by country population size

[b] The types of professionals were: psychiatrist; other mental health professionals (psychologist; counsellor in a mental health specialized setting; social worker in a mental health specialized setting; any other mental health professional, such as a psychotherapist or mental health nurse); general medical (including a general practitioner/primary care doctor, any other medical doctor other than a psychiatrist, and any other health care professional, such as a nurse or physician's assistant other than a mental health professional); human services professional (social worker in a human services setting; counsellor in a human services setting); and CAM professional (spiritual advisor; any other type of healer)

[c] The χ^2_4 values evaluate the global significance of differences in RR across the 5 professional types

[d] Multivariable models control for all past treatment predictors shown in the table

*Significant at the 0.05 level, two-sided design-based test

[†] Indicates stronger association with differential probability of problem recognition than with differential probability of perceiving that professional help was needed to manage the problem. Significant at the 0.05 level, two-sided design-based test

$p < 0.001$). RR was also significantly higher in a univariable model for respondents who previously were treated by multiple types of professionals compared to only one type (RR = 1.7–2.2, $\chi^2_4 = 747.2$, $p < 0.001$) and for those treated with counselling or combined counselling and medication than medication-alone (RR = 1.6–1.9, $\chi^2_2 = 433.7$, $p < 0.001$). Interestingly, not only past helpful treatment for 12-month disorders (RR = 2.0) but also unhelpful treatment for these disorders (RR = 1.6) were associated with significantly elevated probability of having perceived need for 12-month treatment in a univariable model ($\chi^2_2 = 535.3$, $p < 0.001$).

In a multivariable model that included all these indicators of past treatment as predictors, RR remained similar to the univariable model for the types of professionals with highest RR in the univariable model—psychiatrists (RR = 1.5 in both models) and other mental health professionals (RR = 1.3 in both models) (see Table 3). However, RR increased for the types of professionals with lower RR in the univariable model—human services professionals (RR = 1.2 in the univariable model and 1.5 in the multivariable model) and CAM professionals (RR = 1.1 in the univariable model and 1.4 in the multivariable model). These differences reflect the fact that RR in the univariable model reflects the average difference in probability of having perceived need in the presence versus absence of each type of past treatment across all combinations of other types of past treatment. In contrast, the RR for treatment type in a model that controls for other treatment types reflects the difference in probability of having perceived need among respondents who were either previously seen by one and only one or none of the five types of professionals. The higher RR for human services and CAM in the multivariable model consequently indicates that past treatment by these types of professionals was associated with higher RR of 12-month perceived need when it was exclusive treatment in these sectors relative to no past treatment than when it was treatment in these sectors in the context of treatment in other sectors. In a similar way, the RR for number of past treatment types reversed in the multivariable model relative to the univariable model, indicating that the increased RR of perceived need with number of past types of professionals increases at a decreasing rate as this number increases. The elevated RR associated with types of treatment received and helpfulness of past treatment also decreased in the multivariable model even though they remained statistically significant. These associations were very similar in the full set of 25 WMH surveys (Supplementary Table 6). Finally, decomposition of the multivariable model in the last two columns of Table 3 showed that the past treatment variables as a set were more strongly associated with differential probability of problem recognition than to differential probability of believing that professional help was needed to manage the problem ($\chi^2_{13} = 77.6$, $p < 0.001$). This was also the case for types of past professionals seen (as a set and for other mental health, general medical, human services and CAM professionals individually).

A consolidated model that considered all three types of predictors

We have so far considered each of the three sets of predictors alone. We also examined joint associations of disorders, socio-demographics, and past treatment with 12-month perceived need for treatment in a consolidated model (Supplementary Table 7). We anticipated that the sociodemographic predictors would be explained to some extent by their associations with disorder prevalence/severity and past treatment. It turned out, though, that this was the case only for employment status and having health insurance, both of which became nonsignificant in predicting perceived need when we controlled for disorders and past treatment in the consolidated model (χ^2_4 for employment status changed from 39.4, $p < 0.001$ in the multivariable disorders model to 3.8, $p = 0.43$ in the consolidated model; χ^2_2 for insurance changed from 6.3, $p = 0.043$ in the disorders model to 3.6, $p = 0.17$ in the consolidated model). The RRs of all other socio-demographic predictors became less pronounced but remained statistically significant at the 0.05 level when we controlled for disorders and past treatment. The same was true for disorders, where RR for types changed from 1.0 to 1.6 ($\chi^2_9 = 318.7$, $p < 0.001$) in the disorders model to 1.1–1.5 ($\chi^2_7 = 190.8$, $p < 0.001$) in the consolidated model that also controlled for socio-demographics and past treatment, RR for number of disorders changed from 0.4 to 0.9 ($\chi^2_4 = 37.7$, $p < 0.001$) to 0.5–0.9 ($\chi^2_4 = 52.9$, $p < 0.001$), and RR for severity changed from 1.4 to 1.7 ($\chi^2_2 = 149.0$, $p < 0.001$) to 1.3–1.6 ($\chi^2_2 = 125.4$, $p < 0.001$). The importance of type and number of treatment professionals seen in the past, in comparison, increased (from RR = 1.3–1.5, $\chi^2_5 = 47.4$, $p < 0.001$ to RR = 1.4–1.6, $\chi^2_5 = 87.3$, $p < 0.001$ for type and from RR = 0.4–0.9, $\chi^2_4 = 33.3$, $p < 0.001$ in the past treatment model to RR = 0.2–0.8, $\chi^2_4 = 59.3$, $p < 0.001$ for number in the consolidated model), whereas the importance of past treatment helpfulness decreased (from RR = 1.1–1.2, $\chi^2_2 = 27.4$, $p < 0.001$ to RR = 1.0–1.1, $\chi^2_2 = 12.7$, $p = 0.002$). Interestingly, past *helpful* treatment was associated with a higher probability of perceiving that professional help was needed to manage the problem, whereas past *unhelpful* treatment became associated with lower probability of recognizing a problem. These associations were very similar in the full set of 25 WMH surveys (Supplementary Table 7). As in the earlier models, aggregate

associations in the consolidated model in the 16 WMH surveys that obtained information about reasons for perceived need were much more due to problem recognition than to perceiving that professional help was needed managing the problem ($\chi^2_{34} = 292.8$, $p < 0.001$). This was also true for sex, age group (as a set and for those aged 30–44), disorder type (as a set, globally, and for MDD, GAD and SoP individually), severity (as a set and for moderate and severe individually), and types of professionals (as a set and for general medical, human services and CAM professionals individually).

Discussion

This study expands on our prior work demonstrating that lack of perceived need is a critical bottleneck in the 'coverage cascade' for mental disorders [43]. Here, we showed that fewer than half (42.4%) of adults with a 12-month mental disorder perceived a need for treatment, within the range from other studies (32–52%) [14, 18, 27, 60, 61]. Perceived need was determined by a complex array of factors including disorder characteristics (type, number, severity), sociodemographic characteristics (female sex, older age), and treatment history (type and number of past professionals seen, helpfulness or unhelpfulness of past treatment). Associations were similar when we explored the main reasons for perceived need—problem recognition and perceived inability to manage without professional help—although problem recognition was more important for determining perceived need on some variables (disorder type, severity, sex, age, and type of past professional seen). Implications for improving population levels of perceived need are considered.

Our study sheds light on the predictors of perceived need and whether predictors differ across the two main reasons for perceived need. With regard to disorders, we found that perceived need was most strongly associated with major depressive disorder, and not associated with alcohol use disorder and specific phobia. Major depressive disorder (but not alcohol use disorder or specific phobia) were more strongly associated with problem recognition than with perceived inability to manage without professional help. These findings are consistent with the idea that individuals' explanatory models are key in understanding perceived need for treatment [62–64]. For example, some people with alcohol use disorders lack insight into their problems and frame their alcohol use as 'normal' social behavior [32] that would not benefit from treatment. People with specific phobia may attribute their fears entirely to the feared subject or situation, such that treatment focused on the individual's cognitions will not be seen as a solution to the problem [63]. In contrast, problem recognition might be a more important reason for perceiving need among people with major depressive

disorder as a result of impact public education efforts to promote recognition of depression symptoms and, possibly, because lack of insight and denial are less likely (compared to alcohol use disorders) [14, 65]. A corollary of these findings is that efforts to improve perceived need might require approaches that take into account not only the relative effectiveness of different treatments for different disorders, but also beliefs about the causes, consequences, and perceived individual control over the clinical course different disorders [62, 63]. For example, a recent study found that a vignette describing effective psychological treatment for major depressive disorder increased lay persons' beliefs that the disorder is caused by personal weaknesses, whereas a vignette describing effective biological treatment reduced belief in individual control. In contrast, a vignette describing effective social treatment for generalized anxiety disorder increased beliefs that the disorder is caused by personal and lifestyle factors [66]. Changing these perceptions might, in turn, impact a person's willingness to engage in treatment. Further research is needed to clarify such relationships but could potentially assist clinicians and policy-makers to select the most appropriate treatment to promote for an individual or population [66].

In the full multivariate models, as expected, perceived need was also predicted by severity and number of disorders. However, the diminishing impact of additional disorders indicates that the severity and/or type of disorders a person has are more important in determining perceived need than how many disorders they have.

Female sex and older age (60+ years) were the only socio-demographic factors associated with perceived need in the presence of clinical and treatment factors. Female sex was a stronger predictor of problem recognition than of perceived inability to manage the problem without professional help. Poorer mental health literacy among males may explain their lower levels of perceived need and problem recognition [67, 68]. Older people may consider mental health problems to be part and parcel of ageing and have a higher threshold for thinking that their symptoms warrant treatment [28, 69]. Factors related to social status were either not important at all (education) or became unimportant (employment, insurance) in the full multivariable models. These may be important enablers of treatment among those with perceived need [43, 65] but appear less critical in determining illness perceptions.

Our findings extend previous examinations of the role of past treatment in determining perceived need in several ways. First, we found that perceived need was highest among those who had consulted a psychiatrist in the past, whether exclusively or in the context of other sectors. In contrast, perceived need was lowest among those

who had consulted non-health sectors (human services and CAM) in the context of other sectors but increased for care received exclusively in these sectors. It may be that people who exclusively consulted non-health sectors did so because they wanted to obtain a specific type of support (e.g., clerical counselling and support; assistance with housing, employment, income and so on) [70], or because it corresponded with their beliefs or cultural background [71]. These considerations may be less important when people use non-health sectors to complement care provided in health sectors [72]. We also found, in the consolidated model, that past treatment from a general medical, human services or CAM professional differentially predicted problem recognition (vs. belief that professional help was needed); there was no differential for psychiatrists and other mental health professionals. This indicates that feeling unable to manage the problem alone is a more important concern among people who consult mental health professionals.

Second, we found that the number of past professionals seen was associated with higher probability of perceived need, and both its components similarly, even though the effect diminished with each additional professional seen. Seeing more professionals may provide greater opportunity to accumulate knowledge and insights that assist the individual to both recognize similar problems in future and predispose them to thinking that persisting with, or returning for, treatment will be beneficial. This is important because prior WMH reports show that help-seeking is an ongoing process and seeing multiple different types of professionals is the norm [73].

Third, in line with one previous study [34], we found that past helpful treatment predicted perceived need. However, while past *helpful* treatment also predicted higher likelihood of perceived inability to manage without professional help, past *unhelpful* treatment predicted a lower likelihood of problem recognition. These associations were modest but show that the nature of past treatment experiences may enable, or discourage, future help-seeking decisions. Previous WMH reports show that the vast majority of patients would receive helpful treatment if they persisted in help-seeking from up to 8 professionals following unhelpful treatment, but that few persist to this extent [73]. Our findings here suggest that lack of persistence could, in part, be due to lower capacity for problem recognition resulting from unhelpful treatment.

Fourth, we found that the type of past treatment (medication and/or psychotherapy) received was less important in determining need perceptions than other treatment factors. Although receipt of psychotherapy was associated with perceived need in univariable analyses; this effect disappeared when other treatment factors

were added. This is similar to one previous study [34]. Taken together with the previous findings regarding helpful/unhelpful treatment, this finding suggests that patients "learn from" what works for them (regardless of what that treatment is).

In our study, more than half (57.6%) of people with 12-month mental disorders *did not* perceive a need for treatment, quite evenly split between those who did not recognize they had a problem (54.4%) and those who thought they could handle the problem on their own (45.6%). Our findings are broadly consistent with other studies suggesting that many people without perceived need have disorders that are mild, non-disabling and remit spontaneously, and may appropriately self-select to not engage with treatment professionals [21, 29]. However, this group may include some who have a problem warranting treatment, but who are unable to recognize it or are dubious about the benefits of treatment, or who are in treatment only because of pressure from others. That is, not all people with mental disorders will need professional help, but the absence of an agreed definition of need for treatment means this number is unknown despite its utility for service planning [14, 64, 74]. Future reports in this series exploring the predictors of treatment contact in the presence and absence of perceived need, and treatment barriers, may offer further insights.

Limitations

There were some limitations to this study. First, with respect to the measurement of perceived need, we classified respondents who voluntarily used health services as having perceived need; however, we cannot be sure that respondents perceived a need before going or whether receiving treatment reinforced the perception of need. The perceived need questions were not disorder-specific; a person may have perceived a need for treatment of one disorder but not another, or recognized a problem for one disorder, and inability to manage for another. We do not know what kind(s) of treatment people perceived a need for. Second, we focused on mental disorders assessed consistently across the WMH surveys; findings might not generalize to mental disorders not included in this study. Third, we had information about the onset, but not the offset, of past treatment. So, although we were able to distinguish past versus never help-seekers, some treatment categorized as past might have been ongoing at the time of interview and could be confounded with current (12-month) need perceptions. Fourth, lifetime treatment data were self-reported. Although the WMH surveys interviewers are trained in strategies to maximize recall accuracy [45], recall may be poorer among those with more frequent utilization and higher symptom severity [75] and for more distal

episodes, particularly if they were milder [76]. This could have resulted in misclassification of the timing of some past treatment episodes [77] and led to weaker associations between past treatment and current perceived need.

Conclusions

Lack of perceived need for care is a critical bottleneck in the pathway to effective treatment for mental disorders. We found that fewer than half of people with a disorder perceive a need for treatment, but that this depends on the disorders they have and is typically a function of greater difficulties associated with their disorders (as measured by severity and comorbidity). Our findings suggest that, net of clinical need, improving population rates of perceived need may require interventions that focus on groups with low perceived need (e.g., males, older people, people with alcohol use disorders), lower endorsement of the benefits of professional treatment in some groups, and on improving patients' treatment experiences which are important enablers of future help-seeking.

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s13033-025-00666-w.

> Additional file 1.

Availability of data and materials

Access to the cross-national World Mental Health (WMH) data is governed by the organizations funding and responsible for survey data collection in each country. These organizations made data available to the WMH consortium through restricted data sharing agreements that do not allow us to release the data to third parties. The exception is that the U.S. data are available for secondary analysis via the Inter-University Consortium for Political and Social Research (ICPSR), http://www.icpsr.umich.edu/icpsrweb/ICPSR/series/00527.

Declarations

Ethics approval and consent to participate

This study has been performed in accordance with the Declaration of Helsinki. At all survey sites, the local ethics or institutional review committee reviewed and approved the protocol to ensure protection of human subjects, in line with appropriate international and local guidelines. Details of the ethics committees for the WMH surveys can be viewed at this link: http://www.hcp.med.harvard.edu/wmh/ftpdir/WMH_Ethics_approval.pdf

Consent for publication

Not applicable.

Competing interests

Dr. Dan J. Stein reports personal fees from Discovery Vitality, Johnson & Johnson, Kanna, L'Oreal, Lundbeck, Orion, Sanofi, Servier, Takeda and Vistagen. In the past 3 years, Dr. Kessler was a consultant for Cambridge Health Alliance, Canandaigua VA Medical Center, Child Mind Institute, Holmusk, Massachusetts General Hospital, Partners Healthcare, Inc., RallyPoint Networks, Inc., Sage Therapeutics and University of North Carolina. He has stock options in Cerebral Inc., Mirah, PYM (Prepare Your Mind), Roga Sciences and Verisense Health. All other authors report no conflicts of interest related to this manuscript.

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