

# The role of religious advisors in mental health care in the World Mental Health surveys

Vivianne Kovess-Masfety<sup>1</sup> · Sara Evans-Lacko<sup>2</sup> · David Williams<sup>3</sup> · Laura Helena Andrade<sup>4</sup> · Corina Benjet<sup>5</sup> · Margreet Ten Have<sup>6</sup> · Klaas Wardenaar<sup>7</sup> · Elie G. Karam<sup>8</sup> · Ronny Bruffaerts<sup>9</sup> · Jibril Abdumalik<sup>10</sup> · Josep Maria Haro Abad<sup>11</sup> · Silvia Florescu<sup>12</sup> · Benjamin Wu<sup>13</sup> · Peter De Jonge<sup>14</sup> · Yasmina Altwaijri<sup>15</sup> · Hristo Hinkov<sup>16</sup> · Norito Kawakami<sup>17</sup> · Jose Miguel Caldas-de-Almeida<sup>18</sup> · Evelyn Bromet<sup>19</sup> · Giovanni de Girolamo<sup>20</sup> · José Posada-Villa<sup>21</sup> · Ali Al-Hamzawi<sup>22</sup> · Yueqin Huang<sup>23</sup> · Chiyi Hu<sup>24</sup> · Maria Carmen Viana<sup>25</sup> · John Fayyad<sup>26</sup> · Maria Elena Medina-Mora<sup>27</sup> · Koen Demyttenaere<sup>28</sup> · Jean-Pierre Lepine<sup>29</sup> · Samuel Murphy<sup>30</sup> · Miguel Xavier<sup>31</sup> · Tadashi Takeshima<sup>32</sup> · Oye Gureje<sup>10</sup>

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## Abstract

**Objectives** To examine the role of religious advisors in mental health care (MHC) according to disorder severity, socio-demographics, religious involvement and country income groups.

**Methods** Face to face household surveys in ten high income (HI), six upper-middle income (UMI) and five low/lower-middle (LLMI) income countries totalling 101,258

adults interviewed with the WMH CIDI plus questions on use of care for mental health problems and religiosity.

**Results** 1.1% of participants turned to religious providers for MHC in the past year. Among those using services, 12.3% used religious services; as much as 30% in some LLMI countries, around 20% in some UMI; in the HI income countries USA, Germany, Italy and Japan are between 15 and 10% whenever the remaining countries are

✉ Vivianne Kovess-Masfety  
vkovess@gmail.com

<sup>1</sup> EA 4057 Paris Descartes University Paris, UFR Institut de Psychologie, 71, avenue Edouard Vaillant, 92774 Boulogne-Billancourt, France

<sup>2</sup> Kings College London, Institute of Psychiatry, Psychology and Neuroscience Health Service and Population Research, London, UK

<sup>3</sup> Department of Society, Human Development and Health, Harvard School of Public Health, Boston, USA

<sup>4</sup> Institute of Psychiatry, University of Sao Paulo Medical School, Sao Paulo, Brazil

<sup>5</sup> Department of Epidemiologic and Psychosocial Research, National Institute of Psychiatry Ramón de la Fuente, Mexico, Mexico

<sup>6</sup> Netherlands Institute of Mental Health and Addiction, Epidemiology, Utrecht, Netherlands

<sup>7</sup> Department of Psychiatry, University of Groningen, University Medical Center Groningen (UMCG), Interdisciplinary Center Psychopathology and Emotion Regulation (ICPE), Groningen, The Netherlands

<sup>8</sup> IDRAAC, Psychiatry and Clinical Psychology, Ashrafieh, Beirut, Lebanon

<sup>9</sup> Katholieke Universiteit Leuven (UPC-KUL), Universitair Psychiatrisch Centrum Leuven, Kortenberg, Belgium

<sup>10</sup> Department of Psychiatry, University of Ibadan, Ibadan, Nigeria

<sup>11</sup> Departament de Recerca Sant Boi de Llobregat, Parc Sanitari Sant Joan de Déu—CIBERSAM, Barcelona, Spain

<sup>12</sup> National School of Public Health and Professional Development, Research and Evaluation, Bucharest, Romania

<sup>13</sup> Department of Health Care Policy, Harvard Medical School, Boston, USA

<sup>14</sup> Department of Developmental Psychology, Faculty of Social and Behavioural Sciences, University of Groningen, University Medical Center Groningen, Interdisciplinary Center Psychopathology and Emotion Regulation, Groningen, The Netherlands

<sup>15</sup> King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia

<sup>16</sup> Department of Global Mental Health, National Center for Public Health Protection, Sofia, Bulgaria

<sup>17</sup> Department of Mental Health, School of Public Health, The University of Tokyo, Tokyo, Japan

much lower. In LLMI 20.9% used religious advisors for the most severe mental disorders compared to 12.3 in UMI and 9.5% in HI. For severe cases most of religious providers use occurred together with formal care except in Nigeria, Iraq and Ukraine where, respectively, 41.6, 25.7 and 17.7% of such services are outside any formal care. Frequency of attendance at religious services was a strong predictor of religious provider usage OR 6.5 for those who attended over once a week ( $p < 0.0001$ ); as seeking comfort “often” through religion in case of difficulties OR was 3.6 ( $p = 0.004$ ) while gender and individual income did not predict use of religious advisors nor did the type of religious affiliation; in contrast young people use them more as well as divorced and widowed OR 1.4 ( $p = 0.02$ ). Some country differences persisted after controlling for all these factors.

**Conclusions** Religious advisors play an important role in mental health care and require appropriate training and collaboration with formal mental healthcare systems. Religious attitudes are strong predictors of religious advisors usage.

**Keywords** Religion · Mental health · Services use

## Background

“Despite spectacular advances in technology and sciences, 90% of the world’s population is involved today in some form of religious and spiritual practice. Non religious people make up less than 1.1% in population in many middle Eastern and African countries. Religion is unlikely

to disappear in the world and the role of religious advisors in providing services for mental health problems is likely to remain stable or increase rather than to decrease.” adapted from [1]. These sentences apply to many countries at diverse income levels and for some of the highest income countries to their growing immigrant populations.

In a prior publication, the World Mental Health Initiative (WMH<sup>1</sup>) provided data on nationally representative samples of a large set of diverse countries showing a dramatic treatment gap across the world: a considerable portion of individuals with severe mental disorders did not receive any services in the previous 12 months. In addition, among those who have received services, access to specialty mental health services remained quite low. This trend was, as expected, more visible in low to lower middle income countries. It remained, however, unclear to what extent religious advisors played a role in the use of services because religious advisors were pooled into the “human services” category along with social workers and counselors [2]. Access to religious providers does not require referral and is free of charge. As such, it could be the only available resource for people with low financial resources [3]. However, there have been some concerns about the quality of care that is delivered by religious providers. Although they are in contact with the most impaired [4], the number of counseling visits together with the low level of cooperation and referral to the formal MH care system have been underlined [3, 5]. Moreover, the mental health training of religious providers, even though some progress has been noticed, seems very poor. Studies have described religious providers’ inability to identify mental health problems and their underestimation of severity, including

<sup>18</sup> Chronic Diseases Research Center (CEDOC) and Department of Mental Health, Faculdade de Ciencias Medicas Lisbon, Universidade Nova de Lisboa, Lisbon, Portugal

<sup>19</sup> Department of Psychiatry, Stony Brook University, Stony Brook, NY, USA

<sup>20</sup> IRCCS St. John of God Clinical Research Centre, Brescia, Italy

<sup>21</sup> Saldarriaga Concha Foundation, Development Rehabilitation System FSC Bogotá, Bogota, Colombia

<sup>22</sup> College of Medicine Diwania Governate, Al-Qadisiyah University, Diwania, Iraq

<sup>23</sup> Institute of Mental Health, Peking University, Beijing, China

<sup>24</sup> Shenzhen Institute of Mental Health and Shenzhen Kangning Hospital, Shenzhen, Guangdong, China

<sup>25</sup> Department of Social Medicine, Federal University of Espírito Santo (UFES), Vitoria, Brazil

<sup>26</sup> Institute for Development, Research, Advocacy, and Applied Care (IDRAAC), Beirut, Lebanon

<sup>27</sup> Instituto Nacional de Psiquiatria, Epidemiology and Psychosocial Research, Mexico, Mexico

<sup>28</sup> Department of Psychiatry Leuven, University Hospital Gasthuisberg, Louvain, Belgium

<sup>29</sup> Department of Psychiatry, Fernand Widai Hospital, Paris, France

<sup>30</sup> Psychology Research Institute Londonderry, University of Ulster, Coleraine, UK

<sup>31</sup> Medical Sciences Lisboa, University Nova of Lisboa, Lisbon, Portugal

<sup>32</sup> Japan National Institute of Neurology and Psychiatry, Epidemiology, Tokyo, Japan

<sup>1</sup> <http://www.hcp.med.harvard.edu/wmh/>.

suicide lethality [3]. Also, some religious providers do not believe in biological models of mental health disorders and attribute the problems to religious causes, lack of spirituality, or usage of drugs or alcohol [6, 7]. Due to these false beliefs, religious providers in some cultures oppose medication [7] and/or consider psychiatry a threat for their interventions [8]. At any rate, a very high percentage of religious providers reported being frequently in contact with people suffering from mental health problems and feeling inadequate to ask for more training of formal MH resources [6, 9]. Most authors quoted above agree that religious providers are the entry door for many people that suffer from mental health disorders and often the only directly available resource for these people. As such, their training and cooperation is essential for delivering adequate care to these patients.

To turn to a religious advisor for a mental health problem depends on a variety of factors in addition to religion and religiosity, including: age, gender, social class, education, race and clinical characteristics of the mental health problem [5, 10]. These factors have been relatively well studied in high income countries. However, little is known regarding whether and how these factors apply to lower or middle income countries where religious providers may play a prominent role.

The WMH surveys offer a unique opportunity to study the role of religious providers in mental health care in a large sample of countries whose income level, religions, and availability of mental health resources vary enormously. The objectives of this study are (1) to examine the role of religious advisors in MH care together with or without formal care, according to disorder severity; (2) to characterize the sociodemographic and clinical characteristics associated with the use of religious providers for mental health problems and (3) to evaluate the relationship between type of religious affiliation and intensity of religious participation and use of religious providers for mental health care across low, middle and high income countries.

## Methods

### Sample

The WMH surveys are epidemiological surveys of prevalence and correlates of commonly occurring mental disorders [11] administered in ten countries classified by the World Bank at the time of each survey, as “high income” (HI) (Belgium, Germany, Italy, Japan, the Netherlands, Northern Ireland, Portugal, Spain, France and the United States), six “upper-middle income” (UMI) (Brazil,

Bulgaria, Lebanon, Mexico, Romania and South Africa), and five “low/lower-middle income” (LLMI) [Colombia, Iraq, Nigeria, Peoples Republic of China (two surveys one in Beijing/Shanghai and another in Shenzhen) and Ukraine] (World Bank 2009). Most surveys featured nationally representative household samples, while two (Colombia, Mexico) were representative of all urban areas in the country, one of selected states (Nigeria), and three of selected Metropolitan Areas (Brazil, Japan, Peoples Republic of China). A total of 101,258 adults (age 18+) participated. Sample sizes ranged from 2357 (Romania) to 9282 (United States). Informed consent was obtained using procedures approved by local Institutional Review Boards. The average weighted response rate was 73.4% (45.9–95.2% range). Weights were used to adjust for differential probabilities of selection and discrepancies with population socio-demographic/geographic distributions. (see Table 1).

Subsampling was used in most surveys to reduce respondent burden by dividing the interview into two parts. Part I, administered to all respondents, assessed core DSM-IV mental disorders ( $n = 101,258$  respondents across all 22 surveys). Part II assessed additional disorders and correlates. Questions regarding service use and religious preference were included in Part II, which was administered to 100% of Part I respondents who met lifetime criteria for any Part I disorder and a probability subsample of other Part I respondents ( $n = 50,134$  across all 22 surveys). Part II respondents with no Part I disorder were up-weighted to adjust for under-sampling. Additional weights adjusted for differential within and between household selection and deviations between sample and population demographic-geographic distributions. Further details about WMH sampling and weighting are available elsewhere [12].

### Assessment

The surveys utilized the lay-administered Composite International Diagnostic Interview (CIDI 3.0; [11]) translated into each local language, to assess lifetime and 12-month diagnoses for all DSM-IV mood, anxiety, substance use and impulse control disorders, and collect information on age of onset, severity, impairment and persistence of disorders. Extensive information is also collected on demographic, behavioural and socioeconomic risk factors.

We classified WMH-CIDI mental disorders as serious, moderate, or mild. If any of the following conditions are met the 12-month disorder is considered serious: mania or substance dependence with a physiological dependence syndrome, a suicide attempt in conjunction with

**Table 1** WMH sample characteristics by World Bank income categories<sup>a</sup>

Country by income category	Survey <sup>b</sup>	Sample characteristics <sup>c</sup>	Field dates	Age range	Sample size			Response rate <sup>e</sup>
					Part 1	Part 2	Part 2 ≤44 <sup>d</sup>	
I Low and lower-middle								
Colombia	NSMH	All urban areas of the country (approximately 73% of the total national population)	2003	18–65	4426	2381	1731	87.7
Iraq	IMHS	Nationally representative	2006–7	18–96	4332	4332	–	95.2
Nigeria	NSMHW	21 of the 36 states in the country, representing 57% of the national population. The surveys were conducted in Yoruba, Igbo, Hausa and Efik languages	2002–3	18–100	6752	2143	1203	79.3
PRC <sup>f</sup> —Beijing/Shanghai	B-WMH/S-WMH	Beijing and Shanghai metropolitan areas	2002–3	18–70	5201	1628	570	74.7
PRC <sup>f</sup> —Shenzhen <sup>g</sup>	Shenzhen	Shenzhen metropolitan area. Included temporary residents as well as household residents	2006–7	18–88	7132	2475	–	80.0
Ukraine <sup>g</sup>	CMDPSD	Nationally representative	2002	18–91	4724	1719	540	78.3
TOTAL					32,567	14,678	4044	81.4
II Upper-middle								
Brazil—São Paulo	São Paulo Megacity	São Paulo metropolitan area	2005–7	18–93	5037	2942	–	81.3
Bulgaria	NSHS	Nationally representative	2003–7	18–98	5318	2233	741	72.0
Lebanon	Lebanon	Nationally representative	2002–3	18–94	2857	1031	602	70.0
Mexico	M-NCS	All urban areas of the country (approximately 75% of the total national population)	2001–2	18–65	5782	2362	1736	76.6
Romania	RMHS	Nationally representative	2005–6	18–96	2357	2357	–	70.9
South Africa <sup>g</sup>	SASH	Nationally representative	2003–4	18–92	4315	4315	–	87.1
TOTAL					25,666	15,240	3079	76.6
III High								
Belgium	ESEMeD	Nationally representative. The sample was selected from a national register of Belgium residents	2001–2	18–95	2419	1043	486	50.6
France	ESEMeD	Nationally representative. The sample was selected from a national list of households with listed telephone numbers	2001–2	18–97	2894	1436	727	45.9
Germany	ESEMeD	Nationally representative	2002–3	18–95	3555	1323	621	57.8
Italy	ESEMeD	Nationally representative. The sample was selected from municipality resident registries	2001–2	18–100	4712	1779	853	71.3
Japan	WMHJ 2002–2006	Eleven metropolitan areas	2002–6	20–98	4129	1682	–	55.1
Netherlands	ESEMeD	Nationally representative. The sample was selected from municipal postal registries	2002–3	18–95	2372	1094	516	56.4
N. Ireland	NISHS	Nationally representative	2004–7	18–97	4340	1986	–	68.4
Portugal	NMHS	Nationally representative	2008–9	18–81	3849	2060	1070	57.3
Spain	ESEMeD	Nationally representative	2001–2	18–98	5473	2121	960	78.6
United States	NCS-R	Nationally representative	2002–3	18–99	9282	5692	3197	70.9
TOTAL					43,025	20,216	8,430	66.8

**Table 1** continued

Country by income category	Survey <sup>b</sup>	Sample characteristics <sup>c</sup>	Field dates	Age range	Sample size			Response rate <sup>e</sup>
					Part 1	Part 2	Part 2 ≤44 <sup>d</sup>	
<b>IV Total</b>					101,258	50,134	15,553	73.4

<sup>a</sup> The World Bank (2008) Data and Statistics. Accessed May 12, 2009. <http://go.worldbank.org/D7SN0B8YU0>

<sup>b</sup> NSMH (The Colombian National Study of Mental Health); IMHS (Iraq Mental Health Survey); NSMHW (The Nigerian Survey of Mental Health and Wellbeing); B-WMH (The Beijing World Mental Health Survey); S-WMH (The Shanghai World Mental Health Survey); CMDPSD (Comorbid Mental Disorders during Periods of Social Disruption); NSHS (Bulgaria National Survey of Health and Stress); LEBANON (Lebanese Evaluation of the Burden of Ailments and Needs of the Nation); M-NCS (The Mexico National Comorbidity Survey); RMHS (Romania Mental Health Survey); SASH (South Africa Health Survey); NSMHWB (National Survey of Mental Health and Wellbeing); ESEMeD (The European Study Of The Epidemiology Of Mental Disorders); WMHJ2002-2006 (World Mental Health Japan Survey); NISHS (Northern Ireland Study of Health and Stress); NMHS (Portugal National Mental Health Survey); NCS-R (The US National Comorbidity Survey Replication)

<sup>c</sup> Most WMH surveys are based on stratified multistage clustered area probability household samples in which samples of areas equivalent to counties or municipalities in the US were selected in the first stage followed by one or more subsequent stages of geographic sampling (e.g., towns within counties, blocks within towns, households within blocks) to arrive at a sample of households, in each of which a listing of household members was created and one or two people were selected from this listing to be interviewed. No substitution was allowed when the originally sampled household resident could not be interviewed. These household samples were selected from Census area data in all countries other than France (where telephone directories were used to select households). Several WMH surveys (Belgium, Germany, Italy) used municipal resident registries to select respondents without listing households. The Japanese sample is the only totally un-clustered sample, with households randomly selected in each of the 11 metropolitan areas and one random respondent selected in each sample household. 15 of the 21 surveys are based on nationally representative household samples

<sup>d</sup> Brazil, Iraq, Japan, Northern Ireland, PRC—Shenzhen, Romania, and South Africa did not have an age restricted Part 2 sample. All other countries, with the exception of Nigeria, PRC (B-WMH; S-WMH), and Ukraine (which were age restricted to ≤39) were age restricted to ≤44

<sup>e</sup> The response rate is calculated as the ratio of the number of households in which an interview was completed to the number of households originally sampled, excluding from the denominator households known not to be eligible either because of being vacant at the time of initial contact or because the residents were unable to speak the designated languages of the survey. The weighted average response rate is %

<sup>f</sup> People's Republic of China

<sup>g</sup> For the purposes of cross-national comparisons we limit the sample to those 18+

any other disorder, reporting severe role impairment due to a mental disorder in at least two areas of functioning measured by disorder-specific Sheehan Disability Scales (SDS; [13]) or having overall functional impairment from any disorder consistent with a Global Assessment of Functioning (GAF; [14]) score of 50 or less. Disorders were classified as moderate if the respondent had substance dependence without a physiological dependence syndrome or at least moderate interference in any SDS domain. All other disorders were classified as mild. Significant monotonic associations have been found in all but two surveys between disorder severity and number of days in the previous year that respondents were unable to undertake normal daily activities because of disorders [15].

All participants were asked if they received any services for problems with “emotions, nerves, or your use of alcohol or drugs”. Individuals reporting any lifetime use of services were then asked to select whom they had seen from a list of formal health care providers: psychiatrists, psychologists, psychotherapists, social workers, counselors, nurses, general practitioners, other medical doctors.

Two categories of informal care providers were defined (1): religious or spiritual advisors and (2) all other non-formal, non-religious providers including the social workers and counselors who are not practicing in a health care setting and complementary alternative medicine including healers and self-help groups.

Participants were also asked for their religious affiliation. Among those respondents declaring a religious affiliation, four additional items were asked regarding the nature of their religious practice and intrinsic religiosity including: (1) How often do you usually attend religious services (dichotomized more than once a week vs all others)? (2) How important are religious beliefs in your daily life (dichotomized very important vs all others)? (3) How often do you seek comfort through religious or spiritual means when you have problems or difficulties in your family, work or personal life (often vs all others)? (4) When making decisions in your daily life, how often do you think about what your religious or spiritual beliefs suggest you should do (often vs. all others)? Depending on the analysis, the raw, ordinal versions of the variables or the dichotomized versions were used.

## Statistical analysis

Cross-tabulation was used to examine, among respondents that received services, the proportion that received care in formal settings only, and religious service only, and in the two setting combined. These analyses were carried out in subsamples defined by severity of disorder by each country, by countries combined by income level, and all countries combined.

Logistic regression analysis was used to study correlates of declaring a religious affiliation as well as predictors of receiving religious treatment among those who received treatment in the past 12 months. Standard errors were estimated using the Taylor series method to adjust the weighting as well as for the geographic clustering of observations both between and within countries. These adjustments were implemented using the SUDAAN (version 8.0.1). The coefficients in the logistic regression equations and their design-based standard errors were transformed into odds ratios (ORs) and 95% confidence intervals for ease of interpretation. Multivariate significance tests in the logistic regression analyses were made using Wald  $\chi^2$  tests based on coefficient variance–covariance matrices, adjusted for design effects using the Taylor series method. Statistical significance was evaluated using 2-sided design-based tests and a 0.05 level of significance.

## Results

### Use of religious advisor for mental health problems

As previously reported [2], the 12-month use of any services for mental health problems largely differs among income group countries ranging from 12.1% in the high income group to 8.7% in the upper-middle to 3.6% in the LLMI with an average of 8.6%. 1.1% of the population declared a religious provider use (together with formal care or exclusively): 0.6% in LLMI, 1.4% in UMI and 1.1% in the HI group.

Among those who used services, religious provider usage averaged 12.3% (16.4% in LLMI, 16.7% in UMI to 9.2% in HI countries—Table 2). In each income group some country differences were noted that render these groups relatively heterogeneous. The greatest contrast being within the LLMI where usage was very low in China (7.5%) and in the Shenzhen sample (2.9%) and quite high in Iraq, Nigeria and Ukraine (30.3, 30.9 and 24.9%, respectively). In the UMI group, South Africa had a high percentage (24.9%), followed by Lebanon and Brazil while the remaining countries of the group had rather low usage rates. In HI countries, the USA had the highest rate (15.5%), followed by Germany (12.2%), Japan (11.6%),

and Italy (9.1%) while the remaining countries had much lower rates.

The proportion of respondents receiving care from religious advisors (religious only or combined with formal) varied by disorder severity (Table 2). In LLMI countries, 20.6% of those with a severe disorder had contact with a religious advisor, compared to 12.3% in UMI and 9.5% in HI countries. The contrast is even greater for cases of severe disorders that turn to religious providers as the only resource: 16.2% in LLMI countries versus 3.6% in UMI and 2.5% in HI countries. For instance, in Nigeria, 41.6% of the most severe cases are treated by religious advisors only. Conversely, the use of religious advisors as the only treatment for severe disorders is consistently low in HI and MHI countries.

In the WMH surveys, the Catholic religion was most prominent followed by Protestantism and thirdly Islam, however, the distribution varies importantly by country (see Table 3). The propensity to turn to a religious provider did not vary much as a function of religion. Muslims tended to turn to religious advisors slightly more than other groups (24.2%), followed by those declaring other religions (including Judaism, and other non-Christian and non-Eastern religions 21.7%), Protestants (18.4%, including both evangelical and non-evangelical groups), and Hindus/Buddhists (15%). Catholics and those declaring no religious affiliation had the lowest proportion of seeking religious services for a mental health problem (8.8 and 3.3%, respectively) (table available on request).

In an adjusted prediction equation, (controlling for socio-demographic characteristics, illness severity, pooled across countries), among those who had used any services, women and young people were more likely to seek help from religious advisors. Illness severity and personal income were not related to seeking help from a religious advisor (results available upon request). In the fully adjusted logistic equation that added religious preference and questions on religiosity, the effect of gender disappeared (Table 4). Five main findings stand out. First, younger age remained significantly associated with a greater likelihood of using religious advisors for MH care. Second, those separated or widowed had higher usage than those married or never married. Third, religious affiliation was not a predictor of seeking help from a religious advisor while the frequency of attendance at a religious service was a strong predictor of religious provider usage, but only if attendance was higher than once a month. Fourth, seeking comfort through religion in case of difficulties was also a main predictor. Fifth, living in certain countries was associated with using religious providers for mental health problems. The model was done separately for each of the income groups and revealed similar results except for two countries: Iraq with an OR of 0.2 ( $p = 0.05$ ) and Lebanon with an OR of 2.3 ( $p = 0.03$ ) (Table 4).

**Table 2** Service use and severity of disorder among those who used any services

Country	Service category	Service types among those w/serious DX severity		Service types among those w/moderate DX severity		Service types among those w/mild DX severity		Service types among those w/no DX severity		Services types total	
		%	SE	%	SE	%	SE	%	SE	%	SE
China	Formal only	76.6	17.1	49.3	25.0	100.0	0.0	74.6	7.2	71.1	8.0
	Religious only	0.0	0.0	0.0	0.0	0.0	0.0	5.4	3.4	4.3	2.7
	<b>Any religious service</b>	<b>14.7</b>	<b>14.4</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>8.9</b>	<b>4.7</b>	<b>7.5</b>	<b>3.8</b>
Colombia	Formal only	83.4	8.7	92.3	4.2	95.4	4.5	86.3	4.6	87.5	3.2
	Religious only	4.5	2.8	1.5	1.5	4.6	4.5	5.9	3.1	4.7	1.9
	<b>Any religious service</b>	<b>12.3</b>	<b>7.3</b>	<b>2.5</b>	<b>1.9</b>	<b>4.6</b>	<b>4.5</b>	<b>8.5</b>	<b>3.8</b>	<b>8.0</b>	<b>2.7</b>
Iraq	Formal only	72.4	5.8	39.0	10.8	50.5	9.6	80.0	3.2	65.2	5.0
	Religious only	25.7	5.7	55.7	11.4	31.2	3.9	18.0	3.1	29.9	4.3
	<b>Any religious service</b>	<b>26.9</b>	<b>5.8</b>	<b>55.7</b>	<b>11.4</b>	<b>31.2</b>	<b>3.9</b>	<b>18.0</b>	<b>3.1</b>	<b>30.3</b>	<b>4.3</b>
Nigeria	Formal only	58.4	22.9	88.1	12.3	96.5	4.0	53.5	13.7	68.0	10.1
	Religious only	41.6	22.9	11.9	12.3	0.0	0.0	43.7	14.0	29.4	10.1
	<b>Any religious service</b>	<b>41.6</b>	<b>22.9</b>	<b>11.9</b>	<b>12.3</b>	<b>3.5</b>	<b>4.0</b>	<b>44.6</b>	<b>13.9</b>	<b>30.9</b>	<b>10.1</b>
Shenzhen	Formal only	34.1	17.6	27.9	4.8	58.8	8.5	42.1	5.9	41.8	3.8
	Religious only	11.8	11.2	0.0	0.0	3.2	3.0	2.1	1.7	2.0	1.3
	<b>Any religious service</b>	<b>26.9</b>	<b>16.5</b>	<b>4.6</b>	<b>3.1</b>	<b>3.2</b>	<b>3.0</b>	<b>2.1</b>	<b>1.7</b>	<b>2.9</b>	<b>1.4</b>
Ukraine	Formal only	71.3	7.7	77.5	8.0	65.8	13.3	51.2	11.5	62.5	7.2
	Religious only	17.7	6.2	12.8	6.4	24.3	11.5	28.7	11.7	22.4	6.5
	<b>Any religious service</b>	<b>20.9</b>	<b>6.4</b>	<b>16.5</b>	<b>6.8</b>	<b>29.7</b>	<b>12.5</b>	<b>30.0</b>	<b>11.6</b>	<b>24.9</b>	<b>6.4</b>
<b>LOW/LOWER MIDDLE-INCOME</b>	Formal only	75.3	4.0	63.2	4.2	74.6	4.1	65.2	3.2	67.7	2.2
	Religious only	16.2	2.7	16.6	4.4	12.5	2.0	13.4	2.8	14.4	1.8
	<b>Any religious service</b>	<b>20.6</b>	<b>3.5</b>	<b>18.5</b>	<b>4.4</b>	<b>13.8</b>	<b>2.2</b>	<b>14.9</b>	<b>2.9</b>	<b>16.4</b>	<b>1.9</b>
Brazil	Formal only	69.6	4.4	74.3	8.5	88.5	4.4	78.3	4.3	75.9	2.4
	Religious only	2.7	1.4	9.3	6.2	6.6	3.7	6.0	2.0	5.6	1.6
	<b>Any religious service</b>	<b>14.5</b>	<b>3.5</b>	<b>15.3</b>	<b>6.9</b>	<b>8.0</b>	<b>3.8</b>	<b>14.9</b>	<b>3.5</b>	<b>13.9</b>	<b>2.4</b>
Bulgaria	Formal only	97.4	2.6	99.4	0.7	89.2	10.3	96.5	1.8	95.9	2.3
	Religious only	2.6	2.6	0.0	0.0	10.8	10.3	1.7	1.3	2.9	1.8
	<b>Any religious service</b>	<b>2.6</b>	<b>2.6</b>	<b>0.0</b>	<b>0.0</b>	<b>10.8</b>	<b>10.3</b>	<b>2.7</b>	<b>1.6</b>	<b>3.5</b>	<b>1.9</b>
Lebanon	Formal only	90.5	6.7	87.2	8.0	92.1	8.1	76.6	9.9	82.2	5.9
	Religious only	9.5	6.7	12.8	8.0	7.9	8.1	17.9	9.9	14.7	6.2
	<b>Any religious service</b>	<b>9.5</b>	<b>6.7</b>	<b>12.8</b>	<b>8.0</b>	<b>7.9</b>	<b>8.1</b>	<b>23.4</b>	<b>9.9</b>	<b>17.8</b>	<b>5.9</b>
Mexico	Formal only	85.5	5.3	80.2	7.5	74.2	11.3	71.7	4.8	75.9	3.4
	Religious only	1.3	1.3	2.4	2.4	5.0	3.4	3.6	2.9	3.2	1.7
	<b>Any religious service</b>	<b>1.3</b>	<b>1.3</b>	<b>3.9</b>	<b>2.6</b>	<b>5.0</b>	<b>3.4</b>	<b>8.8</b>	<b>3.6</b>	<b>6.2</b>	<b>2.0</b>
Romania	Formal only	98.4	1.5	89.2	8.6	100.0	0.0	92.5	3.4	94.7	1.8
	Religious only	1.6	1.5	10.8	8.6	0.0	0.0	1.2	1.2	2.3	1.1
	<b>Any religious service</b>	<b>1.6</b>	<b>1.5</b>	<b>10.8</b>	<b>8.6</b>	<b>0.0</b>	<b>0.0</b>	<b>1.2</b>	<b>1.2</b>	<b>2.3</b>	<b>1.1</b>
S. Africa	Formal only	53.3	10.2	55.7	6.2	51.7	8.2	57.9	3.3	56.7	2.8
	Religious only	7.1	4.2	3.9	2.2	21.9	6.5	12.9	1.9	12.5	.4
	<b>Any religious service</b>	<b>21.6</b>	<b>8.3</b>	<b>29.7</b>	<b>5.5</b>	<b>23.5</b>	<b>6.9</b>	<b>24.7</b>	<b>2.4</b>	<b>24.9</b>	<b>1.9</b>
<b>UPPER MID-INCOME</b>	Formal only	73.5	3.0	72.6	3.7	73.2	4.0	68.2	2.1	70.3	1.5
	Religious only	3.6	1.1	6.0	2.4	12.6	3.3	9.6	1.1	8.4	0.8
	<b>Any religious service</b>	<b>12.3</b>	<b>2.5</b>	<b>17.0</b>	<b>3.2</b>	<b>13.6</b>	<b>3.4</b>	<b>18.5</b>	<b>1.6</b>	<b>16.7</b>	<b>1.2</b>

**Table 2** continued

Country	Service category	Service types among those w/serious DX severity		Service types among those w/moderate DX severity		Service types among those w/mild DX severity		Service types among those w/no DX severity		Services types total	
		%	SE	%	SE	%	SE	%	SE	%	SE
Belgium	Formal only	90.8	4.9	100.0	0.0	97.6	2.4	85.7	5.4	90.0	3.5
	Religious only	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.2	1.1	1.2
	<b>Any religious service</b>	<b>4.4</b>	<b>3.5</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>5.0</b>	<b>3.1</b>	<b>3.8</b>	<b>1.8</b>
France	Formal only	92.0	4.4	93.1	4.2	88.3	6.5	93.1	3.6	92.3	2.4
	Religious only	5.3	3.9	0.0	0.0	9.1	6.0	0.0	0.0	2.1	1.0
	<b>Any religious service</b>	<b>8.0</b>	<b>4.4</b>	<b>0.0</b>	<b>0.0</b>	<b>9.1</b>	<b>6.0</b>	<b>1.9</b>	<b>1.1</b>	<b>3.4</b>	<b>1.2</b>
Germany	Formal only	88.9	6.0	90.2	3.9	84.5	8.1	76.1	7.0	80.4	4.6
	Religious only	0.0	0.0	2.2	2.2	9.4	6.8	12.2	6.5	9.1	4.4
	<b>Any religious service</b>	<b>6.3</b>	<b>4.4</b>	<b>3.5</b>	<b>2.5</b>	<b>13.8</b>	<b>7.6</b>	<b>14.9</b>	<b>6.7</b>	<b>12.2</b>	<b>4.5</b>
Italy	Formal only	94.6	3.6	92.2	4.0	96.8	3.3	85.2	5.7	90.1	2.6
	Religious only	0.0	0.0	6.2	3.7	0.0	0.0	3.9	2.1	3.3	1.6
	<b>Any religious service</b>	<b>5.4</b>	<b>3.6</b>	<b>6.2</b>	<b>3.7</b>	<b>0.0</b>	<b>0.0</b>	<b>14.8</b>	<b>5.7</b>	<b>9.1</b>	<b>2.4</b>
Japan	Formal only	61.2	13.4	56.7	16.5	86.8	10.9	72.9	6.0	71.1	4.7
	Religious only	0.0	0.0	5.7	4.5	1.9	2.0	9.7	6.9	7.7	4.7
	<b>Any religious service</b>	<b>0.0</b>	<b>0.0</b>	<b>10.3</b>	<b>6.3</b>	<b>1.9</b>	<b>2.0</b>	<b>14.6</b>	<b>7.2</b>	<b>11.6</b>	<b>5.1</b>
N. Ireland	Formal only	80.0	4.7	82.7	6.3	77.3	8.1	92.7	2.5	84.7	2.5
	Religious only	0.5	0.5	0.9	0.9	1.0	1.1	3.1	1.6	1.6	0.6
	<b>Any religious service</b>	<b>2.3</b>	<b>1.0</b>	<b>3.0</b>	<b>2.2</b>	<b>2.8</b>	<b>2.1</b>	<b>3.9</b>	<b>1.6</b>	<b>3.1</b>	<b>0.8</b>
Netherlands	Formal only	85.3	5.7	92.2	3.5	64.0	19.3	81.5	6.0	82.2	4.1
	Religious only	0.9	0.9	0.7	0.8	5.2	3.8	0.0	0.0	0.7	0.2
	<b>Any religious service</b>	<b>6.8</b>	<b>3.3</b>	<b>0.7</b>	<b>0.8</b>	<b>5.2</b>	<b>3.8</b>	<b>5.3</b>	<b>2.3</b>	<b>5.0</b>	<b>1.5</b>
Portugal	Formal only	91.0	2.7	91.0	2.6	86.7	3.5	88.4	3.1	89.4	1.9
	Religious only	0.4	0.4	1.5	0.9	0.0	0.0	2.2	0.9	1.5	0.5
	<b>Any religious service</b>	<b>4.0</b>	<b>1.8</b>	<b>4.8</b>	<b>1.9</b>	<b>0.9</b>	<b>0.9</b>	<b>4.0</b>	<b>1.2</b>	<b>3.9</b>	<b>0.9</b>
Spain	Formal only	96.2	2.3	93.7	3.9	88.0	5.8	96.1	1.3	94.8	1.2
	Religious only	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.3	0.3
	<b>Any religious service</b>	<b>3.0</b>	<b>1.8</b>	<b>0.9</b>	<b>0.7</b>	<b>6.8</b>	<b>5.1</b>	<b>1.5</b>	<b>0.9</b>	<b>2.1</b>	<b>0.8</b>
USA	Formal only	66.1	2.4	68.4	2.5	72.8	5.9	69.9	2.6	69.1	1.4
	Religious only	4.7	1.0	6.7	1.2	4.8	1.7	9.8	2.1	7.2	1.0
	<b>Any religious service</b>	<b>16.4</b>	<b>2.1</b>	<b>15.1</b>	<b>1.8</b>	<b>16.1</b>	<b>3.7</b>	<b>13.9</b>	<b>2.1</b>	<b>15.1</b>	<b>1.2</b>
<b>HIGH-INCOME</b>	Formal only	77.4	1.6	79.7	1.6	78.5	3.5	80.6	1.4	79.5	0.9
	Religious only	2.5	0.5	3.9	0.6	3.9	1.0	5.7	1.0	4.4	0.5
	<b>Any religious service</b>	<b>9.5</b>	<b>1.1</b>	<b>8.7</b>	<b>0.9</b>	<b>10.5</b>	<b>2.2</b>	<b>9.0</b>	<b>1.1</b>	<b>9.2</b>	<b>0.7</b>
<b>ALL COUNTRIES</b>	Formal only	76.2	1.4	76.3	1.5	76.5	2.4	74.4	1.1	75.3	0.7
	Religious only	4.3	0.5	5.8	0.9	7.5	1.2	8.1	0.8	6.8	0.4
	<b>Any religious service</b>	<b>11.4</b>	<b>1.0</b>	<b>11.6</b>	<b>1.1</b>	<b>11.8</b>	<b>1.7</b>	<b>13.0</b>	<b>0.9</b>	<b>12.3</b>	<b>0.6</b>

### Religious affiliation and religious involvement

The majority of respondents declared a religious affiliation (Table 5), with the exception of the two Chinese samples where less than 10% of the respondents did so. In 11 out of the 22 surveyed countries more than 90% of the

respondents declared a religion. Predictors of “declaring a religion”, in addition to strong country effects, were: women (OR 1.5; 95% CI 1.3–1.6), aged 50–64 (OR 1.4; 95% CI 1.2–1.6) or over 65 (OR 2.3; 95% CI 1.9–2.9), marital status (not married OR 0.8; 95% CI 0.7–0.9), individual income (High income OR 0.8; 95% CI 0.7–0.9),

**Table 3** Religion type by income group

Religion	Freq	Percent	Lower	Upper
<b>Low–low middle income countries</b>				
No religion	3833	28.1	26.9	29.2
Catholic	3146	22.0	20.5	23.4
Protestant	1846	12.5	11.6	13.4
Hindu/Buddhist	336	1.8	1.5	2.1
Muslim	4925	34.8	33.4	36.1
Others	127	0.9	0.7	1.1
Mult. religion	5	0.0	0.0	0.1
Total	14,218	100.0		
<b>High–middle income countries</b>				
No religion	513	3.7	3.2	4.1
Catholic	8736	60.5	59.0	62.0
Protestant	3665	24.4	23.1	25.7
Hindu/Buddhist	66	0.5	0.3	0.7
Muslim	1013	6.9	5.9	7.9
Others	615	3.9	3.4	4.3
Mult. religion	31	0.2	0.1	0.3
Total	14,639	100.0		
<b>High-income countries</b>				
No religion	3488	16.7	15.8	17.6
Catholic	9881	50.4	48.9	51.9
Protestant	4950	24.8	23.5	26.1
Hindu/Buddhist	871	4.3	3.9	4.6
Muslim	103	0.5	0.4	0.7
Others	675	3.1	2.8	3.5
Mult. religion	27	0.1	0.1	0.2
Total	19,995	100.0		
<b>All countries</b>				
No religion	7834	16.1	15.6	16.6
Catholic	21,763	45.2	44.3	46.1
Protestant	10,461	21.1	20.3	21.8
Hindu/Buddhist	1273	2.4	2.2	2.6
Muslim	6041	12.4	11.9	12.9
Others	1417	2.7	2.5	2.9
Mult. religion	63	0.1	0.1	0.2
Total	48,852	100.0		

and working status (to be a student OR 0.7; 95% CI 0.5–0.9 and a homemaker OR 1.4; 95% CI 1.1–1.7) (available on request).

Declaring a religion does not necessarily mean that religion is important for the person in his or her daily life. In some countries where most of the respondents declare a religious affiliation, the majority also finds religion to be important in their everyday life. These results hold for Nigeria (99.8% declare religion; 93.1% say it is important in their daily life), Iraq (100; 80%), Lebanon (100; 66.7%), Colombia (95.4; 68.7%), Brazil (91.9; 64.5%), South Africa (95.9; 63.9%) and to a lesser extent the USA (85.9;

55.3%). However, in Mexico (96.2; 47.9%), Romania (99.7; 48.5%), and Bulgaria (97.9; 7.9%), the gap widens between the vast majority who declare a religion and those who consider religion an important aspect of everyday life. In other countries such as in Italy, Ukraine, Spain, Portugal and Northern Ireland where most of the people declared a religion, only between a third and a quarter of the population declared the religion as a very important in their daily life. In the two Chinese samples these percentages are extremely low: 1.6 and 1.4%.

Post-communist countries seem more diverse in their relationship with religion. In the three former Soviet countries (Romania, Bulgaria, and Ukraine), the vast majority of respondents declare a religious affiliation. In Romania, fewer than half of the population (42.7%) reported seeking comfort from religion when faced with problems, in Ukraine this drops to nearly one fourth (23.8%) and in Bulgaria only 6.4% seek comfort from religion. A similar pattern was seen in these three countries when asked if respondents consider what their religious advisors would suggest when making a decision. Only a small percentage of those interviewed report attending religious services more than once a week in these countries—5.9% in Romania, 1.7% in Bulgaria and 1.2% in Ukraine. Less than 10% of respondents in each of the two sites in China declared a religion, and less than 2% said religion is important in their daily life.

Overall, 41.2% of participants in LLMI countries are frequent attendants, 11.4% in UMI countries and 6.8% in HI countries (Table 5). Only in Nigeria and Iraq the majority of those who declared a religion attend religious services more than once a week (76.0 and 91.7%, respectively). In five countries (Brazil, South Africa, the USA, Northern Ireland and Colombia) 11.6–18.8% of respondents are frequent attendants of religious services. In the remaining countries this percentage is lower than 10%. As expected, China has the lowest rate of frequent attendants with 0.4% in Shenzhen and 0.9% in Beijing/Shanghai.

## Discussion

There is limited epidemiological research on use of religious providers for mental health problems with standardized mental health assessments. Comparisons with existing data are rendered difficult due to differences in the period of service use covered (1 year versus lifetime) or the selected population (those who have lifetime disorders, those who are in contact with services for mental health problems).

Previous community surveys seem to corroborate our data and findings. We found similar sociodemographic

**Table 4** Logistic regression predicting ANY use of 12M religious counseling among those who used any services in past 12M

Variables	OR	OR lo	OR hi	<i>p</i> value
Average for all countries as baseline	<b>1.0</b>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Belgium	1.0	0.3	3.4	0.96
Brazil	0.8	0.5	1.3	0.34
Bulgaria	0.7	0.3	2.0	0.54
China (Benjin, Shanghai)	<b>3.1</b>	<b>1.2</b>	<b>8.2</b>	<b>0.02</b>
Colombia	0.5	0.2	1.0	0.05
France	0.9	0.4	1.8	0.72
Germany	<b>2.3</b>	<b>1.1</b>	<b>4.8</b>	<b>0.02</b>
Iraq <sup>o</sup>	1.0	0.4	2.4	0.98
Italy	1.2	0.7	2.2	0.50
Japan	<b>3.1</b>	<b>1.3</b>	<b>7.4</b>	<b>0.01</b>
Lebanon <sup>oo</sup>	1.7	0.8	3.8	0.18
Mexico	0.4	0.2	0.9	0.02
N. Ireland	0.3	0.2	0.6	<0.0001
Netherlands	1.1	0.5	2.4	0.79
Nigeria	1.3	0.5	3.2	0.61
Portugal	0.5	0.3	0.8	0.00
Romania	0.3	0.1	0.7	0.01
Shenzhen	0.9	0.3	2.8	0.92
South Africa	<b>1.9</b>	<b>1.4</b>	<b>2.7</b>	<b>0.0001</b>
Spain	0.3	0.1	0.6	0.00
Ukraine	<b>4.8</b>	<b>2.8</b>	<b>8.0</b>	<b>&lt;0.0001</b>
USA	<b>1.4</b>	<b>1.0</b>	<b>1.9</b>	<b>0.05</b>
Gender male	<b>1.0</b>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Gender female	1.0	0.8	1.3	0.97
Age 18–34	<b>1.0</b>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Age 35–49	0.8	0.6	1.1	0.13
Age 50–64	0.4	0.3	0.6	<0.0001
Age 65	0.4	0.3	0.6	0.0001
Married	<b>1.0</b>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Separated/widowed	<b>1.4</b>	<b>1.1</b>	<b>2.0</b>	<b>0.02</b>
Never married	1.2	0.9	1.7	0.18
Low income	0.9	0.6	1.2	0.44
Avg low income	<b>1.0</b>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Avg high income	1.0	0.8	1.4	0.82
High income	0.9	0.6	1.3	0.51
DX severity: severe	1.1	0.8	1.5	0.59
DX severity: moderate	1.1	0.8	1.4	0.73
DX severity: mild	1.1	0.7	1.7	0.73
DX severity: none	<b>1.0</b>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Religion-none/atheist	<b>1.0</b>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Religion-catholic	1.2	0.5	2.8	0.60
Religion-protestant	1.4	0.6	3.0	0.46
Religion-all others	1.6	0.7	3.8	0.28

**Table 4** continued

Variables	OR	OR lo	OR hi	<i>p</i> value
How often do you attend religious services?				
Never*	<b>1.0</b>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
<1 time per month	1.3	0.8	2.0	0.32
1–3 times/month	<b>2.8</b>	<b>1.7</b>	<b>4.4</b>	<b>&lt;0.0001</b>
About 1 time/week	<b>3.5</b>	<b>2.2</b>	<b>5.6</b>	<b>&lt;0.0001</b>
>1 time/week	<b>6.5</b>	<b>3.9</b>	<b>10.8</b>	<b>&lt;0.0001</b>
When you have problems or difficulties, how often do you seek comfort through religious or spiritual means?				
Never*	<b>1.0</b>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Rarely	<b>2.7</b>	<b>1.2</b>	<b>5.9</b>	<b>0.02</b>
Sometimes	<b>2.4</b>	<b>1.1</b>	<b>5.5</b>	<b>0.03</b>
Often	<b>3.6</b>	<b>1.5</b>	<b>8.8</b>	<b>0.0042</b>
In general, how important are religious or spiritual beliefs in your daily life?				
Not at all important*	<b>1.0</b>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Not very important	0.9	0.4	2.1	0.74
Somewhat important	0.9	0.3	2.2	0.78
Very important	1.1	0.4	2.9	0.82
When you have decisions to make in your daily life, how often do you think about what your religious or spiritual beliefs suggest you should do?				
Never*	<b>1.0</b>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Rarely	0.5	0.3	0.9	0.02
Sometimes	0.7	0.4	1.2	0.17
Often	0.8	0.4	1.5	0.51

Modified by income group only °OR 0.2 (0.1–1) *p* = 0.05; °°OR 2.3 (1.1–4.7) *p* = 0.03

Bold for country who are above 1 and italic for those below; bold italic for the reference

\* Missing responses and responses 8 ('don't know') and 9 ('refused') were added to this category

variables that were associated with the use of religious providers than those found in previous studies [16, 17]. Our data are also comparable to those found in the National Survey on Drug Use and Health (NSDUH). Chinese US-born or immigrants were much less religiously affiliated than the general US population: 50% declared a religious affiliation; 0.6% of Chinese immigrants and 4.6% of US-born Chinese reported a 12 month use of religious advisors for mental health problems as compared to 0.3% in our Chinese sample (0.1% in Shenzhen) showing a sort of gradient toward religious affiliation and religious advisors use from China mainland to the US born Chinese [18].

The relative importance of religious providers in Africa is in line with a previous community survey from Nigeria, reporting that the preferred treatment options for mental disorders were religious healers, traditional healers, and use of formal health care services with 41, 30 and 29%, respectively [19]. Similarly, a study conducted in Singapore [20] examined the use of religious advisors in a large representative sample of the population: only 0.3% reported seeking help from religious or spiritual advisors for

help with psychological problems during the last 12 months. This rate is similar to rates reported in Asian countries from the WMH surveys: Japan 0.6%, China 0.3% and Shenzhen 0.1%. These countries were also the least religious countries in our sample and this was reflected by their low use of religious advisors for mental health problems.

In LLMI countries specifically, the use of religious advisors was higher in respondents with the most severe disorders. This pattern was not found in UMI or HI countries. However, while this trend was not present in these income groups an important percentage of those suffering from the most severe forms of disorders was in contact with religious providers with as much as 21.6% in South Africa and 16.4% in the USA which is corroborated by studies which reported that clergy is in contact with persons who suffer from severe mental health disorders, alcohol addiction, and severe depression with suicide risk [4].

Our data point to the importance of religious providers in countries with low resources for professional mental health infrastructures. This is a particularly important

**Table 5** Prevalence estimates for religion practice variables by country, country income-level and all countries

Country	Declaring a religious preference	You attend religious services MORE THAN ONCE PER WEEK			Religious/spiritual beliefs are VERY IMPORTANT in your daily life			You OFTEN seek comfort through religious/spiritual means when experiencing problems in family, work, or personal life			You OFTEN think about what your religious/spiritual suggest you should do when you make decisions in your daily life		
		Percent	S.E.	Freq	Percent	S.E.	Freq	Percent	S.E.	Freq	Percent	S.E.	Freq
China*	7.5	0.7	0.3	1622	1.6	0.4	1622	1.9	0.4	1622	2.0	0.6	1622
Colombia	95.4	11.7	1.1	2373	68.7	1.5	2373	48.0	1.7	2373	48.1	1.6	2373
Iraq	100	91.7	0.7	4277	80.0	1.1	4277	61.6	1.4	4277	62.6	1.3	4277
Nigeria	99.8	76.0	1.2	2133	93.1	0.8	2133	77.9	1.3	2133	76.5	1.2	2133
Shenzhen*	9.8	0.4	0.2	2361	1.4	0.4	2361	0.9	0.2	2361	0.7	0.2	2361
Ukraine	83.9	1.2	0.4	1452	22.2	1.8	1452	23.8	2.1	1452	24.9	1.9	1452
<b>Low–low middle Income</b>	<b>71.9</b>	<b>41.2</b>	<b>0.7</b>	<b>14,218</b>	<b>52.1</b>	<b>0.7</b>	<b>14,218</b>	<b>41.0</b>	<b>0.6</b>	<b>14,218</b>	<b>41.2</b>	<b>0.6</b>	<b>14,218</b>
Brazil	91.9	16.9	1.0	2915	64.5	1.2	2915	54.1	1.6	2915	48.6	1.6	2915
Bulgaria	97.9	1.7	0.4	2111	7.9	0.6	2111	6.4	0.7	2111	5.2	0.5	2111
Lebanon	100	8.6	1.2	1027	66.7	1.8	1027	56.6	2.1	1027	52.2	2.7	1027
Mexico	96.2	8.4	0.9	2354	47.9	1.9	2354	25.6	1.5	2354	23.0	1.4	2354
Romania	99.7	5.3	0.5	2356	48.5	1.2	2356	42.7	1.4	2356	42.3	1.4	2356
S. Africa	95.9	18.8	1.1	3876	63.9	1.1	3876	42.6	1.2	3876	35.6	1.1	3876
<b>Middle high-income</b>	<b>96.3</b>	<b>11.4</b>	<b>0.4</b>	<b>14,639</b>	<b>51.0</b>	<b>0.6</b>	<b>14,639</b>	<b>37.9</b>	<b>0.6</b>	<b>14,639</b>	<b>34.0</b>	<b>0.6</b>	<b>14,639</b>
Belgium	79.6	1.2	0.5	1022	11.2	2.2	1022	10.0	1.5	1022	6.2	1.2	1022
France	80.1	1.0	0.3	1436	9.6	1.2	1436	8.0	1.0	1436	7.2	1.1	1436
Germany	77.7	2.3	0.5	1320	8.8	1.2	1320	7.4	1.2	1320	6.4	0.9	1320
Italy	96.8	6.2	0.7	1779	23.4	1.4	1779	22.5	1.5	1779	16.0	1.3	1779
Japan	57.5	2.0	0.6	1536	9.3	1.0	1536	2.8	0.5	1536	2.1	0.4	1536
Netherlands	60.5	2.9	0.6	1092	14.6	1.1	1092	11.4	1.3	1092	10.0	1.2	1092
N. Ireland	95.2	11.6	0.9	1962	31.1	1.5	1962	28.1	1.2	1962	23.5	1.2	1962
Portugal	88.5	4.5	0.5	2058	32.3	1.5	2058	27.4	1.2	2058	22.2	1.2	2058
Spain	86.9	4.5	0.8	2119	21.3	1.5	2119	13.8	1.4	2119	13.6	1.4	2119
USA	85.9	12.5	0.9	5671	55.3	1.4	5671	45.5	1.3	5671	40.3	1.1	5671
<b>High-income</b>	<b>83.3</b>	<b>6.8</b>	<b>0.3</b>	<b>19,995</b>	<b>29.8</b>	<b>0.5</b>	<b>19,995</b>	<b>24.4</b>	<b>0.5</b>	<b>19,995</b>	<b>20.9</b>	<b>0.4</b>	<b>19,995</b>
<b>All countries</b>	<b>83.9</b>	<b>18.2</b>	<b>0.3</b>	<b>48,852</b>	<b>42.6</b>	<b>0.3</b>	<b>48,852</b>	<b>33.3</b>	<b>0.3</b>	<b>48,852</b>	<b>30.7</b>	<b>0.3</b>	<b>48,852</b>

\*Very low endorsement rates of religiosity: the percentages about religious paractice in these countries should be interpreted with caution because they are based on small numbers of cases

consideration for countries categorized as low to lower middle income and thus, where formal resources are largely non-existent. For instance, in LMI countries only about 1.9% and in low-income countries only 0.5% of the health budget is allocated to mental health. This means that on average there is a scarcity of both outpatient and inpatient treatment facilities [21] and a substantial literature supports the important role of the informal sector including religious advisors in countries that lack formal medical resources [22–24]. In addition, religious providers provide counseling to people with serious mental health problems [3, 25, 26]. This is particularly problematic because of less than half of the clergy received any formal training in clinical care, they did not feel confident in their ability to

deal with mental health issues, or they did not have sufficient contacts with formal MH system [4, 6]. This suggests an important need for professional development training activities around mental health that many religious advisors would welcome since these clergy viewed depression as a common and serious problem but viewed time constraints and lack of formal training in counseling and referral as barriers to providing care [27].

In addition to availability of resources, country's religious values also likely play a role in the prominence of and preferences for seeking help from religious advisors. In most of the predominantly religious countries (in which more than 50% of the population declared that religion is very important in their daily life), the reliance on religious

advisors among those who access services for mental health problems was higher than average. But there are some additional structural factors of mental health care organization as well as variation in the perception of religion or clergy. For example in a previous paper of several European countries, we had suggested that one possible explanation for the surprising low rate of religious providers use in Spain in contrast with rates found in Italy may be due to the role played by the clergy in the Spanish civil war [10]. Indeed in highly traditional religious countries such as Portugal, Northern Ireland, Romania, Colombia and Mexico, once controlled for religiosity, the trend of use of religious providers is surprisingly low as compared to the other countries as in Iraq in the LMI regression model. Indeed considering that, among reasons evoked for visiting a religious advisor versus a MH provider, a high stigmatisation of mental health problems has been evoked, negative attitudes of the religious providers in some religions and cultures especially in Arabic cultures toward MH may refrain people for addressing to them for these problems [7]. On the contrary, living in the Ukraine, South Africa, USA, Germany or Japan increased the use of religious providers after controlling for demographic, clinical and religiosity factors. High visibility of clergy in these countries may attract people especially when access to mental health specialists is difficult to obtain or inexistent. China was surprisingly in this last group although religious affiliation is rare and difficult to maintain.

Our results should be interpreted in light of several limitations. First, response rates varied across WMH surveys, but this was controlled for through post stratification adjustments. Second, some clinically important disorders such as schizophrenia were not assessed in WMH surveys because earlier validation studies have shown that they are overestimated in lay-administered [11]. However, these studies have also shown disorders such as non-affective psychosis usually are comorbid with anxiety, mood, or substance disorders. Therefore, they would be captured in our analyses which used severity levels. A third potential limitation is that the reliability and validity of diagnoses made with the WMH CIDI might vary across countries. Although acceptable concordance has been noted between diagnoses made with the CIDI and those from blinded clinical interviews, such studies have been done almost exclusively in developed countries [28]. The accuracy of CIDI diagnoses could be lower in other countries. One distinct possibility is that there is a lower relevance of CIDI symptom descriptions in low and low middle income countries than in high middle and high income countries, or greater reluctance to endorse emotional problems in countries with short traditions of free speech and anonymous public-opinion surveying. Fourth, without corroborating data for service

use we could not examine the accuracy of self-reported treatment use or how validity of self-report differs across specific sectors, clinical or sociodemographic characteristics, or cultural groups. Despite the unprecedented scope and size of the WMH survey initiative, some analyses included small numbers of respondents, which might have limited our interpretation of the findings. In addition, the investigation of religion carries inherent problems due to its sensitive nature in certain political and cultural contexts. In some countries not having a religion is a crime, rendering the report of no religion impossible even though anonymity was guaranteed. Conversely, in other countries reporting of certain religious affiliations may be considered unacceptable. Pooling Protestants together concealed heterogeneity in the protestant category and dichotomising religious attendance into two categories are also limitations.

## Limitations

Entry question on religion is focused on organized religion and excludes spirituality outside religion.

Mental health questions derived from a unique questionnaire: the CIDI, carefully translated but this does not preclude cultural dissensions in recognition and acceptance of the diverse mental health symptoms.

Protestants have been pooled together in the analyses when there is a large heterogeneity in the protestant category probably greater than the differences between Protestants and Catholics.

## Conclusions

In distress, many people turn to trusted individuals in their social networks, including religious advisors [5]. Thus, many religious advisors function as first responders for individuals facing mental health challenges. Our data enable us to conclude that religious providers play an important role in the broad MH field. They may even be the central entry point to further care so their training is essential in mental health resource planning. This is especially important in LLMI countries where those with the most severe disorders had the highest rates of contact with religious advisors for mental health problems. They can also represent an important and more available resource in some low income settings, where access to traditional forms of mental health care are impeded by the scarcity of trained professionals and financial resources and so could represent potential for scaling up. Training of religious advisors regarding mental disorders and interventions could be modeled on the WHO mental health Intervention

Guide<sup>2</sup> involving religious advisors together with primary care local authorities who should be trained to what they could bring once adequate alliances have been created. Also, more research is needed to better understand exactly what religious advisors do as well as the nature of the association between religious advisors and the formal and informal mental health system in different cultural contexts.

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#### Compliance with ethical standards

**Conflict of interest** The authors declared no conflict of interest.

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<sup>2</sup> [http://www.who.int/mental\\_health/publications/mhGAP\\_intervention\\_guide/en/](http://www.who.int/mental_health/publications/mhGAP_intervention_guide/en/).

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