International Journal of Social Psychiatry
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Int J Soc Psychiatry 2011 57: 387 originally published online 11 March 2010
DOI: 10.1177/0020764009359742

The online version of this article can be found at:
http://isp.sagepub.com/content/57/4/387

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COMMUNITY AND HEALTH PROFESSIONALS' ATTITUDE TOWARD DEPRESSION: A PILOT STUDY IN NINE EAAD COUNTRIES

GERT SCHEERDER, CHANTAL VAN AUDENHOVE, ELLA ARENSMAN, BARBARA BERNIK, GIANCARLO GIUPPONI, ANNE-CLAIRE HOREL, MARGARET MAXWELL, MERIKE SISASK, ANDRAS SZEKELY, AIRI VÄRNIK & ULRICH HEGERL

ABSTRACT

Background: Community facilitators (CFs), such as pharmacists, policemen, teachers and clergy, may be an important community resource for patients with depression in addition to (mental) health professionals. However, they are ill prepared for such a role and little is known about their attitudes toward depression, which may affect practice.

Aim: To investigate CFs' attitudes toward depression and compare them to those of (mental) health professionals and nurses.

Method: Attitudes were assessed in participants (n = 2,670) of training programmes about depression in nine countries of the European Alliance Against Depression (EAAD). The EAAD questionnaire included attitudes toward depression and its treatment, perceived causes, preferred treatment options, and knowledge of depression symptoms.

Results: CFs and nurses had a more negative attitude toward patients with depression and toward antidepressants, and more limited knowledge of depression symptoms than (mental) health professionals. CFs more frequently supported non-standard treatment for depression. Nurse assistants clearly differed from registered nurses with their attitudes being among the least favourable and their knowledge the most limited of all groups.

Conclusions: CFs and nurses had less favourable attitudes and more limited knowledge regarding depression when compared to mental health professionals and doctors. This may negatively affect professional collaboration, challenge optimal treatment and stigmatize patients. CFs' and nurses' knowledge and attitudes may be similar to those of the general population and be related to a lack of training in mental health issues.

Key words: depression, attitude, community facilitators, nurses, mental health professionals

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INTRODUCTION

Depression is a major public health challenge in Western countries, with a high prevalence (Kessler *et al.*, 2003) and a major impact on patients (Moussavi *et al.*, 2007) and economic resources (Stewart *et al.*, 2003). Effective treatment is available, yet depression care is hindered by barriers at several levels, such as under-recognition, stigmatization, inadequate treatment and poor treatment adherence (Goldman *et al.*, 1999; Kessler *et al.*, 2003). Depression care may therefore benefit from a multifaceted approach (Althaus & Hegerl, 2003), targeting not only (mental) health professionals, but also community resources, the general public, patients and their relatives. Such an approach is tested in the European Alliance Against Depression (EAAD) project (Hegerl *et al.*, 2008, 2009), which runs a four-level intervention in 18 European regions. The present study focused on one target group, community facilitators (CFs), which is poorly studied and seldom seen as a target group for public health interventions.

Various non-medical professionals are considered as CFs, such as teachers, policemen, the clergy, pharmacists and social workers. Despite obvious differences, CFs share several professional commonalities: they hold a frontline community position as they interact with a broad range of people, provide public services, are easily accessible and often maintain a trusting relationship (Badger *et al.*, 2002; Walter *et al.*, 2006; Weaver *et al.*, 2003). In this position, and especially since the deinstitutionalization movement, they also have frequent contact with people with mental health problems such as depression, and often serve as a first port of call or gatekeepers for such problems in the community (Badger *et al.*, 2002; Kerfoot *et al.*, 2004; Lamb *et al.*, 2002; Leavey *et al.*, 2007; Walter *et al.*, 2006). Therefore, CFs may be an important community resource in addition to primary and specialist mental healthcare. Where the latter are specialized to diagnose and treat depression, CFs are well placed to provide more general preventive and supportive services, such as recognizing symptoms, providing support or crisis intervention, referring or facilitating access to adequate mental health treatment, and decreasing stigmatization (Mann *et al.*, 2005).

However, the few studies on CFs and mental health are remarkably similar in reporting that they are not well prepared for such a role (Lamb *et al.*, 2002; Leavey *et al.*, 2007; McCrae *et al.*, 2005; Phokeo *et al.*, 2004; Walter *et al.*, 2006). As non-medical professionals, mental health issues are seldom part of their regular curricula, and many CFs consequently lack basic knowledge and adequate skills to deal with mental health problems. For instance, the clergy, police officers and teachers have been reported to poorly recognize mental illness, to have low confidence in dealing with it and to have little knowledge of mental health resources (Farrell & Goebert, 2008; Lamb *et al.*, 2002; Walter *et al.*, 2006). The need for training in mental health issues has been acknowledged in each of the CF groups (Farrell & Goebert, 2008; McCrae *et al.*, 2005; Phokeo *et al.*, 2004; Vermette *et al.*, 2005; Walter *et al.*, 2006). Further, the description and boundaries of CFs' role are unclear and poorly recognized, and collaboration with (mental) healthcare is low, which, for example, impedes referral (Badger *et al.*, 2002; Lamb *et al.*, 2002; Leavey & King, 2007; McCrae *et al.*, 2005; Walter *et al.*, 2006).

In this article, nurses and nurse assistants (i.e. caregivers) are not considered together with other CFs; they have a medical background and are part of the medical system. Nevertheless, in many regards they exert a comparable position and face similar challenges as other CFs. For instance community nurses and caregivers, as frontline workers, have very frequent contact with patients with depression and have a crucial role to play in recognition of symptoms and referral (Ayalon *et al.*, 2008; Gray *et al.*, 1999). However, they too are not specialized in mental health and have

deficits in knowledge of depression diagnosis and treatment, low confidence in managing mental illness and poor detection skills, which underscores the need for training (Ayalon *et al.*, 2008; Davidson *et al.*, 2009; Gray *et al.*, 1999; Haddad *et al.*, 2007; Payne *et al.*, 2002). For the purpose of this study, CFs and nurses were considered and compared to (mental) health professionals separately.

Of particular interest to this study are professionals' attitudes, particularly regarding causes and treatment options. In several health professionals, it has been found that such attitudes may impact upon their management of mental illness and upon patient outcomes (Bell *et al.*, 2006; Dowrick *et al.*, 2000; Haddad *et al.*, 2005, 2007; Phokeo *et al.*, 2004; Ross *et al.*, 1999). Information on CFs' attitudes may further be useful to inform training programmes (Haddad *et al.*, 2005, 2007). Some studies have investigated CFs' attitudes toward mental illness in general (Leavey *et al.*, 2007; Moses & Kirk, 2006; Phokeo *et al.*, 2004; Pinfold *et al.*, 2003; Psarra *et al.*, 2006; Walsh *et al.*, 2005; Watson *et al.*, 2004). However, since attitudes may differ substantially according to specific mental illnesses (Angermeyer & Dietrich, 2006; Mann & Himelein, 2004), it is important to distinguish them in research. We have opted for depression, being the most common mental illness and therefore the most relevant for CFs to have a role in and to encounter in the community. Attitudes specifically toward depression, however, remain unknown for most groups of CFs, social workers and nurses being the exceptions.

Research with social workers indicates that they have optimistic outcome expectations and tend to attribute depression to psychosocial (e.g. social isolation, recent stressors, poor stamina) causes, but rarely to biomedical ones. The interventions they mainly support are psychosocial (e.g. counselling, social work) and lifestyle (e.g. social activities, exercise, relaxation, vitamins, diet) rather than medical (e.g. antidepressants (AD)) (McCrae *et al.*, 2005). This resembles the attitude of the general population, which also believes in psychosocial rather than biological causes of depression (Jorm *et al.*, 1997a; Lauber *et al.*, 2003; Schomerus *et al.*, 2006), prefers psychosocial, lifestyle and alternative (e.g. contact a non-medical practitioner such as a herbalist) interventions (Jorm *et al.*, 1997b, 2005b; Lauber *et al.*, 2005) and holds a rather negative attitude toward medical interventions such as AD. The latter are rated by about 50% as more harmful than helpful (Angermeyer & Dietrich, 2006; Jorm *et al.*, 1997b; Lauber *et al.*, 2001) and are commonly regarded as addictive and not effective (Hegerl *et al.*, 2003; Lauber *et al.*, 2005; Priest *et al.*, 1996). However, these negative attitudes should not be overgeneralized; some studies report that most people attribute depression to a combination of psychosocial and biological causes (Link *et al*., 1999) and more recent studies report that beliefs in biological causes of and treatment options for depression are increasing (Blumner & Marcus, 2009; Jorm *et al.*, 2005a; Mojtabai, 2009; Sigurdsson *et al.*, 2008). Nurses, who are generally optimistic about treatment outcomes for depression (Haddad *et al.*, 2005), tend to agree with biochemical rather than psychosocial causes (Payne *et al.*, 2002). Nurses are more positive about AD treatment than social workers, but nevertheless several unfavourable attitudes are reported regarding AD effectiveness and addictiveness, and a high proportion indicates that working with patients with depression is heavy going and unrewarding (Gray *et al.*, 1999; Haddad *et al.*, 2007).

Compared to mental health professionals, nurses and social workers are much less in favour of AD medication and more strongly support psychotherapeutic, psychosocial, lifestyle and alternative interventions (Caldwell & Jorm, 2000; Lauber *et al.*, 2005; Stern *et al.*, 1999). Physicians and mental health professionals also have greater knowledge of depression symptoms than social workers and nurses (O'Hara *et al.*, 1996). Relative to registered nurses and social workers, nurse assistants are least knowledgeable about depression symptoms and treatment. They are, for example, more likely

to view depression as a normal phenomenon and to support the use of willpower as a treatment option (Ayalon *et al.*, 2008; Davidson *et al.*, 2009). In several professions (Ayalon *et al.*, 2008; Haddad *et al.*, 2005; Psarra *et al.*, 2006), as in the general population (Angermeyer & Dietrich, 2006; Connery & Davidson, 2006; Mann & Himelein, 2004), higher educational level and younger age are related to better knowledge and more favourable attitudes.

For most groups of CFs, however, attitudes toward depression remain unstudied. The EAAD project, offering standard training programmes to CFs throughout Europe, provided a unique opportunity to study these attitudes in a large group of CFs. This study, as a pilot, aimed to investigate the attitude toward causes and treatment of depression and knowledge of depression symptoms in various groups of CFs, and to directly compare them to those of nurses and of (mental) health professionals.

METHODS

Subjects

The assessment of attitudes was conducted in participants of EAAD training programmes on depression as a baseline prior to training. Data were collected in nine EAAD partner countries (Belgium, Estonia, France, Germany, Hungary, Ireland, Italy, Scotland, Slovenia) from 2003 to 2007. Participants of the training programmes were recruited similarly through regional professional associations, which advertized their members by using mailing lists, local professional newsletters, the associations' websites and advertizements at other training programmes. The training targeted a broad range of CFs, as well as nurses, doctors and mental health professionals. Professional groups of CFs included the police, the clergy (priests, pastoral workers), youth workers (youth advice services, teachers), pharmacists, social workers and volunteers (at charity organizations, crisis hotlines, patient organizations). Nurses included general nurses, geriatric nurses, child nurses, school nurses, district nurses and community nurses. Registered nurses were distinguished from nurse assistants. Doctors and mental health professionals comprised the group of (mental) health professionals. Doctors included specializations such as primary care, school health and occupational health. Mental health professionals comprised psychologists, psychiatrists, mental health nurses and counsellors, working in diverse settings. To avoid too many subcategories of professionals to compare in the analyses, only the three main groups of CFs, nurses and (mental) health professionals were considered. Despite obvious differences among the subgroups, from a public health point of view the three main groups can be considered conceptually different with regard to their role in depression care (e.g. part of community vs health system; preventive and supportive role vs treatment-orientated role). To test whether these subgroups can be validly taken together, homogeneity of main professional group variances was investigated.

Questionnaire

To measure CFs' attitudes toward depression across participating countries, a standard EAAD questionnaire was constructed, based on the Depression Attitude Questionnaire (DAQ) (Botega *et al.*, 1992), the Defeat Depression questionnaire (Priest *et al.*, 1996) and existing instruments of EAAD partner countries. Relevant domains and core items were decided upon that were applicable to a broad set of professionals, of main importance to CFs' role in depression care and tailored to the content of the EAAD training programme (i.e. depression as a disease in general; causes of

depression; treatment options for depression; symptoms of depression). The EAAD questionnaire therefore consisted of four subparts. The first measured the attitude toward depression and AD in general, and contained five items in full-phrase wording. In the other three subparts, items were presented as a list of options, dealing with perceived causes of depression (nine items), preferred treatment options for depression (nine items) and possible symptoms of depression (five items, including three true and two false). Items were measured on a five-point Likert scale ranging from 'strongly disagree' to 'strongly agree', with the middle category being 'undecided/don't know'. In addition, participants' characteristics were gathered, including age and gender. In non-English speaking EAAD partner countries, the EAAD questionnaire was translated into the local language and back-translated into English to check for inconsistencies using a native English speaker, then pilot-tested in a group of local experts to examine face validity.

Data analysis

Statistical analysis was carried out using SAS 9.1. Descriptive statistics for each item were calculated. Mantel-Haenszel (MH) χ^2 analysis was used to investigate differences on attitude items according to professional group and according to gender, age group and country. CFs were compared to nurses and (mental) health professionals, and registered nurses to nurse assistants. To determine homogeneity of variances of professional groups and country, Levene's test for equal group variances was used for all attitude items in the analysis. For each item where unequal group variances were detected, Welch's test, which is robust to the assumption of equal variances, was conducted. Since the primary interest was differences according to professional group, gender, age group and country were controlled for using Cochran Mantel-Haenszel (CMH) χ^2 analysis. Multiple testing was accounted for using the MULTTEST Bonferroni procedure to adjust p values considering the entire family of tests. For all items, 1–2 and 4–5 scores were combined in the analyses. Also, age was re-coded into three age groups (<40, 40–50, >50 years old).

RESULTS

In total, data were obtained for 2,670 community and (mental) health professionals (Table 1).

Attitude toward depression as a disease and toward AD

The majority of all professionals agreed that depression is a real disease and that it can be treated (Table 2). CFs and nurses less strongly agreed than (mental) health professionals, but differences were not significant. Of all the groups, nurses were least likely to agree that depression is a real disease. Nurse assistants agreed significantly less often than registered nurses (45% compared to 65%; $\chi^2 = 37.26$, $df = 1$, $p < 0.0001$). Age was related to both items ($\chi^2 = 34.37$, $df = 1$, $p < 0.0001$; $\chi^2 = 28.44$, $df = 1$, $p < 0.0001$), with the youngest age group more strongly agreeing. Gender and country were not related to these two items.

Large differences in attitudes were observed with regard to AD, with (mental) health professionals more strongly agreeing that AD is effective ($\chi^2 = 21.48$, $df = 1$, $p = 0.0002$) and disagreeing that AD is addictive ($\chi^2 = 14.87$, $df = 1$, $p = 0.006$). Only about half of CFs and nurses agreed that AD is effective, and about two thirds of nurses agreed that it is addictive or can change one's personality. Nurse assistants significantly more often than registered nurses agreed that AD is addictive (79% compared to 61%; $\chi^2 = 27.51$, $df = 1$, $p < 0.0001$). Country was related to agreeing that AD is

Table 1
Participants' characteristics

	n	%
Gender	2,415	
Male	379	15.7
Female	2,036	84.3
Age	2,598	
< 40	865	36.4
40–50	840	35.3
> 50	672	28.3
Mean age (± SD) 43.4 ± 11.7 years		
Country	2,670	
Belgium	69	2.6
Estonia	243	9.1
France	190	7.1
Germany	1,420	53.2
Hungary	405	15.2
Ireland	62	2.3
Italy	10	0.4
Scotland	56	2.1
Slovenia	215	8.1
Occupational group	2,670	
Community facilitators (CFs)	968	36.3
Clergy	143	5.4
Pharmacists	91	3.4
Police officers	66	2.5
Social workers	393	14.7
Volunteers	179	6.7
Youth workers	96	3.6
(Mental) health professionals	169	6.3
Doctors	70	2.6
Mental health professionals	99	3.7
Nurses	1,533	57.4
Registered nurses	887	33.2
Nurse assistants	334	12.5

effective ($\chi^2 = 30.19$, $df = 1$, $p < 0.0001$) . Differences according to professional group remained significant after controlling for country. Gender was not related to the items on AD.

Perceived causes of depression

The possible cause of depression most frequently agreed by all professional groups was life events, followed by problems with other people and achievement-orientated society (Table 3). There were significant differences between professional groups with regard to three items: (mental) health professionals and nurses more strongly agreed with brain disorder ($\chi^2 = 36.48$, $df = 1$, $p < 0.0001$) and heredity ($\chi^2 = 36.87$, $df = 1$, $p < 0.0001$) than CFs, and (mental) health professionals more strongly disagreed with weakness of character ($\chi^2 = 25.57$, $df = 1$, $p < 0.0001$) as a cause of depression than

Table 2
Attitude toward depression as a disease and toward AD

Attitude item	Community facilitators			Nurses			(Mental) health professionals		
	(strongly) disagree %	undecided / don't know %	(strongly) agree %	(strongly) disagree %	undecided / don't know %	(strongly) agree %	(strongly) disagree %	undecided / don't know %	(strongly) agree %
Depression is a real disease	13.7	9.3	77.0	25.7	14.2	60.0	4.3	0.7	95.0
Depression can be treated	7.8	8.8	83.4	12.4	5.7	81.9	1.4	2.8	95.8
AD is effective in the treatment of depression	18.4	28.7	52.9	9.4	42.7	47.9	9.5	7.4	83.1*
AD is addictive	19.6	26.6	53.8	31.1	1.2	67.8	68.3	6.9	24.8*
AD can change one's personality	28.8	25.7	45.6	32.3	1.7	66.0	59.3	12.1	28.6

* $p < 0.01$, controlled for gender, age group and country, and adjusted for multiple testing

Table 3
Attitude toward causes of depression

List of possible causes	Community facilitators			Nurses			(Mental) health professionals		
	(strongly) disagree %	undecided / don't know %	(strongly) agree %	(strongly) disagree %	undecided / don't know %	(strongly) agree %	(strongly) disagree %	undecided / don't know %	(strongly) agree %
Wrong lifestyle	23.4	28.2	48.4	24.9	25.6	49.5	25.2	34.2	40.5
Problems with other people	8.5	23.3	68.2	6.1	18.8	75.1	9.8	20.9	69.3
Disorder of brain metabolism	18.7	28.8	52.5	14.6	18.0	67.4	8.1	20.1	71.8*
Life events	5.7	5.7	88.6	1.1	4.5	94.4	2.6	11.4	86.0
Heredity	29.4	27.0	43.6	21.1	22.4	56.5	16.5	18.4	65.1*
Environmental poisons	53.2	26.4	20.4	55.4	25.4	19.2	58.7	22.0	19.3
Influence of mass media	36.1	25.6	38.3	32.2	31.7	36.1	49.6	15.0	35.4
Today's achievement-orientated society	16.4	19.4	64.2	6.9	19.0	74.2	12.5	17.8	69.7
Weakness of character	41.4	22.1	36.6	48.8	20.7	30.5	61.8	20.4	17.8*

* $p < 0.01$, controlled for gender, age group and country, and adjusted for multiple testing

nurses and CFs. Gender was related to perceiving heredity as a cause of depression ($\chi^2 = 29.88$, $df = 1$, $p < 0.0001$), with women more often agreeing than men. Differences according to professional group remained significant after controlling for gender. Country and age group were not related to any item on perceived causes of depression.

Preferred treatment options for depression

The treatment options for depression most frequently agreed by all professional groups were contacting a psychotherapist and contacting a doctor, followed by activities (Table 4). Significant differences between professional groups appeared with regard to several items. CFs more strongly agreed with pull yourself together ($\chi^2 = 81.53$, $df = 1$, $p < 0.0001$); nurses less strongly agreed with activities ($\chi^2 = 50.03$, $df = 1$, $p < 0.0001$), going on holiday ($\chi^2 = 32.05$, $df = 1$, $p < 0.0001$) and contacting a non-medical practitioner ($\chi^2 = 14.19$, $df = 1$, $p = 0.009$). Gender was related to contacting a non-medical practitioner ($\chi^2 = 16.99$, $df = 1$, $p = 0.001$), with women more often agreeing than men. Differences according to professional group remained significant after controlling for gender. Country was related to pull yourself together ($\chi^2 = 42.01$, $df = 1$, $p < 0.0001$), going on holiday ($\chi^2 = 25.13$, $df = 1$, $p < 0.0001$) and contacting a non-medical practitioner ($\chi^2 = 38.98$, $df = 1$, $p < 0.0001$). After controlling for country, differences between professional groups remained significant for pulling yourself together and going on holiday, but were no longer significant for contacting a non-medical practitioner. Age was not related to any item on preferred treatment options for depression.

Knowledge of depression symptoms

Recognition of true depression symptoms (loss of pleasure, feelings of guilt, physical complaints) was high among all professional groups, but CFs significantly less often agreed with physical complaints ($\chi^2 = 39.48$, $df = 1$, $p < 0.0001$) (Table 5). Concerning the two false symptoms, more than half (60%) of CFs agreed with compulsive grooming as a symptom of depression and more than half (55%) of nurses agreed with hallucinations. Agreement with the false symptoms was lowest in (mental) health professionals. Differences among professional groups were significant for compulsive grooming ($\chi^2 = 65.26$, $df = 1$, $p < 0.0001$). Nurse assistants significantly more often than registered nurses agreed with compulsive grooming (54% vs. 39%; $\chi^2 = 16.21$, $df = 1$, $p = 0.003$) and with hallucinations (70% vs. 50%; $\chi^2 = 36.84$, $df = 1$, $p < 0.0001$). Gender and age were related to compulsive grooming ($\chi^2 = 31.51$, $df = 1$, $p < 0.0001$; $\chi^2 = 31.18$, $df = 1$, $p < 0.0001$) and gender to hallucinations ($\chi^2 = 32.83$, $df = 1$, $p < 0.0001$), with women and older professionals more often agreeing with false symptoms. After controlling for gender and for age, significant differences among professional groups remained.

DISCUSSION

This international study explores attitudes toward depression in community and (mental) health professionals. A first important finding is that CFs' general attitudes and knowledge concerning depression significantly differed from and were less favourable than those of (mental) health professionals: CFs and nurses had a more negative attitude toward patients with depression and toward AD, and more limited knowledge of depression symptoms. The more negative attitude toward patients was indicated by CFs and nurses more often believing in weakness of character as a cause

Table 4
Attitude toward treatment options for depression

List of treatment options	Community facilitators			Nurses			(Mental) health professionals		
	(strongly) disagree %	undecided / don't know %	(strongly) agree %	(strongly) disagree %	undecided / don't know %	(strongly) agree %	(strongly) disagree %	undecided / don't know %	(strongly) agree %
Go on holiday	17.4	23.9	58.7	17.1	49.2	33.8	23.6	26.4	50.0*
Contact a psychotherapist	5.2	10.7	84.1	1.4	12.1	86.5	3.2	10.5	86.3
Contact a doctor	14.5	16.0	69.5	3.1	17.4	79.5	6.5	12.2	81.3
Pull yourself together	44.6	16.8	38.7	57.2	32.2	10.6	60.1	17.5	22.4*
Eat chocolate	73.4	16.3	10.3	65.4	29.1	5.5	88.6	4.8	6.7
Have more sun exposure	17.8	34.6	47.6	15.1	41.6	43.3	24.1	21.3	54.6
Take AD	16.0	27.5	56.6	9.4	42.7	47.9	8.8	7.5	83.7
Activities (e.g. sports)	3.3	20.4	76.3	7.4	40.9	51.6	9.0	21.4	69.7*
Contact a non-medical (alternative) practitioner	30.3	25.1	44.7	27.0	49.5	23.6	31.9	32.6	35.4

* $p < 0.01$, controlled for gender, age group and country, and adjusted for multiple testing

Table 5
Knowledge of depression symptoms

List of symptoms	Community facilitators			Nurses			(Mental) health professionals		
	(strongly) disagree %	undecided / don't know %	(strongly) agree %	(strongly) disagree %	undecided / don't know %	(strongly) agree %	(strongly) disagree %	undecided / don't know %	(strongly) agree %
Compulsive grooming	26.7	13.4	59.9	55.8	1.5	42.8	39.5	17.4	43.1*
Physical complaints	7.7	11.5	80.8	5.2	0.4	94.4	3.5	3.5	93.0*
Hallucinations	40.6	20.6	38.8	43.7	1.4	54.9	63.4	10.7	25.9
Feelings of guilt	5.2	12.3	82.5	3.8	0.7	95.6	4.4	5.3	90.4
Loss of pleasure	3.0	6.9	90.1	3.5	0.4	96.1	0	0.9	99.1

* $p < 0.01$, controlled for gender, age group and country, and adjusted for multiple testing

of depression and pulling oneself together as a recommended way to deal with it. These differences are likely to be associated with differences in professional background. In particular, their education and experience in mental health issues enhances (mental) health professionals' familiarity with and understanding of patients with depression, the disease and its treatment. Lacking this background, CFs may have a different understanding of depression, not recognizing it as a mental illness but rather as a 'crisis' or a fluctuation of mood under the individual's control, something that has also been observed in the general population (Lauber *et al.*, 2001; Schomerus *et al.*, 2006).

A large difference among professional groups was observed in the attitude toward treatment options for depression, in particular AD. CFs and nurses seem to have a more negative attitude toward AD than (mental) health professionals. Only about half of CFs and nurses believed in the effectiveness of AD and saw it as a recommendable treatment option. This may also be related to not seeing depression as a mental illness that requires treatment, or to more frequent experience with mild depression, for which AD is not a recommended treatment option (American Psychiatric Association, 2000). More problematic is the large majority of CFs and nurses agreeing with two features of AD that are known to be exceptionally rare (addictiveness and changing one's personality). CFs also more often endorsed non-standard interventions for depression, when compared to nurses. These attitudinal differences likely reflect differences between a psychosocial and a medical background. An encouraging finding is that most CFs and nurses supported contacting a professional for depression, such as a GP or psychotherapist.

Except for this attitude toward non-standard interventions, nurses, despite their higher degree of education in health sciences, were comparable to CFs in attitudes and knowledge about depression, or at least were far more similar to CFs than to (mental) health professionals. However, important differences emerged between registered nurses and nurse assistants. Nurse assistants showed more limited knowledge of depression symptoms and endorsed a more negative attitude toward AD than registered nurses, which might be related to their lower education (Ayalon *et al.*, 2008). Overall, nurse assistants showed some of the least favourable attitudes and most limited knowledge of all professional groups. This is of concern as they have among the most frequent contact with patients with depression, especially in outpatient situations, where they are often the only caregiver present (Ayalon *et al.*, 2008; Gray *et al.*, 1999).

More generally, differences in knowledge and attitudes among the various groups of CFs appeared to be small, especially when compared to those of (mental) health professionals, indicating that CFs may be regarded as a common target group for interventions, as in the EAAD project. Moreover, CFs' attitudes toward depression tended to be similar to those of the general population, with a comparable rather negative attitude toward AD and preference for non-standard treatment (Hegerl *et al.*, 2003; Jorm *et al.*, 1997b, 2005b; Lauber *et al.*, 2001, 2005; Priest *et al.*, 1996). It seems that CFs' and the general population's common lack of (educational) background on mental illness is dominant in determining knowledge and attitudes toward it. Further, older age was related to a more negative attitude toward patients with depression and more limited knowledge of depression symptoms, which is in line with previous research (Angermeyer & Dietrich, 2006; Ayalon *et al.*, 2008; Connery & Davidson, 2006). Finally, men had better knowledge of depression symptoms and agreed less with contacting a non-medical (alternative) practitioner.

The different attitudes toward causes and treatment of depression among professional groups are worrisome as they may negatively affect collaboration (Caldwell & Jorm, 2000; Lauber *et al.*, 2005). In particular, CFs' more negative attitudes toward AD and preference for non-standard treatment of depression may impact upon their referral practices to (mental) health services (Ayalon *et al.*, 2008; Moses & Kirk, 2006; Stern *et al.*, 1999). Furthermore, as opinion leaders,

community and health professionals should be aware of the impact of their attitudes on patients and the public (Hugo, 2001; Lauber *et al.*, 2006). First, differences in beliefs about helpfulness of interventions among community and (mental) health professionals convey a confusing message to patients, may impact upon help-seeking and treatment adherence and present a challenge to the implementation of evidence-based treatment of depression (Jorm *et al.*, 1997b, 2005b; Lauber *et al.*, 2001). Second, CFs' negative attitude toward patients with depression is of concern, as is the related belief in internal causes, such as weakness of character, which implies a negative evaluation (Jorm *et al.*, 1997a) or an unwarranted sense of personal accountability, and is strongly related to stigma of depression (Wang *et al.*, 2007).

In order to improve CFs' knowledge and attitudes concerning depression and to support them in their role as gatekeepers for mental health in the community, training programmes need to be provided. Nurse assistants should be a primary target of such efforts. The few studies evaluating such trainings for CFs have shown promising results in nurses (Eisses *et al.*, 2005), nurse assistants (McCabe *et al.*, 2008; Ziervogel *et al.*, 2005), pharmacists (Bell *et al.*, 2006) and the police (Watson *et al.*, 2004). Patient participation in such trainings may be particularly effective (Bell *et al.*, 2006) and involving (mental) health professionals may be a way to increase collaboration. CFs in this study participated in such training. Its effectiveness is a focus of future studies.

There were some methodological limitations to this study. First, the study group was a convenience sample. Therefore, caution is needed when generalizing the results to the entire population of the respective professional groups. For instance, training participants may have been relatively more interested in or positive toward the topic of depression. However, since all professional groups were similar in this regard, the relative differences in attitudes and knowledge should remain. Second, there were differences in professional groups targeted by each country. Also, attitudes toward mental illness are known to vary across countries. Nevertheless, country was controlled for and differences according to professional group appeared to be much more important than those according to country. Next, it was not possible to obtain data on and control for other potentially interesting participants' characteristics, such as personal experience or familiarity with mental illness, degree of professional contact, educational level and previous training in mental health. However, the experience of the EAAD training programme learned that most participants had not received prior postgraduate training in mental health issues in general and depression in particular, which was a main reason for their participation. Educational level was not additionally considered, given its inextricable relationship to professional degree. Further, the questionnaire did not include items that are less clinically orientated, such as stigma toward patients with depression. Finally, we could not directly compare attitudes of professionals with those of the general population.

Further research should consider the relationship of CFs' attitudes toward depression with their actual practice regarding both patients and (mental) health professionals; should address patients' and professionals' perceptions of the role of the CF in depression care; and should directly compare the attitudes of CFs and the general population.

CONCLUSIONS

In comparison to mental health professionals and doctors, CFs and nurses had less favourable attitudes toward patients with depression and toward AD, and more limited knowledge of depression symptoms. CFs and mental health professionals resemble the general population in preferring non-standard interventions. Nurse assistants, clearly differing from registered nurses, showed some of

the least favourable attitudes and most limited knowledge of all professional groups. Differences in attitudes toward depression among professional groups are of concern as they may negatively affect professional collaboration, challenge optimal treatment and stigmatize patients. Evidence-based training programmes are needed to improve CFs' knowledge and attitudes concerning depression, and nurse assistants should be a primary target.

ACKNOWLEDGEMENT

The EAAD project is funded by the European Commission, public health executive agency, grant number 20035323.

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