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Correlates of knowledge and beliefs about depression among long-term care staff

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SUMMARY

Context Despite the high prevalence of depression in long-term care (LTC), it often is unrecognized and inadequately treated. Thus, the goals of the present study were to evaluate LTC staff characteristics that are associated with knowledge and beliefs about depression.

Methods A cross sectional study of 371 LTC staff members completed a knowledge and beliefs about depression questionnaire, a short demographic questionnaire, a burden measure, and a questionnaire about attitudes associated with working with depressed residents.

Results Relative to nurses, social workers, and activity staff, paraprofessional caregivers had a lower score on the depression measure and a higher score on the burden measure. Paraprofessional caregivers were more likely to view depression as a normal phenomenon, held less accurate beliefs about signs and symptoms of depression, and were less familiar with the effectiveness of specific treatments of depression.

Conclusions Educational interventions about depression should be specifically geared to meet the needs of paraprofessional caregivers who provide the majority of care to LTC residents, yet possess less knowledge about depression and its treatments. Copyright © 2007 John Wiley & Sons, Ltd.

KEY WORDS — Education; training; neuropsychiatric symptoms; nursing home; assisted living; mental illness

INTRODUCTION

The estimated rates of major depression in long-term care (LTC) range from 8.1–14.4 %, with subclinical depression being as high as 44.2% according to some studies (Teresi *et al*., 2001; Jongenelis *et al*., 2004). Depression in older adults poses a serious public health concern; depression has been associated with a variety of negative consequences including, lower quality of life (Smalbrugge *et al*., 2006), medical comorbidity (Cole *et al*., 2006), high use of health services (Badger, 1998), high health care costs (Katon *et al*., 2005), and early mortality (Abas *et al*., 2002).

Both pharmacological and nonpharmacological interventions are considered evidence-based interventions for the treatment of depression in the elderly (Pinquart *et al*., 2006), with a growing body of research demonstrating the effectiveness of these interventions in LTC settings (Bharucha *et al*., 2006; Nelson *et al*., 2006). Despite these encouraging developments, there is a plethora of research demonstrating that long-term care staff often fail to recognize depression and, as a result, fail to refer depressed residents for appropriate depression treatment (Burrows *et al*., 1995; Bagley *et al*., 2000; Boyle *et al*., 2004). Even when depression treatment is initiated, it often is inadequate for the complex conditions of LTC residents (Brown *et al*., 2002).

Paraprofessional caregivers, such as certified nurses' assistants and nurses' aides, work most directly with depressed elderly in LTC and thus, are faced with the demand to manage depressive symptoms. Paradoxically, they do not typically receive mental health training (Pennington *et al*., 2003). The limited research available has shown that relative to clinical staff, paraprofessional

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caregivers often are ill-informed about depression and other common conditions in LTC and that many LTC staff members openly acknowledge the need for further mental health training (Spore *et al*., 1991).

Given research that has shown that promoting staff knowledge about mental health issues may result in better patient care (McAiney *et al*., 2006; Sullivan *et al*., 2006), it is important to identify the specific knowledge needs of LTC staff members. The goal of the present study was to evaluate demographic and attitudinal variables that are associated with knowledge and beliefs about depression among LTC staff members. Because paraprofessional caregivers provide the majority of services to older adults, we were most interested in this professional group and compared all other groups to paraprofessional caregivers. We expected paraprofessional caregivers to be less knowledgeable about depression relative to the other professional groups. We also expected that in addition to level of education/training, differences in knowledge about depression would be explained primarily by work experience and acculturation level, with more exposure to the majority culture and more work experience being related to better knowledge about depression. In addition, we expected those staff members who presented with higher levels of burden and less favorable attitudes towards working with depressed residents to report less accurate knowledge of depression.

METHODS

Sample

This study is part of the Senior Behavioral Health Services project (SBHS) a Substance Abuse and Mental Health Services Administration (SAMHSA) initiative to disseminate evidence based knowledge regarding the management of depression and agitation in LTC. We collected baseline data from ten study sites (eight assisted living/board and care facilities and two skilled nursing facilities). At all sites, data were collected during the first meeting with our staff, prior to the first training session in agitation and/or depression management. A social worker approached staff members prior to training and offered them to complete the measure. All levels of staff were asked to complete the forms in order to gain a broad perspective on staff knowledge. There was no obligation to complete the questionnaire and we did not offer any compensation for completion. Data were also collected during community workshops and a conference on assisted living facilities that included a mixture of respondents from several of the above LTC sites. The study was approved by the Institutional Review Board of the University of California San Francisco.

Overall, 371 staff members completed the questionnaire. The sample included primarily paraprofessional caregivers (227; 61.2%), followed by administrators/owners (42; 11.3%), social workers (18; 4.9%), nurses (16; 4.3%) and activity staff (15; 4%). A fifth group included those who self-identified as 'other' (53; 14.3%). The sample was composed of females (277; 74.7%) of at least some college or trade school education (292; 78.7%). The majority of the sample was Asian 56.1% (208), and only 46.4% of the sample reported that their native language was English (172). For a detailed description of sample characteristics see Table 1.

Measures

All questions were developed based on a review of the literature and interviews with nursing staff. Questions were then evaluated by experts in psychometrics and geriatrics and reevaluated once again by nursing staff. Questions were adapted based on feedback from these sources. The survey was translated into Spanish and Tagalog, and participants were given the choice of taking the measure in their native language (if applicable).

Outcome variables

Knowledge and beliefs about depression. We used 11 true (0)/false (1) questions about the etiology of depression: 'It is normal to become depressed, as you are getting older and live in this type of facility'; 'Depressed residents should just '"snap out of it'' (i.e. use their will power to get better)'; the treatment of depression: 'Medication is the only effective way to treat depression'; 'Family members can be helpful when working with depressed residents'; 'Older adults do not change, therefore, there is no need to treat their depression'; 'The side effects of antidepressant medication are so severe that it is better not to take them'; 'Depressed elderly prefer antidepressant medication to talk therapy'; and the characteristics of depression: 'Weight loss, difficulties falling asleep, and concentration problems can be signs of depression'; 'If a resident reports guilt about the past he or she might be depressed'; 'Older adults are less likely to kill themselves than younger adults'; 'Agitation can be a sign of depression'. We reverse scored items to which the accurate response was 'true' and summed up all accurate responses to reflect a general

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Table 1. Demographic and attitudinal characteristics of the sample

	Paraprofessional caregivers (227)	Nurses (16)	Social Workers (18)	Activity staff (15)	Owners/ administrators (42)	'Other' (53)	F/chi square	df	*p*
Sociodemographic variables									
Age	43.80 (12.1)	49.25(11.1)	44.58(11.01)	41.40(11.7)	50.57(11.2)	45.48(12.9)	2.7	5	**0.01**
Female	173(77.6)	14(87.5)	12(66.7)	11(73.3)	24(57.1)	43(81.1)	11.1	5	0.04
Level of education							146.0	25	<0.001
Less than 8th grade	9(4)	0	0	0	0	2(3.8)			
Less than 12th grade	17(7.6)	0	0	0	0	1(1.9)			
High school graduate/GED	40(17.8)	0	0	0	0	8(15.1)			
Some college or trade school	79(35.1)	3(18.8)	0	2(13.3)	9(21.4)	9(17)			
College graduate	72(32)	9(56.3)	2(11.1)	7(46.7)	21(50)	15(28.3)			
Graduate school	8(3.6)	4(25)	16(88.9)	6(40)	12(28.6)	18(34)			
Culture and acculturation									
Ethnicity							144.7	20	<**0.001**
Asian	161(71.2)	7(43.8)	5(27.8)	8(57.1)	10(24.4)	17(34)			
White	9(4.0)	9(56.3)	12(66.7)	6(42.9)	28(68.3)	21(42)			
Black	15(6.6)	0	0	0	0	1(2)			
Latino	32(14.2)	0	1(5.6)	0	2(4.9)	8(16)			
Other	9(4.0)	0	0	0	1(2.4)	3(6)			
Language spoken at home							103.9	15	<**0.001**
English	61(26.9)	13(81.3)	14(77.8)	13(86.7)	37(88.1)	34(64.2)			
Spanish	27(11.9)	0	0	0	1(2.4)	5(9.4)			
Tagalog	102(45.5)	2(12.5)	1(5.6)	0	4(9.5)	6(11.3)			
Other	34(8.0)	1(6.3)	3(16.7)	2(13.3)	0	5(9.4)			
Number of years in the United States							115.5	20	<**0.001**
Less than 1 year	7(3.1)	0	1(5.6)	0	0	0			
1-5 years	26(11.5)	0	0	2(13.3)	0	4(7.5)			
6-9 years	36(15.9)	0	2(11.1)	3(20)	2(4.8)	4(7.5)			
10 or more years	131(57.7)	6(37.5)	1(5.6)	4(26.7)	13(31)	14(26.4)			
Not relevant	27(11.9)	10(62.5)	14(77.8)	6(40)	27(64.3)	31(58.5)			
Number of years speaking English							109.9	20	<**0.001**
Less than 1 year	3(1.3)	0	0	0	0	2(3.8)			
1–5 years	16(7.0)	0	0	0	0	3(5.7)			
6–9 years	32(14.1)	0	1(5.6)	1(6.7)	0	3(5.7)			
10 or more years	145(63.9)	6(37.5)	3(16.7)	7(46.7)	13(31.0)	15(28.3)			
Not applicable	31(13.7)	10(62.5)	14(77.8)	7(46.7)	29(69.0)	30(56.6)			
Work experience									
Experience at the facility							41.2	15	<**0.001**
Less than 1 year	18(8.5)	2(12.5)	5(27.8)	2(13.3)	3(8.1)	12(24.0)			
1–5 years	86(40.6)	4(25.0)	10(55.6)	9(60.0)	15(40.5)	26(52.0)			
6–9 years	64(30.2)	2(12.5)	3(16.7)	4(26.7)	8(21.6)	7(14.0)			
10 or more years	44(20.8)	8(50)	0	0	11(29.7)	5(10.0)			
Experience with older adults							42.3	15	<**0.001**

(*Continues*)

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Table 1. (Continued)

	Paraprofessional caregivers (227)	Nurses (16)	Social Workers (18)	Activity staff (15)	Owners/ administrators (42)	'Other' (53)	F/chi square	df	*p*
Less than 1 year	9(4.6)	0	2(11.1)	2(13.3)	0	5(10.0)			
1–5 years	63(32.0)	1(6.3)	8(44.4)	7(46.7)	5(14.3)	20(40.0)			
6–9 years	52(26.4)	1(6.3)	5(27.8)	5(33.3)	9(25.7)	9(18.0)			
10 or more years	73(37.1)	14(87.5)	3(16.7)	1(6.7)	21(60.0)	16(32.0)			
Stigma (0–1)	16(7.5)	0	0	1(6.7)	2(4.8)	3(6.0)	3.0	5	0.69
Burden (0–4)	1.84(1.1)	1(1.0)	0.75(1.1)	1.14(1.0)	1.17(0.9)	1.18(1.1)	7.6	5	**<0.001**
Attitudes towards working with depressed residents (0–3)	0.84(0.8)	0.75(0.6)	0.41(0.6)	1.00(0.6)	0.69(0.7)	0.80(0.7)	1.3	5	**0.23**

P-values in bold indicate significant results using Holm-Bonferroni criterion.

knowledge measure of depression, with a higher index score representing more accurate knowledge. Range was 0–11; $\alpha = 0.53$.

Predictors

Demographic information. We evaluated age, gender, and professional affiliation.

Culture and acculturation. Ethnicity was evaluated by self-report. In addition, we evaluated number of years in the United States and number of years of speaking English as proxies of acculturation.

Work experience. We evaluated work experience as number of years working with older adults, and number of years at the facility.

Stigma associated with depression. We evaluated stigma by the true (0)/false (1) question: 'I would try to keep it as a secret if one of my family members was depressed'.

Levels of burden associated with the work. We assessed burden using the following true (0)/false (1) questions: 'Most people would leave this job if they could'; 'My work is harder than the work of most people'; 'I feel respected at my workplace'; 'Most people in this facility enjoy their work'. We reverse scored items presented in a positive way, and summed up all negative responses, so that a higher index score would represent greater level of burden. Range 0–4; $\alpha = 0.51$.

Attitudes towards working with depressed residents. We evaluated attitudes using the following true (0)/false (1) questions: 'I feel comfortable working with depressed residents'; ' I prefer not to work with depressed residents'; 'There is nothing I can do to help a depressed resident'. We reverse scored items presented in a positive way, and summed up all negative responses, so that a higher index score would represent worse attitudes towards working with depressed residents. Range 0–3; $\alpha = 0.24$.

Statistical analysis

We first ran descriptive statistics for each professional group separately. We used ANOVA to test for professional group differences in knowledge and beliefs about depression, using pre-planned contrasts to identify those professional groups that significantly differ from paraprofessional caregivers.

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To identify correlates of knowledge and beliefs about depression, we ran bivariate correlations between the total score on the depression measure and sociodemographic, stigma, attitudinal, and burden variables. Because the professional groups differed on most of the demographic variables (i.e. ethnicity, education level), we decided to conduct these analyses within each professional group separately. Because of the limited sample size, we conducted this analysis only for paraprofessional workers, the largest professional group. To account for multiple comparisons, we used the Holm-Bonferroni method (Holm, 1979).

RESULTS

Table 2 shows the distribution of knowledge and beliefs about depression across professional groups. The paraprofessional caregivers' group was significantly different from the other professional groups on the total depression score, $F(5,287) = 21.22$, $p < 0.001$. Many paraprofessional caregivers stated that it was normal to be depressed (67%), that the side effects of antidepressant medication were so severe that it was better not to take them (30.8%), that depressed residents should just snap out of it and use their will power to get better (38.7%), that older adults were less likely to kill themselves than younger adults (34.5%), and that older adults preferred antidepressants to talk therapy (55.6%). However, many owners/administrators also thought that older adults were less likely to kill themselves than younger adults (25.6%) and many activity staff members thought that the side effects of antidepressant medication were so severe that it was better not to take them (33.3%). Paraprofessional workers also reported higher levels of burden than the other professional groups, $F(5,329) = 7.69$, $p < 0.001$ (Table 1).

For paraprofessional workers, we evaluated the correlation between the overall depression score and each of the sociodemographic variables. We found that the only two variables that correlated with depression knowledge were education level ($r = 0.22$, $p = 0.004$) and age ($r = -0.28$, $p = 0.001$). None of the other variables (i.e. gender, number of years working with older adults, number of years at the facility, ethnicity, number of years speaking English, numbers of years in the United States, stigma, burden, or attitudes towards working with depressed residents) were significantly associated with knowledge and beliefs about depression.

DISCUSSION

There has been ample research demonstrating lack of recognition of depression and inadequate depression treatment in LTC (Bagley *et al*., 2000; Boyle *et al*., 2004). However, this is one of the only studies to evaluate staff knowledge and beliefs about depression and to identify mechanisms that may be responsible for poor management of depression in LTC. Our study shows that level of training/education are particularly influential in determining LTC staff knowledge and beliefs about depression. The most striking finding of this study is that those who have the most patient contact (paraprofessional caregivers) also have less knowledge about depression. Furthermore, we found that experience working with older adults or experience at the particular LTC facility do not play a role in staff knowledge. Thus, LTC administrators and owners need to actively initiate educational training and cannot simply count on experience as a substitute for staff training.

Knowledge and beliefs about the etiology of depression

An interesting finding of this study is the normalization of depression by paraprofessional caregivers. Our study shows that the majority of paraprofessional caregivers thought that it was normal to be depressed, as you get older and live in LTC facilities. Furthermore, almost 40% of paraprofessional caregivers thought that depressed residents should just 'snap out of it'. Research has shown that beliefs about the etiology and treatment of depression are significant predictors of the intent to use depression treatment (Van Voorhees *et al*., 2005). Therefore, given the normalization of depression by LTC staff, delayed referral and treatment of depression in LTC (Soon and Levine, 2002) is not surprising. Educational efforts should emphasize the debilitating nature of depression and the importance of early referral for depression treatment.

Knowledge and beliefs about the treatment of depression

Because paraprofessional workers often serve as the gatekeepers to resident care, their beliefs about the appropriate treatments available for depression are of utmost importance. Our findings show that many paraprofessional caregivers thought that older adults preferred antidepressant medications to talk therapy and that the side effects of antidepressant medications

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Table 2. Knowledge and Beliefs about Depression Across Professional Groups

Depression Knowledge	Paraprofessional caregivers (227)	Nurses (16)	Social Workers (18)	Activity staff (15)	Owners/ administrators (42)	'Other' (53)	*F*/chi square	df	*p*
Depression knowledge (0-11)	7.88(1.5)	10.37(0.7)	10.27(0.890)	9.86(1.2)	9.57(1.5)	9.04(1.7)	21.2	5	**<0.001**
It is normal to become depressed, as you are getting older and live in this type of facility (false)	72(33.0)	15(93.8)	13(72.2)	9(60.0)	35(83.3)	28(56.0)	60.3	5	**<0.001**
Medication is the only effective way to treat depression (false)	188(84.3)	16(100.0)	18(100.0)	14(93.3)	36(90.0)	45(90.0)	7.9	5	0.15
Family members can be helpful when working with depressed residents (true)	209(95.0)	14(87.5)	18(100.0)	15(100.0)	37(88.1)	44(89.8)	7.2	5	0.2
Older adults do not change, therefore, there is no need to treat their depression (false)	197(93.8)	16(100.0)	18(100.0)	15(100.0)	40(97.6)	47(92.2)	4.5	5	0.47
The side effects of antidepressant medication are so severe that it is better not to take them (false)	144(69.2)	16(100.0)	18(100.0)	10(66.7)	39(95.1)	41(82.0)	26.4	5	**<0.001**
Depressed residents should just 'snap out of it' (i.e., use their will power to get better) (false)	130(61.3)	15(93.8)	18(100.0)	15(100.0)	39(92.9)	45(86.5)	44.3	5	**<0.001**
Weight loss, difficulties falling asleep, and concentration problems can be signs of depression (true)	168(82.4)	16(100.0)	18(100.0)	14(93.3)	38(92.7)	48(94.1)	13.3	5	0.02
If a resident reports guilt about the past he or she might be depressed (true)	125(61.9)	13(81.3)	13(72.2)	14(93.3)	30(71.4)	38(74.5)	10.5	5	0.06
Older adults are less likely to kill themselves than younger adults (false)	129(65.5)	16(100.0)	17(94.4)	15(100.0)	29(74.4)	35(70.0)	20.8	5	**0.001**
Agitation can be a sign of depression (true)	192(88.5)	15(93.8)	17(94.4)	15(100.0)	37(88.1)	43(86.0)	3.3	5	0.64
Depressed elderly prefer antidepressant medication to talk therapy (false)	87(44.4)	14(87.5)	17(94.4)	12(80.0)	28(70.0)	36(72.0)	39.7	5	**<0.001**

P-values in bold indicate significant results using Holm-Bonferroni criterion.

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were so severe that it was better not to prescribe them to the elderly. Holding onto such beliefs likely fosters a sense of helplessness among LTC staff members and inhibits them from referring older adults for appropriate depression treatment.

Knowledge and beliefs about the characteristics of depression

We found that many paraprofessional caregivers and managers/administrators did not know that older adults are more likely to kill themselves than younger adults. Thus, both the management level that is in charge of determining the rules and regulations at the facility and frontline staff that serve as gatekeepers by identifying early signs of depression and suicidality often lack adequate knowledge about suicide as a major risk in the elderly. This is a major problem given the high rates of suicide in the elderly (Center for Disease Control and Prevention, 2002). Further training in detection of and intervention in suicidal ideation is much needed at all levels of LTC staff.

Limitations

We used a convenience sample of sites that were interested in participating in the educational activities offered by the SBHS project and thus we might have sampled particularly motivated LTC sites (i.e. either those most up to date sites or the ones that were experiencing the greatest difficulties). Furthermore, the majority of paraprofessional workers in the present study were of Asian origin. Thus, results may not be representative of other ethnic groups. Second, the cross-sectional nature of the design does not allow for assumptions about cause and effect. Third, we only used a proxy of work experience (i.e. years working with older adults and years at the facility) and a proxy of acculturation (i.e. years speaking English and years in the United States). Evaluating work experience and acculturation in greater detail could have been more informative. Last, whereas the knowledge and burden scales had moderate internal consistency, the attitudes scale had a low internal consistency, suggesting that items may not represent a single construct. Furthermore, even though, we incorporated feedback from survey experts, experts in geriatrics, and LTC staff members during the development of this survey, we did not conduct cognitive interviews with our potential target audience and the measures were used in this study for the first time.

Nevertheless, the present study is important because it evaluates the unique effects of sociodemographic and attitudinal variables on the knowledgebase and belief system of LTC staff. Our findings suggest that paraprofessional caregivers who provide the majority of care to LTC residents are ill informed about the nature of depression, signs and symptoms of depression, and available treatments for depression. Furthermore, our data show that work experience (e.g. years at the facility, years working with older adults) is not enough as a facilitator of knowledge and that professional training is essential for acquiring and developing depression knowledge and beliefs.

KEY POINTS

- Depression is common in LTC.
- Depression is poorly managed in LTC settings.
- LTC Paraprofessional caregivers serve as gatekeepers for the identification and management depression.
- LTC paraprofessional caregivers lack appropriate knowledge about depression and its management.

CONFLICT OF INTEREST

None.

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