HHS Public Access

Author manuscript

J Affect Disord. Author manuscript; available in PMC 2022 June 01.

Published in final edited form as:

J Affect Disord. 2021 June 01; 288: 199–209. doi:10.1016/j.jad.2021.04.001.

Perceived helpfulness of treatment for specific phobia: findings from the World Mental Health Surveys

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Author contributions: Meredith G. Harris and Ronald C. Kessler conceived the initial idea for the study, which was further refined by Ymkje Anna de Vries, Daniel Vigo, Andrew Nierenberg, and Peter de Jonge. Ali Al-Hamzawi, Jordi Alonso, Laura H. Andrade, Corina Benjet, Ronny Bruffaerts, Brendan Bunting, José Miguel Caldas de Almeida, Giovanni de Girolamo, Silvia Florescu, Oye Gureje, Josep Maria Haro, Chiyi Hu, Elie G. Karam, Norito Kawakami, Viviane Kovess-Masfety, Sing Lee, Jacek Moskalewicz, Fernando Navarro-Mateu, Akin Ojagbemi, José Posada-Villa, Kate Scott, Yolanda Torres, Zahari Zarkov, and Ronald C. Kessler were involved in acquisition of the data. Wai Tat Chiu and Nancy A. Sampson performed the analyses. Ymkje Anna de Vries drafted the paper, which was critically revised by all other authors.

Data availability: 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.

Declaration of Competing Interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Dr. Kessler has received personal fees from DataStat, Inc., Rallypoint Network, Inc., Sage Pharmaceuticals, and Takeda. Dr. Navarro-Mateu reports non-financial support from Otsuka, outside the submitted work. Dr. Nierenberg serves on scientific advisory boards for Alkermes, Jazz Pharmaceuticals, Neuronetics, Otsuka, and Sage Pharmaceuticals; was a consultant for Acadia Pharmaceuticals, Esai, Ginger, Merck, Myriad, Protogenics, and Sunovion; and also reports receiving honoraria from Neurostar. All other authors report no conflicts of interest.

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Abstract

Background: Although randomized trials show that social phobia treatments can be effective, it is unclear whether patients experience treatment as helpful in clinical practice. We investigated this issue by assessing perceived treatment helpfulness for specific phobia in a cross-national epidemiological survey.

Methods: Cross-sectional population-based WHO World Mental Health (WMH) surveys in 24 countries (n=112,507) assessed lifetime specific phobia. Respondents who met lifetime criteria were asked whether they ever received treatment they considered helpful and the number of professionals seen up to the time of receiving helpful treatment. Discrete-event survival analysis

was used to calculate conditional-cumulative probabilities of obtaining helpful treatment across number of professionals seen and of persisting in help-seeking after prior unhelpful treatment.

Results: 23.0% of respondents reported receiving helpful treatment from the first professional seen, whereas cumulative probability of receiving helpful treatment was 85.7% after seeing up to 9 professionals. However, only 14.7% of patients persisted in seeing up to 9 professionals, resulting in the proportion of patients ever receiving helpful treatment (47.5%) being much lower than it could have been with persistence in help-seeking. Few predictors were found either of perceived helpfulness or of persistence in help-seeking after earlier unhelpful treatments.

Limitations: Retrospective recall and lack of information about either types of treatments received or objective symptomatic improvements limit results.

Conclusions: Despite these limitations, results suggest that helpfulness of specific phobia treatment could be increased, perhaps substantially, by increasing patient persistence in help-seeking after earlier unhelpful treatments. Improved understanding is needed of barriers to help-seeking persistence.

Keywords

Helpfulness of treatment; simple phobia; specific phobia; World Mental Health Surveys

Introduction

Specific phobia is one of the most common mental disorders (Kessler et al., 2005), with a lifetime cross-national prevalence of 7.4%, a low median age-of-onset at 8 years old (Wardenaar et al., 2017), and substantial persistence throughout the life course (Ausín et al., 2020). Compared to other mental disorders, specific phobia is associated with relatively low disability (Ormel et al., 2008; Wardenaar et al., 2017). However, specific phobia predicts the later onset of other mental disorders (Lieb et al., 2016), especially in the internalizing domain (e.g. depressive and anxiety disorders). Consequently, specific phobia, particularly when generalized, may be an early marker of an internalizing vulnerability (de Vries et al., 2019a).

Few people with specific phobia seek treatment (Wardenaar et al., 2017), possibly because of the low rates of severe impairment and people's ability to avoid the source of their phobia. However, specific phobia is generally considered to be a relatively easy-to-treat disorder. Exposure-based treatments, including *in vivo*, imaginal, and virtual reality exposure, have been found to be effective for specific phobia (Wolitzky-Taylor et al., 2008), and several studies have found very high response rates (≥80%) to *in vivo* exposure in particular among treatment completers (Choy et al., 2007). Even single-session exposure treatment can be highly effective (Wolitzky-Taylor et al., 2008; Zlomke & Davis, 2008). However, many patients refuse or drop out of exposure treatment, as they are unwilling to face their feared object or unable to tolerate the associated anxiety (Choy et al., 2007). Other treatments, such as non-exposure-based cognitive therapy or pharmacotherapy, are also used, but the evidence for these treatments is limited, and the available evidence suggests that exposure-based treatments are more effective, particularly in the long-term (Bandelow et al., 2008; Choy et al., 2007; Wolitzky-Taylor et al., 2008).

Despite the known efficacy of evidence-based treatments, it is unclear whether people with specific phobia perceive treatment as helpful in practice. This knowledge – whether specific phobia is effectively treated in clinical practice, from the patient's perspective – is an important complement to the randomized trial evidence. A possible disconnect between the two may arise from multiple sources. For instance, previous studies show that many patients do not receive minimally adequate treatment (Alonso et al., 2018; Thornicroft et al., 2017; Wang et al., 2005). Furthermore, treatments are generally considered evidence-based because they reduce symptoms, but patients may be more concerned about other outcomes (e.g. functioning, relationships; Cuijpers, 2019).

Among people who received mental health treatment in the past 12 months, a majority (55-85%) say that they received treatment that was at least somewhat helpful (Alang & McAlpine, 2019; Colman et al., 2014; Edlund et al., 2015; Kuramoto-Crawford et al., 2015; Lippens & Mackenzie, 2011). On a lifetime basis, around two-thirds of people report ever receiving helpful treatment for their disorder (ten Have et al., 2013). Treatment helpfulness is also associated with other important outcomes, such as unmet need for care (Colman et al., 2014) and discontinuation of treatment (Edlund et al., 2002; Lippens & Mackenzie, 2011). One prior study reported that people with an early-onset disorder were less likely to receive helpful treatment than people with later-onset disorders (ten Have et al., 2013), which might imply that people with specific phobia – one of the most common early-onset disorders – may be less likely to receive helpful treatment. However, no study has yet examined treatment helpfulness specifically for specific phobia. Most studies so far have also examined 12-month treatment, rather than taking a lifetime perspective. Furthermore, the likelihood of receiving helpful treatment is a consequence of two separate processes: first, the likelihood of receiving helpful treatment from a particular professional, and second, the likelihood of persisting in treatment if a particular professional does not provide helpful treatment. The aim of the current study is therefore to examine the prevalence and predictors of perceived lifetime treatment helpfulness and of the two processes – likelihood of receiving helpful treatment from a particular professional and likelihood of persisting in treatment after an unhelpful treatment episode – underlying this outcome.

Methods

Survey samples

The World Health Organization's (WHO) World Mental Health (WMH) surveys are a coordinated set of community epidemiological surveys administered to probability samples of the non-institutionalized household population in countries throughout the world (https://www.hcp.med.harvard.edu/wmh/; Kessler & Ustün, 2004). Data for the current report came from 26 WMH surveys carried out in 23 countries – 10 classified by the World Bank as low/middle-income (Brazil, Bulgaria, Colombia, Iraq, Lebanon, Mexico, Nigeria, Peru, People's Republic of China [PRC] – Shenzhen, and Romania) and 13 classified as high-income (Argentina, Belgium, France, Germany, Italy, Japan, the Netherlands, New Zealand, Northern Ireland, Poland, Portugal, Spain, and the United States). There were 2 surveys in Bulgaria, administered to separate samples in 2002–2006 and 2016–2017, 2 surveys in Colombia (1 national and 1 in Medellin) and 2 surveys in Spain. Adults were selected using

probability sampling methods designed to generate population-representative samples. Response rates averaged 69.2% across surveys (see supplemental table 1 for detailed survey characteristics).

The interview schedule was developed in English and translated into other languages using a standardized WHO translation, back-translation, and harmonization protocol (Harkness et al., 2008). Interviews were administered face-to-face in respondents' homes after obtaining written or verbal informed consent. The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008. All procedures involving human subjects/patients were approved by local Institutional Review Boards (see http://www.hcp.med.harvard.edu/wmh/ftpdir/WMH_Ethics_approval.pdf for detailed information on IRB review, consent and compensation). To reduce respondent burden, interviews were administered in two parts. Part I was administered to all respondents and assessed core DSM-IV mental disorders. Part II assessed additional disorders and correlates and was administered to all respondents who met lifetime criteria for any Part I disorder and a probability subsample of other Part I respondents (Heeringa et al., 2008).

The respondents included in the analysis reported here consisted of all those who met lifetime criteria for DSM-IV specific phobia and reported ever in their life obtaining professional treatment for this disorder. The measures used to operationalize these inclusion criteria are described in the next subsection. There were no exclusion criteria other than that analysis was limited to people with onset of lifetime specific phobia treatment during or after 1990. This limitation was imposed to reduce the potential effects of recall bias.

Measures

Specific phobia.—Diagnosis of specific phobia was based on the WHO Composite International Diagnostic Interview (CIDI 3.0) (Kessler & Ustün, 2004), a fully-structured, lay-administered diagnostic interview according to DSM-IV criteria. Clinical reappraisal interviews using the Structured Clinical Interview for DSM-IV (SCID) carried out in a number of countries found fair agreement between diagnoses of specific phobia based on the CIDI and blinded SCID clinician-administered reappraisal interviews (κ=0.33), with the CIDI showing low sensitivity (0.45) but fairly high specificity (0.89) (Haro et al., 2006).

Treatment for specific phobia.—Respondents who met lifetime criteria for specific phobia were asked whether they had ever "talk(ed) to a medical doctor or other professional about" their specific phobia and, if so, how old they were the first time they talked to a professional. "Other professionals" were defined broadly to include "psychologists, counselors, spiritual advisors, herbalists, acupuncturists, and other healing professionals". Respondents who ever spoke to a professional about their specific phobia were asked whether they ever received treatment for their specific phobia "that you considered helpful or effective (*emphasis in original)*". If so, they were asked how many professionals they ever talked to about their specific phobia "up to and including the first time you ever got helpful

treatment". Respondents who said they never received helpful or effective treatment were asked how many professionals they ever talked to about their specific phobia.

Predictors of treatment helpfulness and persistence in help-seeking

We considered five classes of predictors of treatment helpfulness and of persistence in help-seeking after prior unhelpful treatment. *Socio-demographic characteristics* included gender, marital status, and education (in quartiles defined by within-country distributions). *Lifetime comorbid conditions* included lifetime number of anxiety disorders (including generalized anxiety disorder, panic disorder, agoraphobia with or without panic disorder, post-traumatic stress disorder, and social phobia) and lifetime major depressive disorder, bipolar disorder, substance abuse or substance dependence with age-of-onset prior to the age the respondent first sought treatment. *Treatment type* was defined as a cross-classification of variables for 1) whether the respondent reported receiving medication, talk therapy, or both, as of the age of first specific phobia treatment, and 2) types of treatment providers seen as of that age, including mental health specialists (psychiatrist, psychiatric nurse, psychologist, psychiatric social worker, mental health counselor), primary care providers, human services providers (social worker or counselor in a social services agency, spiritual advisor), and complementary/alternative medicine (other type of healer or self-help group). *Treatment timing* included the age at first specific phobia treatment, delay in years between onset of specific phobia and initially seeking treatment, and a dichotomous measure for whether the respondent's first attempt to seek treatment occurred before 2000 or subsequently. *Childhood adversities* included family dysfunction (including physical or sexual abuse, neglect, parental mental disorder, parental substance use disorder, parental criminal behavior, and family violence) and other adversities (including parental death, parental divorce, other loss of a parent, physical illness, and economic adversity).

Statistical analyses

We first investigated the overall probability of ever receiving helpful treatment. However, the probability of ever obtaining helpful treatment is a joint function of the probability that a specific treatment provider will provide helpful treatment (helpfulness) and the probability that a patient will seek out additional treatment after initially unhelpful treatment (persistence). To investigate these two components separately, we used discrete-event survival analysis to calculate the conditional and cumulative probabilities of: 1) obtaining helpful treatment from the 1 st through the 9th professional seen; and 2) persisting in seeking treatment with between 2 and 9 professionals after not obtaining helpful treatment from the previous professional(s) seen (Halli & Rao, 2013). We followed patients up through 9 professionals, because this was the last number where at least 30 patients received treatment. We then carried out parallel survival analyses investigating predictors of these two component outcomes using standard discrete-time methods and a logistic link function (Willett & Singer, 1993), followed by a person-level model of overall probability of ever receiving helpful treatment (ignoring the number of professionals seen). We also investigated possible interactions between significant predictors and country income group or historical time. Analyses controlled for country of origin. Because data were weighted and clustered, standard errors were estimated using the Taylor series linearization method in SAS 9.4. Omnibus tests of sets of coefficients were done using Wald χ^2 tests, and individual

coefficients were only considered if the omnibus test was statistically significant (at α=0.05).

Results

Sample characteristics

The focal respondents, consisting of those with lifetime specific phobia who ever received professional treatment for that disorder, were 69.7% (SE=1.3) female, had a mean age of disorder onset of 11.2 (SE=0.3), a mean age at first treatment of 32.3 (SE=0.4), and a mean age at interview of 38.4 (SE=0.4).

Specific phobia prevalence and treatment helpfulness

A total of 112,507 respondents were included in the WMH surveys on which the current report is based (52,692 in low/middle-income countries and 59,815 in high-income countries). Lifetime prevalence of specific phobia was 7.0% (SE=0.2) in low/middle-income countries, 8.2% (SE=0.1) in high-income countries, and 7.7% (SE=0.1) in the total sample (see Table 1). Among the n=9,179 survey respondents with lifetime specific phobia, those in high-income countries (n=5,496) were more likely to have obtained treatment for specific phobia than those in low/middle-income countries (n=3,683; 16.7% [SE=0.6] vs. 9.7% [SE=0.7]), although treatment rates were very low across survey countries (13.7% [SE=0.5]). Among the n=1,296 who obtained treatment for specific phobia, however, those in low/middle-income countries (n=352) were about as likely as those in high-income countries (n=944) to report receiving helpful treatment (48.0% [SE=3.5] vs. 47.3% [SE=2.0]). There were significant inter-country differences in specific phobia prevalence, treatment rate, and treatment helpfulness rate (see Table 1).

Episode-level treatment helpfulness and persistence

The probability of treatment being perceived as helpful after the first professional seen was 23.0% [SE=1.1] across all countries combined and remained comparable for the second, third, and fourth professional seen (32.8% [SE=2.0], 28.3% [SE=2.8], and 21.0% [SE=2.5]), dropping to 3.9–12.2% after the fourth professional, with the exception of the sixth professional (31.8% [SE=4.2]) (Table 2, see also supplemental table 2 for the probabilities up to the 61st professional). The cumulative probability of obtaining treatment perceived as helpful, if all respondents were to persist in seeing up to nine professionals, was 85.7% [SE=2.2], with a slightly higher estimate in low/middle income countries (93.5% [SE=3.0]) than in high-income countries (83.7% [SE=2.6]).

Persistence with treatment after previous unhelpful attempts was low, particularly early in the course of seeking helpful treatment (Table 3, see also supplemental table 3 for the probabilities up to the 61st professional). Of respondents with specific phobia who did not obtain helpful treatment from the first professional they saw, 54.6% [SE=1.6] persisted in seeking help from a second professional. However, persistence increased with the number of previous professionals seen, such that between 85.7 and 93.2% of respondents who did not obtain helpful treatment from the fourth through eighth professional seen persisted in seeking help from a subsequent professional. The cumulative probability of persisting with

treatment up until the ninth professional (given that all previous professionals had not provided helpful treatment), however, was 14.7% [SE=2.0]. This probability was slightly lower in low/middle income countries than in high-income countries (9.5% [SE=2.9] vs 16.9% [SE=2.4]).

Predictors of treatment helpfulness and persistence

We investigated predictors of the person-level outcome (ever obtaining helpful treatment for specific phobia from any professional [model 1]) and of the two decomposed, treatment episode-level outcomes (obtaining helpful treatment [model 2] and persistence in seeking treatment after obtaining unhelpful treatment [model 3], pooled across professionals seen).

At the person-level, students and respondents who had experienced childhood adversities (other than family dysfunction) were less likely to report having ever obtained helpful treatment, while respondents who had received treatment by a mental health specialist (with medication or with psychotherapy) and participants with two or more anxiety disorders (including specific phobia) were more likely to report having ever received helpful treatment. An indicator for the lifetime severity of specific phobia (number of specific phobia subtypes) did not predict either the composite or the decomposed outcomes.

Decomposition of this person-level outcome into treatment-episode-level outcomes of treatment helpfulness (model 2) and persistence (model 3) demonstrated that the person-level outcome was predicted through different pathways. Being a student and childhood adversities (other than family dysfunction) primarily predicted episode-level treatment helpfulness, but not persistence, while treatment by a mental health specialist was predictive of persistence, but not episode-level helpfulness. Having multiple anxiety disorders predicted both episode-level helpfulness and persistence, although the omnibus χ^2 test for episode-level helpfulness was not significant.

There were also several predictors of the decomposed outcomes that did not predict the person-level outcome. Respondents who were never married and who had received treatment in the general medical sector were less likely to report episode-level treatment helpfulness, while respondents who had started specific phobia treatment in 2000 or later were more likely to report episode-level helpfulness. Later age at onset and treatment with complementary/alternative medicine predicted higher persistence, while a longer treatment delay predicted lower persistence.

In models that included interactions between country income group or historical time and each of the significant predictors, few interactions were statistically significant, particularly for the person-level outcome (supplemental tables 4 and 5). However, there were significant interactions between education level and treatment type with historical time in predicting person-level treatment helpfulness.

Discussion

In this large, cross-national study, nearly half of respondents who ever received treatment for their specific phobia reported that that the treatment was helpful. There were no differences

between low/middle and high-income countries in the proportion reporting that their treatment was helpful even though treatment rates were significantly lower in low/middle income countries. The likelihood of receiving helpful treatment from a specific professional was only 20–30% and dropped to less than 10% after seeing more than six professionals. However, participants who persisted in seeking treatment from up to nine professionals had a cumulative probability of 86% of obtaining helpful treatment. This suggests that most people can eventually obtain helpful treatment for their specific phobia if they persist for long enough. Such persistence, however, is uncommon.

Ever receiving helpful treatment was associated with not being a student, receiving treatment from a mental health specialist, having multiple anxiety disorders, and not having experienced childhood adversities. Our finding that receiving treatment from a mental health specialist was associated with greater likelihood of ever receiving helpful treatment contrasts with some previous research that found no difference in perceived helpfulness between primary care and mental health care among participants reporting 12-month treatment for any disorder (Wang & Patten, 2007). However, our analysis of the specific pathways through which these predictors acted may explain this difference, as receiving treatment from a mental health specialist was only associated with persistence, not with receipt of helpful treatment from a specific professional per se. This suggests that patients who receive treatment from a mental health specialist may be particularly motivated to seek treatment and argues against the idea that mental health professionals per se are more likely to be perceived as helpful. Having multiple anxiety disorders might be associated with greater likelihood of helpful treatment for the same reason, although this predictor was also associated with episode-level treatment helpfulness. Surprisingly, another indicator of severity (number of specific phobia subtypes; de Vries et al., 2019a) was not associated with either persistence or helpfulness. It is unclear why students and those with childhood adversities were less likely to obtain treatment perceived as helpful.

The probability of receiving helpful treatment from a particular professional remained relatively stable, at 20–30%, throughout the first four professionals seen. This suggests that people with specific phobia should not feel discouraged if they do not receive helpful treatment from the first professional they see. Given the early age of onset and high persistence of the disorder throughout the life course, one implication is that primary healthcare professionals should include a screen for specific phobia in their protocols for young people and should encourage consequent mental health care, but with a clear statement to patients that persistence is often required before finding a helpful treatment provider. This is important given that a large percentage of people with specific phobia never receive treatment (Alonso et al., 2018) and untreated specific phobia is a predictor of the persistence (McGrath et al., 2020) and severity (Alonso et al., 2013) of numerous other mental disorders throughout the life course. The injunction for patients to persist in help-seeking is based on our finding that nearly half of respondents did not persist in seeking out a second professional if the first professional was not helpful and the great majority failed to persist after multiple prior unhelpful treatments. This contrasts with a previous study on treatment helpfulness for depression, which found persistence rates of around 75% early in treatment (Harris et al., 2020). The difference between specific phobia and depression may

be related to the lower levels of disability associated with specific phobia (Ormel et al., 2008).

Unhelpful treatment wastes resources, increases the length of time patients suffer from their symptoms, and leads people to give up on help-seeking before their symptoms are effectively treated. While some mental disorders can be quite difficult to treat, specific phobia is one of the more treatable mental disorders (Choy et al., 2007), although it tends to be persistent if left untreated (Wardenaar et al., 2017). Our finding that of those few people with specific phobia who receive treatment, only 20 to 30% report that they received helpful treatment from a particular professional is, therefore, unexpected and disappointing. This also contrasts with analyses showing that episode-level treatment helpfulness early in the course of treatment was higher among respondents with major depression (30–40%) (Harris et al., 2020), even though depression is generally thought to be more difficult to treat and response rates in clinical trials for depression are somewhat lower than those for specific phobia (de Vries et al., 2019b). Depression might be more responsive to nonspecific interventions (e.g. supportive care), while specific phobia might be specifically highly responsive to evidence-based treatments; alternatively, the more episodic nature of depression may lead patients to misattribute spontaneous improvement to treatment, which is less likely to occur with a highly persistent disorder like specific phobia. Increased access to evidence-based treatment options, such as *in vivo* exposure (Wolitzky-Taylor et al., 2008), may help to improve treatment helpfulness for specific phobia in clinical practice. Patients may also need to be educated that a degree of trial-and-error in finding helpful treatment is normal and that they should not feel discouraged if they do not obtain helpful treatment immediately. Future research should also investigate whether anxiety about the treatment itself, which is common for exposure therapy, might also play a role in the low persistence rates.

Strengths and limitations

The current study has several important strengths. First, we used a large cross-national sample, which enabled us to investigate differences between high-income and low/middle-income countries. Secondly, unlike previous studies that only examined receipt of helpful treatment, we provided better insight into the process of obtaining helpful treatment by disentangling its two primary components.

This study also has several limitations. First, respondents retrospectively reported their lifetime treatment experiences. Although the CIDI was designed to reduce recall bias in several ways, for instance by asking participants to commit to thinking carefully about their answers during the interview and by using special recall probes for age of onset (Kessler & Ustün, 2004), our results may nevertheless have been affected by recall bias. In particular, more people meet criteria for mental disorders if they are repeatedly assessed over a period of decades, rather than asked to report on lifetime symptoms (Moffitt et al., 2010; Takayanagi et al., 2014). Therefore, treatment rates for specific phobia may be even lower than those reported here, as untreated, spontaneously remitting cases of specific phobia may have been forgotten. We attempted to reduce the influence of recall bias on treatment

helpfulness by only including participants who began treatment for specific phobia relatively recently (after 1990), but some recall bias may remain.

Secondly, we pooled data from diverse countries, and potential inter-country differences in the interpretation of CIDI questions or in the predictors of treatment helpfulness cannot be excluded. We investigated potential differences between country income groups in predictors of treatment helpfulness by testing interaction terms, which yielded only a few, marginally significant results. Due to the relatively low prevalence of specific phobia and the very low treatment rates, it was not possible to investigate country-specific predictors.

Thirdly, while the CIDI does assess which treatments respondents have received for any disorder, it does not assess which treatments respondents have received for a particular disorder. Moreover, the assessment of treatment type is not specific enough to assess whether respondents received evidence-based treatment. We also employed a broad definition of “professional” when asking respondents how many professionals they have seen for their specific phobia; hence, we cannot distinguish between respondents who saw several mental health professionals and respondents who primarily saw professionals that are unlikely to provide evidence-based therapy (e.g. herbalists). Relatedly, we do not know how often respondents saw a particular professional. Consequently, we cannot determine whether perceived helpfulness was low because respondents did not receive an evidence-based therapy for specific phobia, or whether it was low even though respondents did receive evidence-based therapy. The former explanation seems likely given previous research on the low prevalence of minimally adequate treatment (Alonso et al., 2018), but further research is needed to assess what kind of treatment patients with specific phobia receive in clinical practice, and how treatment type relates to perceived helpfulness.

Fourthly, we considered person-level treatment helpfulness to be a product of episode-level helpfulness and persistence. However, other factors may also play a role, such as persistence in attempting new treatments provided by the same professional. Furthermore, we did not account for differences in access to treatment providers; while some respondents may be non-persistent because they gave up on treatment, even though other professionals were readily available, other respondents may have been non-persistent because they did not have access to alternative treatment providers. The slightly lower persistence rate in low/middle-income countries compared to high-income countries might be due to differences in access to care, although further research is needed to confirm this.

Finally, assessment of perceived treatment helpfulness was based on a single question about whether respondents ever received treatment that they considered “helpful or effective”, which may have relatively low reliability. We also do not know on what basis respondents decided whether treatment was helpful. Although this means that respondents were free to focus on potential treatment outcomes that they personally considered most important, it also means that perceived helpfulness may not be related to outcomes usually used in treatment efficacy research (i.e. symptom reduction). We also cannot exclude the possibility that respondents may misattribute improvement for other reasons to the treatment they were engaged in at the same time.

Conclusions

In this study, we found that the cumulative probability of ever obtaining helpful treatment for specific phobia was 86% if respondents persisted in seeing up to nine professionals. However, persistence was relatively low, with about half of respondents reporting that they sought out a second professional if the first professional did not provide helpful treatment. The probability of being helped by a particular professional was only about 20 to 30%, which contrasts with randomized trials showing very high response rates to exposure-based therapy in specific phobia (Choy et al., 2007). These findings are a first step toward a better understanding of the reasons for the gap between treatment efficacy in clinical trials and patients' experience of helpfulness in clinical practice.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgements:

We thank the staff of the WMH Data Collection and Data Analysis Coordination Centres for assistance with instrumentation, fieldwork, and consultation on data analysis.

Funding: The World Health Organization World Mental Health (WMH) Survey Initiative is supported by the United States National Institute of Mental Health (NIMH; R01 MH070884), the John D. and Catherine T. MacArthur Foundation, the Pfizer Foundation, the United States Public Health Service (R13-MH066849, R01-MH069864, and R01 DA016558), the Fogarty International Center (FIRCA R03-TW006481), the Pan American Health Organization, Eli Lilly and Company, Ortho-McNeil Pharmaceutical Inc., GlaxoSmithKline, and Bristol-Myers Squibb. The views and opinions expressed in this report are those of the authors and should not be construed to represent the views of the World Health Organization, other sponsoring organizations, agencies, or governments.

The Argentina survey -- Estudio Argentino de Epidemiologia en Salud Mental (EASM) -- Was supported by a grant from the Argentinian Ministry of Health (Ministerio de Salud de la Nación) - (Grant Number 2002–17270/13 – 5). The São Paulo Megacity Mental Health Survey is supported by the State of São Paulo Research Foundation (FAPESP) Thematic Project Grant 03/00204–3. The Bulgarian Epidemiological Study of common mental disorders EPIBUL is supported by the Ministry of Health and the National Center for Public Health Protection. EPIBUL 2, conducted in 2016–17, is supported by the Ministry of Health and European Economic Area Grants. The Colombian National Study of Mental Health (NSMH) is supported by the Ministry of Social Protection. The Mental Health Study Medellín – Colombia was carried out and supported jointly by the Center for Excellence on Research in Mental Health (CES University) and the Secretary of Health of Medellin. The ESEMeD project is funded by the European Commission (Contracts QLG5-1999-01042; SANCO 2004123, and EAHC 20081308), (the Piedmont Region (Italy)), Fondo de Investigación Sanitaria, Instituto de Salud Carlos III, Spain (FIS 00/0028), Ministerio de Ciencia y Tecnologia, Spain (SAF 2000-158-CE), Generalitat de Catalunya (2017 SGR 452; 2014 SGR 748), Instituto de Salud Carlos III (CIBER CB06/02/0046, RETICS RD06/0011 REM-TAP), and other local agencies and by an unrestricted educational grant from GlaxoSmithKline. Implementation of the Iraq Mental Health Survey (IMHS) and data entry were carried out by the staff of the Iraqi MOH and MOP with direct support from the Iraqi IMHS team with funding from both the Japanese and European Funds through United Nations Development Group Iraq Trust Fund (UNDGITF). The World Mental Health Japan (WMHJ) Survey is supported by the Grant for Research on Psychiatric and Neurological Diseases and Mental Health (H13-SHOGAI-023, H14-TOKUBETSU-026, H16-KOKORO-013, H25-SEISHIN-IPPAN-006) from the Japan Ministry of Health, Labour and Welfare. The Lebanese Evaluation of the Burden of Ailments and Needs Of the Nation (L.E.B.A.N.O.N.) is supported by the Lebanese Ministry of Public Health, the WHO (Lebanon), National Institute of Health/Fogarty International Center (R03 TW006481-01), anonymous private donations to IDRAAC, Lebanon, and unrestricted grants from, Algorithm, AstraZeneca, Benta, Bella Pharma, Eli Lilly, Glaxo Smith Kline, Lundbeck, Novartis, OmniPharma, Pfizer, Phenicia, Servier, UPO. The Mexican National Comorbidity Survey (MNCS) is supported by The National Institute of Psychiatry Ramon de la Fuente (INPRFMDIES 4280) and by the National Council on Science and Technology (CONACyT-G30544-H), with supplemental support from the Pan American Health Organization (PAHO). Te Rau Hinengaro: The New Zealand Mental Health Survey (NZMHS) is supported by the New Zealand Ministry of Health, Alcohol Advisory Council, and the Health Research Council. The Nigerian Survey of Mental Health and Wellbeing (NSMHW) is supported by the WHO (Geneva), the WHO (Nigeria), and the Federal Ministry of Health, Abuja, Nigeria. The Northern Ireland Study of Mental Health was funded by the

Health & Social Care Research & Development Division of the Public Health Agency. The Peruvian World Mental Health Study was funded by the National Institute of Health of the Ministry of Health of Peru. The Polish project Epidemiology of Mental Health and Access to Care –EZOP Project (PL 0256) was carried out by the Institute of Psychiatry and Neurology in Warsaw in consortium with Department of Psychiatry - Medical University in Wroclaw and National Institute of Public Health-National Institute of Hygiene in Warsaw and in partnership with Psykiatrist Institut Vinderen–Universitet, Oslo. The project was funded by the European Economic Area Financial Mechanism and the Norwegian Financial Mechanism. EZOP project was co-financed by the Polish Ministry of Health. The Portuguese Mental Health Study was carried out by the Department of Mental Health, Faculty of Medical Sciences, NOVA University of Lisbon, with collaboration of the Portuguese Catholic University, and was funded by Champalimaud Foundation, Gulbenkian Foundation, Foundation for Science and Technology (FCT) and Ministry of Health. The Romania WMH study projects "Policies in Mental Health Area" and "National Study regarding Mental Health and Services Use" were carried out by National School of Public Health & Health Services Management (former National Institute for Research & Development in Health), with technical support of Metro Media Transilvania, the National Institute of Statistics-National Centre for Training in Statistics, SC Cheyenne Services SRL, Statistics Netherlands and were funded by Ministry of Public Health (former Ministry of Health) with supplemental support of Eli Lilly Romania SRL. The Saudi National Mental Health Survey (SNMHS) is conducted by the King Salman Center for Disability Research. It is funded by Saudi Basic Industries Corporation (SABIC), King Abdulaziz City for Science and Technology (KACST), Ministry of Health (Saudi Arabia), and King Saud University. Funding in-kind was provided by King Faisal Specialist Hospital and Research Center, and the Ministry of Economy and Planning, General Authority for Statistics. The Shenzhen Mental Health Survey is supported by the Shenzhen Bureau of Health and the Shenzhen Bureau of Science, Technology, and Information. The Psychiatric Enquiry to General Population in Southeast Spain – Murcia (PEGASUS-Murcia) Project has been financed by the Regional Health Authorities of Murcia (Servicio Murciano de Salud and Consejería de Sanidad y Política Social) and Fundación para la Formación e Investigación Sanitarias (FFIS) of Murcia. The US National Comorbidity Survey Replication (NCS-R) is supported by the National Institute of Mental Health (NIMH; U01-MH60220) with supplemental support from the National Institute of Drug Abuse (NIDA), the Substance Abuse and Mental Health Services Administration (SAMHSA), the Robert Wood Johnson Foundation (RWJF; Grant 044708), and the John W. Alden Trust. Dr. Andrade reports grants from Brazilian Council for Scientific and Technological Development, outside the submitted work. A complete list of all within-country and cross-national WMH publications can be found at http://www.hcp.med.harvard.edu/wmh/.

Role of the funding source: None of the funders had any role in the design, analysis, interpretation of results, or preparation of this paper.

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Abbreviations:

CIDI	Composite International Diagnostic Interview
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition
IRB	Institutional Review Board
PRC	People's Republic of China
SCID	Structured Clinical Interview for DSM-IV
SE	Standard error
WMH	World Mental Health
WHO	World Health Organization

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Highlights

- Specific phobia treatment helpfulness is 23.0% for the first professional seen
- The proportion increases to 85.7% with persistent help-seeking
- But most patients give up before helpful treatment is received
- Persistence is critical to obtaining helpful specific phobia treatment

Table 1.

Lifetime prevalence of DSM-IV specific phobia, proportion of cases with lifetime specific phobia who obtained treatment, and proportion of treated cases who perceived treatment as helpful

	Full sample			Respondents with lifetime specific phobia			Respondents who obtained treatment for specific phobia		
	(n)	% with specific phobia	(SE)	(n)	% who obtained treatment[a]	(SE)	(n)	% who perceived treatment as helpful[b]	(SE)
I. Low/middle-income									
Colombia	(4,426)	12.5	(0.8)	(556)	11.5	(1.9)	(67)	53.2	(8.2)
Iraq	(4,332)	4.2	(0.4)	(179)	3.1	(1.1)	(12)	61.0	(16.5)
Nigeria	(6,752)	5.9	(0.5)	(355)	5.5	(1.7)	(17)	78.4	(12.6)
Peru	(3,930)	6.6	(0.4)	(252)	10.1	(1.7)	(25)	46.5	(11.2)
Shenzhen, PRC	(7,132)	4.0	(0.3)	(256)	17.8	(3.7)	(37)	54.9	(11.0)
Sao Paulo, Brazil	(5,037)	12.4	(0.6)	(664)	15.7	(2.1)	(101)	26.7	(5.0)
Bulgaria	(6,826)	5.5	(0.3)	(383)	6.6	(1.9)	(19)	63.6	(13.2)
Lebanon	(2,857)	7.1	(0.5)	(202)	5.1	(1.7)	(7)	7.4	(5.5)
Medellin, Colombia	(3,261)	10.2	(0.8)	(326)	5.9	(1.5)	(22)	71.7	(11.7)
Mexico	(5,782)	7.0	(0.5)	(413)	6.3	(1.2)	(34)	51.8	(11.1)
Romania	(2,357)	3.8	(0.5)	(97)	15.4	(3.3)	(11)	61.4	(13.7)
All low/middle-income	(52,692)	7.0	(0.2)	(3,683)	9.7	(0.7)	(352)	48.0	(3.5)
Test for differences	χ^2_{10} = 354.2, p<.001			χ^2_{10} = 54.9, p<.001			χ^2_{10} = 32.3, p<.001		
II. High-income countries									
Argentina	(3,927)	6.8	(0.5)	(289)	17.5	(2.8)	(53)	59.2	(7.3)
Belgium	(1,043)	7.0	(1.2)	(106)	9.7	(3.2)	(16)	37.6	(16.3)
France	(1,436)	12.0	(1.0)	(223)	28.9	(4.2)	(59)	18.2	(5.7)
Germany	(1,323)	9.9	(1.1)	(199)	20.5	(3.6)	(54)	55.2	(10.0)
Italy	(1,779)	5.8	(0.7)	(150)	13.5	(2.9)	(23)	33.8	(9.8)
Japan	(4,129)	3.4	(0.3)	(138)	10.1	(2.6)	(13)	61.4	(16.0)
Murcia, Spain	(2,621)	5.4	(0.5)	(137)	13.6	(3.4)	(18)	56.4	(15.5)
Netherlands	(1,094)	6.5	(0.8)	(124)	23.0	(4.8)	(30)	50.7	(11.9)
New Zealand	(12,790)	10.9	(0.4)	(1,548)	17.7	(1.3)	(250)	47.7	(4.0)
Northern Ireland	(4,340)	9.6	(0.6)	(451)	14.4	(1.5)	(66)	52.4	(6.2)
Poland	(10,081)	3.4	(0.2)	(342)	13.3	(2.2)	(44)	52.6	(9.0)
Portugal	(3,849)	10.6	(0.6)	(448)	22.1	(2.2)	(103)	41.1	(6.3)
Spain	(2,121)	5.1	(0.8)	(143)	7.6	(2.3)	(23)	52.8	(13.6)
United States	(9,282)	12.5	(0.4)	(1,198)	15.5	(1.3)	(192)	49.4	(4.4)
All high-income countries	(59,815)	8.2	(0.1)	(5,496)	16.7	(0.6)	(944)	47.3	(2.0)
Test for differences	χ^2_{13} = 668.6, p<.001			χ^2_{13} = 44.2, p<.001			χ^2_{13} = 21.9, p=0.057		
III. Pooled countries									
All countries	(112,507)	7.7	(0.1)	(9,179)	13.7	(0.5)	(1,296)	47.5	(1.8)
Test for differences	χ^2_{24}=1067.0, p<001			χ^2_{24}=154.0, p<.001			χ^2_{24}=54.3, p<.001		

	Full sample			Respondents with lifetime specific phobia			Respondents who obtained treatment for specific phobia		
	(n)	% with specific phobia	(SE)	(n)	% who obtained treatment[a]	(SE)	(n)	% who perceived treatment as helpful[b]	(SE)
Low/middle vs. high-income									
Test for differences	χ^2_1= 31.6, p<.001			χ^2_1=50.0, p<.001			χ^2_1 = 0.0, p=0.87		

Abbreviations: SE, standard error; PRC, People's Republic of China.

[a]Cases are based on three conditions: (i) Respondents obtained specific phobia treatment; (ii) Year of first specific phobia treatment ≥ 1990; and (iii) Age at onset of specific phobia ≤ Year of first specific phobia treatment.

[b]Cases are based on four conditions: (i) Respondents obtained specific phobia treatment; (ii) Year of first specific phobia treatment ≥ 1990; and (iii) Age at onset of specific phobia ≤ Year of first specific phobia treatment; and (iv) Respondents obtained helpful treatment.

Table 2.

Conditional and cumulative probabilities of specific phobia treatment being perceived as helpful after each professional seen, among respondents with lifetime DSM-IV specific phobia who obtained treatment

	I. Conditional probabilities									II. Cumulative probabilities					
Number of professionals seen after which treatment was perceived as helpful	All countries			High-income countries			Low/middle-income countries			All countries (n = 1,296)		High-income countries (n = 944)		Low/middle-income countries (n = 352)	
	(n)	%	(SE)	(n)	%	(SE)	(n)	%	(SE)	%	(SE)	%	(SE)	%	(SE)
1	(1,296)	23.0	(1.1)	(944)	21.3	(1.2)	(352)	26.9	(2.3)	23.0	(1.1)	21.3	(1.2)	26.9	(2.3)
2	(566)	32.8	(2.0)	(433)	33.3	(2.4)	(133)	31.6	(3.3)	48.3	(2.2)	47.5	(2.5)	50.0	(4.6)
3	(263)	28.3	(2.8)	(199)	29.8	(3.2)	(64)	24.4	(5.4)	62.9	(2.3)	63.2	(2.6)	62.2	(4.7)
4	(136)	21.0	(2.5)	(98)	21.6	(3.2)	(38)	19.5	(3.7)	70.7	(2.4)	71.1	(2.8)	69.6	(4.9)
5	(91)	12.2	(3.2)	(67)	13.5	(4.3)	(24)	8.7	(1.5)	74.3	(2.5)	75.0	(2.8)	72.2	(4.9)
6	(65)	31.8	(4.2)	(48)	23.7	(4.0)	(17)	60.0	(10.1)	82.5	(2.4)	81.0	(2.7)	88.9	(4.3)
7	(45)	7.3	(1.0)	(35)	6.7	(1.1)	(10)	11.3	(3.4)	83.8	(2.3)	82.2	(2.7)	90.1	(4.1)
8	(40)	3.9	(1.9)	(31)	1.3	(1.3)	(9)	20.2	(7.4)	84.4	(2.3)	82.5	(2.7)	92.1	(3.2)
9	(33)	8.2	(4.7)	(28)	7.2	(4.9)	(5)	17.1	(15.3)	85.7	(2.2)	83.7	(2.6)	93.5	(3.0)

Abbreviations: SE, standard error.

Table 3.

Conditional and cumulative probabilities of persistence with treatment after previous unhelpful attempts, among respondents with lifetime DSM-IV specific phobia who obtained treatment

	I. Conditional probabilities									II. Cumulative probabilities					
Number of professionals seen if not helped by the previous one	**All countries**			**High-income countries**			**Low/middle-income countries**			**All countries (n = 987)**		**High-income countries (n = 728)**		**Low/middle-income countries (n = 259)**	
	(n)	**%**	**(SE)**	**(n)**	**%**	**(SE)**	**(n)**	**%**	**(SE)**	**%**	**(SE)**	**%**	**(SE)**	**%**	**(SE)**
2	(987)	54.6	(1.6)	(728)	55.7	(1.9)	(259)	52.0	(2.8)	54.6	(1.6)	55.7	(1.9)	52.0	(2.8)
3	(391)	62.7	(2.7)	(294)	62.5	(3.2)	(97)	63.4	(5.1)	34.3	(2.3)	34.8	(2.7)	32.9	(4.3)
4	(186)	71.2	(2.8)	(136)	72.2	(3.3)	(50)	68.6	(5.2)	24.4	(2.1)	25.1	(2.4)	22.6	(3.9)
5	(105)	87.9	(1.8)	(76)	90.5	(1.6)	(29)	81.6	(4.4)	21.4	(2.1)	22.7	(2.4)	18.4	(3.8)
6	(75)	85.7	(3.7)	(54)	92.6	(2.6)	(21)	68.2	(9.3)	18.4	(2.0)	21.1	(2.4)	12.6	(3.4)
7	(48)	92.5	(3.9)	(37)	92.5	(4.4)	(11)	92.6	(5.3)	17.0	(2.0)	19.5	(2.3)	11.6	(3.2)
8	(41)	93.2	(6.4)	(32)	92.2	(7.2)	(9)	100.0	(0.0)	15.8	(2.0)	18.0	(2.4)	11.6	(3.2)
9	(37)	92.7	(2.9)	(30)	94.0	(3.2)	(7)	82.0	(5.5)	14.7	(2.0)	16.9	(2.4)	9.5	(2.9)

Abbreviations: SE, standard error.

Table 4.

Predictors of person-level perceived helpfulness of treatment (composite outcome) and of the decomposed episode-level outcomes of helpful treatment and persistence (pooled across professionals seen), among people with lifetime DSM-IV specific phobia who obtained treatment

	Composite outcome				Decomposed outcomes							
	Model 1. Predicting perceived helpfulness of treatment across specific phobia patients				Model 2. Predicting episode-level helpful treatment (pooled across professionals seen)				Model 3. Predicting episode-level persistence (pooled across treatment failure)			
	Prevalence		Multivariate		Prevalence		Multivariate		Prevalence		Multivariate	
	Mean/ %	(SE)	AOR	(95% CI)	Mean/ %	(SE)	AOR	(95% CI)	Mean/ %	(SE)	AOR	(95% CI)
Age at first specific phobia treatment	32.3[a]	(0.4)	1.01	(1.00-1.02)	30.7[a]	(1.4)	1.00	(0.99-1.01)	30.0[a]	(1.7)	1.01*	(1.00-1.02)
χ^2_1			2.20 (p=0.14)				0.37 (p=0.54)				4.51 (p=0.034)*	
Gender												
Female	69.7[a]	(1.3)	1.11	(0.84-1.46)	70.1[a]	(3.0)	1.13	(0.91-1.40)	69.8[a]	(3.7)	1.00	(0.79-1.27)
Male	30.3[a]	(1.3)	1.00	Ref	29.9[a]	(3.0)	1.00	Ref	30.2[a]	(3.7)	1.00	Ref
χ^2_1			0.56 (p=0.46)				1.18 (p=0.28)				0.00 (p=0.98)	
Marital status												
Never married	43.2	(1.5)	0.75*	(0.58-0.99)	50.2	(3.8)	0.67*	(0.53-0.84)	52.9	(4.7)	1.09	(0.85-1.39)
Previously married	12.4	(0.8)	0.73	(0.50-1.07)	11.4	(1.4)	0.88	(0.64-1.20)	11.2	(1.6)	0.83	(0.61-1.12)
Currently married	44.4	(1.5)	1.00	Ref	38.3	(3.1)	1.00	Ref	36.0	(3.7)	1.00	Ref
χ^2_2			5.88 (p=0.05)				11.98 (p=0.003)*				2.43 (p=0.30)	
Education												
Low	12.8	(0.8)	1.22	(0.80-1.85)	12.6	(1.8)	0.95	(0.68-1.32)	12.0	(2.2)	1.26	(0.89-1.78)
Low-average	19.6	(1.1)	0.96	(0.66-1.41)	17.0	(1.6)	0.97	(0.71-1.33)	16.2	(1.9)	0.96	(0.70-1.30)
High-average	28.9	(1.2)	0.92	(0.65-1.30)	30.0	(2.8)	0.82	(0.64-1.05)	29.3	(3.4)	1.13	(0.86-1.49)
Student	21.7	(1.1)	0.53*	(0.34-0.82)	26.5	(5.0)	0.44*	(0.31-0.63)	30.0	(6.1)	1.27	(0.88-1.83)
High	17.0	(1.0)	1.00	Ref	13.9	(1.2)	1.00	Ref	12.4	(1.4)	1.00	Ref
χ^2_4			12.81 (p=0.012)*				23.03 (p<.001)*				4.59 (p=0.33)	
Treatment delay (years)[b]	21.2	(0.4)	0.99	(0.98-1.00)	20.0	(1.0)	1.00	(0.99-1.01)	19.5	(1.3)	0.99*	(0.98-1.00)
χ^2_1			1.31 (p=0.25)				0.30 (p=0.58)				5.47 (p=0.019)*	
Started specific phobia treatment >= 2000 (vs. 1990-1999)	47.3	(1.2)	1.17	(0.89-1.53)	40.9	(3.0)	1.23*	(1.00-1.52)	38.3	(3.6)	0.94	(0.76-1.16)
χ^2_1			1.26 (p=0.26)				3.98 (p=0.046)*				0.34 (p=0.56)	
Treatment type[c]												

	Composite outcome				Decomposed outcomes							
	Model 1. Predicting perceived helpfulness of treatment across specific phobia patients				Model 2. Predicting episode-level helpful treatment (pooled across professionals seen)				Model 3. Predicting episode-level persistence (pooled across treatment failure)			
	Prevalence		Multivariate		Prevalence		Multivariate		Prevalence		Multivariate	
	Mean/ %	(SE)	AOR	(95% CI)	Mean/ %	(SE)	AOR	(95% CI)	Mean/ %	(SE)	AOR	(95% CI)
Mental health specialist + Psychotherapy	52.7	(1.4)	1.48 *	(1.01-2.17)	56.8	(4.2)	1.07	(0.81-1.41)	55.4	(5.2)	1.34	(0.94-1.91)
Mental health specialist + Medication	38.2	(1.3)	1.70 *	(1.18-2.46)	44.9	(3.7)	1.09	(0.83-1.43)	43.9	(4.5)	1.85 *	(1.39-2.45)
General medical	70.6	(1.3)	0.80	(0.57-1.14)	74.7	(2.4)	0.59 *	(0.46-0.76)	77.0	(2.7)	1.13	(0.86-1.50)
Complementary/ alternative medicine	17.6	(0.9)	1.22	(0.87-1.70)	23.4	(2.2)	0.84	(0.67-1.06)	24.1	(2.8)	1.42 *	(1.11-1.82)
Human services	10.2	(0.8)	1.00	Ref	16.3	(2.4)	1.00	Ref	17.7	(2.9)	1.00	Ref
χ^2_4			19.57 (p<.001) *				25.73 (p<.001) *				25.10 (p<.001) *	
Two or more of the above	47.2	(1.4)	1.01	(0.62-1.64)	54.1	(4.0)	0.91	(0.63-1.29)	53.5	(5.0)	1.20	(0.83,1.75)
χ^2_1			0.00 (p=0.97)				0.30 (p=0.59)				0.95 (p=0.33)	
χ^2_5			45.85 (p<.001) *				27.29 (p<.001) *				82.72 (p<.001) *	
Comorbidity												
Number of lifetime anxiety disorders [d]												
Three or more lifetime anxiety disorders	20.6	(1.1)	2.13 *	(1.51-3.00)	25.3	(2.8)	1.44 *	(1.15-1.82)	24.9	(3.4)	1.65 *	(1.23-2.21)
Exactly 2 lifetime anxiety disorders	25.4	(1.2)	1.35 *	(1.00-1.81)	23.3	(1.9)	1.11	(0.86-1.43)	22.5	(2.3)	1.20	(0.94-1.52)
Exactly 1 lifetime anxiety disorder	54.0	(1.2)	1.00	Ref	51.4	(3.7)	1.00	Ref	52.6	(4.6)	1.00	Ref
χ^2_2			18.46 (p<.001) *				11.05 (p=0.004) *				11.18 (p=0.004) *	
Mood disorder												
Major depressive disorder	28.6	(1.1)	0.99	(0.74-1.34)	31.6	(2.8)	0.85	(0.68-1.08)	31.7	(3.5)	1.20	(0.96-1.49)
Bipolar disorder	8.2	(0.6)	1.27	(0.81-1.99)	11.6	(2.2)	0.90	(0.64-1.26)	12.2	(2.8)	1.43 *	(1.03-1.98)
χ^2_2			1.18 (p=0.56)				1.77 (p=0.41)				5.88 (p=0.05)	
Substance use disorder												
Alcohol and/or drug abuse	14.0	(0.9)	1.01	(0.71-1.44)	16.7	(2.3)	1.03	(0.80-1.33)	17.1	(2.7)	0.93	(0.71-1.22)

	Composite outcome				Decomposed outcomes							
	Model 1. Predicting perceived helpfulness of treatment across specific phobia patients				Model 2. Predicting episode-level helpful treatment (pooled across professionals seen)				Model 3. Predicting episode-level persistence (pooled across treatment failure)			
	Prevalence		Multivariate		Prevalence		Multivariate		Prevalence		Multivariate	
	Mean/ %	(SE)	AOR	(95% CI)	Mean/ %	(SE)	AOR	(95% CI)	Mean/ %	(SE)	AOR	(95% CI)
Alcohol or drug dependence (without abuse)	1.1	(0.3)	0.34	(0.09-1.23)	1.1	(0.2)	0.83	(0.44-1.57)	1.1	(0.2)	0.40	(0.13-1.22)
χ^2_2			2.74 (p=0.25)				0.55 (p=0.76)				2.91 (p=0.23)	
χ^2_6			24.87 (p<.001) *				11.77 (p=0.07)				23.10 (p<.001) *	
Childhood adversities												
Family dysfunction [e]	39.2	(1.3)	1.02	(0.78-1.33)	42.5	(3.3)	0.90	(0.73-1.11)	43.1	(4.2)	1.13	(0.92-1.39)
Other [f]	23.2	(1.1)	0.65 *	(0.49-0.86)	23.6	(2.5)	0.75 *	(0.59-0.95)	24.4	(3.2)	0.84	(0.67-1.06)
χ^2_2			9.44 (p=0.009) *				6.23 (p=0.044) *				3.00 (p=0.22)	
Number of specific phobia subtypes	2.1	(0.0)	0.94	(0.85-1.03)	2.1	(0.1)	0.96	(0.90-1.03)	2.1	(0.1)	0.97	(0.89-1.04)
χ^2_1			1.87 (p=0.17)				1.05 (p=0.31)				0.78 (p=0.38)	
Full model χ^2_{24}			135.20 (p<.001) *				112.51 (p<.001) *				211.40 (p<.001) *	

Abbreviations: SE, standard error; AOR, adjusted odds ratio; CI, confidence interval.

* Significant at .05 level, two-sided test.

[a] This value is different from the sample-wide value reported in Model 1 due to the fact that the value reported Model 1 is at the respondent level (the first entry in the upper left corner of Table 2), whereas the value reported in Model 2 is at the person-encounter level (the cumulation of the numbers in the first column of Table 2) and the value reported in Model 3 is at the level of all person encounters after a prior unhelpful visit (the cumulation of the numbers in the first column of Table 3).

[b] Treatment delay (years) = Age at first specific phobia treatment - Age at onset of specific phobia

[c] Treatment providers: mental health specialists (psychiatrist, psychiatric nurse, psychologist, psychiatric social worker, mental health counselor), primary care providers, human services providers (social worker or counselor in a social services agency, spiritual advisor), and complementary/ alternative medicine (other type of healer or self-help group).

[d] Lifetime anxiety disorders included generalized anxiety disorder, panic disorder, agoraphobia with or without panic disorder, post-traumatic stress disorder, specific phobia, and social phobia.

[e] Family Dysfunction includes Physical abuse, Sexual abuse, Neglect, Parental mental disorder, Parental substance use disorder, Parental criminal behavior and Family violence.

[f] Other includes Parental death, Parental divorced, Other loss of a parent, Physical illness and Economic adversity.