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Perceptions and practice behaviors regarding late-life depression among private duty home care workers: A mixed-methods study

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Abstract

Background: This study aimed to examine personal care aides (PCAs)' knowledge, beliefs, and attitudes towards late-life depression and their experience caring for older adults with depression.

Method: This study used a mixed-methods convergent parallel design involving an online survey (n=87) and semi-structured interviews (n=22). Survey respondents were recruited using convenience sampling and interviewees using purposive sampling from private duty home care agencies in Michigan. Qualitative data analyzed using a technique involving data reduction and open coding. Survey data were analyzed using descriptive statistics.

Results: Most PCAs underestimated suicide rate among older adults, overrated self-help ability of the depressed person, underrated difficulty diagnosing depression, and attributed depression to personality flaws. PCAs favored psychotherapy and informal support and generally regarded medication as unhelpful, particularly in mild/moderate depression. Despite these discordances, PCAs' self-reported practice behaviors included strategies (i.e., communication, behavioral, cognitive, emotional regulation, relational, and external) that were largely consistent with the scientific view, particularly relating to behavioral activation. A prominent theme from PCAs' narratives was individualized care, reflected in their assessment of depressive symptoms, attitude towards depression treatment, and strategies caring for clients.

Conclusions: Several areas of PCAs' perceptions regarding late-life depression were discordant with the current scientific view, although their practice behaviors were largely consistent with the principles of evidence-based practice for depression. Specialized mental health training, a standard depression care protocol, and higher training standards are essential to mobilize the large number of PCAs to improve the mental health outcomes of hard-to-reach older adults.

Keywords

home care; direct care workers; depression; older adults

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Conflict of Interest:
None.

Introduction

Private duty home care is a fast-growing segment of the home care industry, and typically involves “unskilled care” (e.g., personal assistance and companionship) provided part-time, intermittently, or even around the clock. In this regard, private duty home care differs from home health services covered by Medicare, the latter of which provides intermittent skilled nursing care and rehabilitation services after an acute illness. In most cases, private duty home care is an out-of-pocket expense, although Medicaid and some private insurance plans may pay for unskilled home care. Most private duty home care agencies are for-profit and not subject to Medicare certification. Training requirements for private duty home care workers are determined by the states with no national guidelines. Training standards vary considerably among private duty PCAs across states, with no formal requirements imposed by some states (Kelly, Morgan, & Jason, 2013).

Home care workers, including personal care aides (PCAs), home health aides, and nursing assistants, are among the fastest growing jobs in the United States. PCAs often provide personal assistance, companionship, light housekeeping, and transportation whereas home health aides and nursing assistants may perform some clinical tasks under the supervision of a licensed health care professional. Nearly 3 million home care workers provide care for millions of older adults and persons with disabilities in the home- and community-based settings (PHI, 2017; Bureau of Labor Statistics, 2018). The number of home care workers needed is projected to increase by 41% in the next decade (Bureau of Labor Statistics, 2018) due to rapid population aging, longer years lived with disability, and a growing emphasis on aging in place.

Research has consistently documented the high burden of depression in older home care recipients. An estimated 13% of both clinical and population-based samples had major depression (Bruce et al., 2002; Xiang, Leggett, Himle, & Kales, 2018) and an estimated 39% of a population-based sample had subthreshold depression (Xiang et al., 2018). However, detection of depression is often poor, and treatment utilization inadequate or inappropriate (Bruce et al., 2002; Xiang et al., 2018). Recognition of depression in older home care recipients may be hindered by their high rates of physical comorbidity, dementia, and declines in social functioning (Davison, McCabe, Mellor, Karantzas, & George, 2009). Stigma, transportation, and shortage of specialty providers are additional barriers in accessing depression treatments among this high-risk population (Choi & Gonzales, 2005).

Home care workers may play an important role in improving the detection and treatment of depression in older adults (Davison et al., 2009). These direct care workers are the eyes and ears of the home care system and important gatekeepers for identifying depressive symptoms in care recipients (Institute of Medicine and National Research Council, 2015). However, research has shown that direct care workers across settings of long-term services and supports (LTSS) often do not receive training in depression and have perceptions inconsistent with the current scientific knowledge (Ayalon, Arean, & Bornfeld, 2008; Davison et al., 2009; Gleason & Coyle, 2016; Grundberg, Hansson, Religa, & Hilleras, 2016; Konnert, Huang, & Pesut, 2018; McCabe, Davison, Mellor, & George, 2008; McCrae

et al., 2005). Given that improved knowledge on depression may lead to improved referral and care (McAiney et al., 2007; Mellor et al., 2010), identifying knowledge deficits among home care workers is an important first step in developing effective training programs.

The present study extends the literature regarding the perceptions of late-life depression among home care workers from private duty home care agencies. Knowledge, attitudes, and experiences were explored based on the experiences of PCAs caring for older adults with depression. To our knowledge, no studies have specifically examined the perceptions of late-life depression by private duty PCAs. Previous studies often involved multiple occupations across the LTSS settings such as nurses, social workers, physical therapists, and direct care workers (Ayalon et al., 2008; Davison et al., 2009; Delaney, Barrere, Grimes, & Apostolidis, 2016; McCabe et al., 2008; McCrae et al., 2005). The limited literature on home care workers did not specify occupation titles and broadly examined perceptions of mental and behavioral health problems (Gleason & Coyle, 2016; Grundberg et al., 2016; Konnert et al., 2018). PCAs are direct care workers who tend to have the lowest level of education and training compared to other LTSS providers. Their perceptions and knowledge may differ from other LTSS providers, as a previous study has shown that direct care workers were more likely to have knowledge inconsistent with the current scientific knowledge regarding depression than other providers (Ayalon et al., 2008).

Studies that have formally assessed direct care workers' knowledge of depression have several methodological limitations. Many studies relied on either qualitative interview (Gleason & Coyle, 2016; Grundberg et al., 2016; McCabe et al., 2008; McCrae et al., 2005) or survey (Ayalon et al., 2008; Davison et al., 2009). A study involving mixed-methods used single item or one-dimensional measures (Konnert et al., 2018). Previous studies therefore did not provide a comprehensive account of workers' knowledge regarding the multidimensional aspects of depression etiology, symptoms, and treatments (Karantzas, Davison, McCabe, Mellor, & Beaton, 2012). In addition, studies have rarely examined workers' practices caring for older adults with depression. A study on direct care workers' beliefs regarding dementia has shown that while some of the workers' beliefs were inconsistent with the current scientific view, their actual intuitive practices were consistent (Ayalon, 2009). Examining PCAs' practice behaviors may reveal additional information regarding their training needs.

The aims of the present study were two-fold: (1) to examine PCAs' knowledge, beliefs, and attitudes towards late-life depression; and (2) to describe the experiences of PCAs caring for older adults with depressive symptoms, including the strategies they used to manage symptoms. We focused specifically on PCAs working for private duty home care to identify knowledge deficits and associated training needs specific to this workforce and care setting. We employed a mixed-methods design to gain a more comprehensive understanding of provider perceptions and used validated measures to provide a detailed assessment of their knowledge and attitudes. In addition, we examined not only workers' beliefs but also their self-reported behaviors in response to depression in older clients.

Methods

Design

This study used a mixed-methods convergent parallel design to form a more complete understanding of the research problem (Creswell & Clark, 2011). Quantitative data were collected via a structured, anonymous online survey. Qualitative data were gathered via individual semi-structured interviews. Quantitative and qualitative data were collected concurrently, analyzed independently, and then combined to inform the interpretation.

Participant recruitment

We compiled a list of private pay home care providers in Michigan through calling local Area Agency on Aging and professional contacts of the first author. Recruitment and data collection occurred over a 7-month period. Recruitment methods involved phone calls, text messages, distribution of recruitment flyers by emails, voice-messaging reminders, and to a lesser degree, announcements during in-person visits to the offices of home care agencies. We also encouraged participants to forward our study information to other PCAs they knew. Study procedures and materials were approved by the University of Michigan Health Sciences and Behavioral Sciences Institutional Review Board.

Quantitative survey

Procedure.—Survey respondents were recruited using convenience sampling. A shortened link to our online survey was sent to potential participants and clicked by 92 PCAs. Five persons answered fewer than five questions and were excluded from the analysis, resulting in a valid sample size of 87. We did not ask survey respondents to name the agency they work for to ensure anonymity. Based on our contact with home care agencies, survey respondents likely came from no more than 15 agencies in Michigan. It took respondents an average of 31 minutes to finish the survey. PCAs received an honorarium of \$25 for completing the survey.

Measures.—The first section of the survey included questions about socio-demographic information, qualification and training, and work experiences as a PCA. The second section of the survey included case vignettes to assess participants' ability to identify depression and a knowledge quiz on late-life depression (Pratt, Wilson, Benthin, & Schmall, 1992). The third section of the survey included a 19-item modified Depression Attitude Questionnaire (Botega, Mann, & Wilkinson, 1992).

Identification of depression using case vignettes. We used a vignette method in which two case descriptions, one representing mild/moderate depression (98 words) and one representing severe depression (97 words), were presented to each survey participant. To mitigate the potential influence of the gender on case recognition, we prepared a male and a female version of the vignette for each depression severity level, and randomly assigned the gender of the vignette to participants. We developed the vignette for mild/moderate depression based on case descriptions from Wijeratne and Harris (2009) and used the case descriptions for severe depression from Landreville et al. (2001) with minor modifications (Appendix).

For each vignette, participants were first asked an open-ended question about diagnosis and then a closed-ended question about symptom severity (mild, moderate, or severe). This was followed by two sets of closed-ended questions about treatments perceived as helpful and actions likely to be taken by PCAs (Table 1). Possible responses were yes, maybe, and no.

Knowledge on late-life depression.: We used the 12-item knowledge quiz on late-life depression by Pratt et al. (1992) for social service providers and the generic public. Items were selected based on expert consensus and examination of the item discrimination index (Pratt et al., 1992). We used the knowledge quiz items without modification (Table 2). Response options were true or false.

Attitudes towards depression.: We modified the Depression Attitude Questionnaire (DAQ), 20-item questionnaire developed to measure depression attitude among general practitioners (Botega et al., 1992). The DAQ items measure three domains of attitudes: nature of depression, treatment preferences, and professional reaction. We deleted the item “If depressed patients need antidepressants, they are better off with a psychiatrist than with a general practitioner” from the DAQ. We modified the wording of the remaining 19 items to better fit the educational background of PCAs and the nature of home care (Table 3). Participants responded on a 5-point Likert Scale, from “Strongly Disagree”, “Disagree”, “Neutral/Undecided”, “Agree”, to “Strongly Agree”.

Qualitative interview

Procedure.—Interviewees were selected using purposive sampling. We selected PCAs with a longer work history and from different agencies to seek representation of diverse perspectives. The first author conducted all interviews in English and concluded recruitment until reaching a saturation point where the same themes were recurring, and no new insights were given by additional sources of data (Bowen, 2008). A total of 22 PCAs completed qualitative interviews by telephone (82%) or in person (18%). Interview participants came from nine home care agencies in Michigan.

In individual semi-structured interviews, PCAs were asked open-ended questions about their experiences and challenges working with older adults with depression, their beliefs about late-life depression, and their practice behaviors in response to depression in older adults. The interviewer took notes during interviews. In addition, all interviews were recorded using a digital voice recorder and transcribed verbatim by two trained research assistants not involved in recruitment or data collection. Duration of the interviews averaged 49 minutes. PCAs received an honorarium of \$25 for completing the interview.

Data analysis

Quantitative survey data were analyzed using descriptive statistics and, when appropriate, bivariate comparisons using McNemar Test, in Stata 15.1 SE Version (StataCorp, College Station, TX). Qualitative data were analyzed using the RADaR technique (Watkins, 2017), a quick and comprehensive qualitative analysis strategy. The RADaR technique involves using tables and spreadsheets to develop all-inclusive data tables that undergo several revisions for data reduction. The researchers first copy and paste similarly-formatted data

transcripts into an all-inclusive, Phase I data table and then gradually reduce data in the all-inclusive data to produce shorter, more concise data tables. Research team members engage in an iterative process of coding and thematic analyses during each step of data reduction, moving from generating preliminary codes to the final phase of data table containing themes and representative quotes. A detailed description of the RADaR technique is available in Watkins (2017). We chose the RADaR technique because it is user-friendly and suitable for team work and projects with a small sample size. All authors read and coded the transcripts. Codes were discussed, consensus reached, and themes extracted.

Results

Quantitative findings

Characteristics of survey participants.—Most survey participants were female (94%). Their age ranged from 18 to 67 years (Mean=41, SD=14.4). Most participants were non-Hispanic white (56%), followed by non-Hispanic black (29%), Hispanic (9%), and other race (7%). Most participants had a high school diploma or GED (95%). Nearly half (48.6%) of participants had a two-year college degree or some college education and 26% participants had a four-year college degree. When asked about their certification status, most participants (71%) reported non-certified whereas about 10% reported being Certified Nursing Assistants and 20% reported being certified Home Health Aides. Participants had worked for an average of 6.3 years as a PCA (SD=6.5). On average, participants worked 30 hours per week (SD=15.4) and served three clients concurrently (SD=3.2). When asked to rate their own depressive symptoms, 8.6% participants scored 3 on the 2-item Patient Health Questionnaire (PHQ-2) (Lowe, Kroenke, & Grafe, 2005). (Results not shown in tables).

Diagnostic recognition.—The percent “correct” response on the vignette-identification was 86.2% in the mild/moderate case and 78.2% in the severe case. Correct responses included “depression” or “depressed”. Examples of incorrect responses included “lonely”, “insomnia”, and “grief” in the mild/moderate case and “dementia”, “memory loss”, “anxiety”, and “suicidal” in the severe case. Slightly over half of participants (54.1%) who correctly identified depression in the mild/moderate case (N=75) identified symptom level as mild or moderate. Most participants (86.8%) who correctly identified depression in the severe case (N=68) identified symptom level as severe. (Results not shown in tables).

Treatments recommended.—As shown in Table 1, there was a high rate of endorsement of talking to a therapist (86.2%, 91.9%) and talking to a friend or relative (79.1%, 81.9%) in both vignettes. Endorsement of taking medication differed significantly by depression severity ($p<.001$). While less than one-third of PCAs (31.4%) rated taking medication as helpful in the mild/moderate case, 60% of PCAs rated medication as helpful in the severe case. When asked what they would do to help clients described in the vignettes, most PCAs would consider talking to clients (96.6%, 95.4%), encouraging them to do enjoyable activities (96.6%, 92.9%), and helping them overcome obstacles to doing enjoyable activities (88.5%, 88.4%) in both vignettes. Nearly three-quarters (72.1%) of PCAs would notify the office (home care agency) in the severe case compared to 60.5% in the mild/

moderate case ($p=.021$). A significantly higher proportion of PCAs would refer clients to a doctor or a health professional in the severe case (71.8%) than in the mild/moderate case (47.6%).

Late life depression knowledge quiz.—The mean number of items answered correctly on the late life depression knowledge quiz was 7.6 ($SD=1.7$) out of 12 items, with 64% mean percentage correct on each item ($SD=24$). The knowledge items most often missed involved suicide among older adults (14.1% correct), self-help ability of the depressed person (26.2% correct), difficulty of diagnosing depression in older adults (41% correct), and the co-occurrence of memory problem in late-life depression (62.4% correct). Over 70% of the responses for the remaining items were correct. (see Table 2).

Attitudes towards late-life depression questionnaire.—As shown in Table 3, most PCAs disagreed or strongly disagreed that “Depression is a natural part of being old” and agreed or strongly agreed that “People with depression have poor stamina in dealing with life difficulties” (68.6%). Regarding treatment preferences, over half disagreed or strongly disagreed that “Therapy does not seem to help older adults” and believed that therapy would be more beneficial than medication in treating depression, whereas only one-third (37.9%) agreed or strongly agreed that “Medication is usually successful in treating older adults with depression”. Most PCAs felt that they were comfortable meeting the needs of older adults with depression (80.5%) and agreed that a home care worker could be a useful person to support depressed older adults (91.9%).

Qualitative findings

Characteristics of interviewees.—Most participants were female (91%). Their age ranged from 23 to 67 years (Mean=43, $SD=15.8$). Most participants were non-Hispanic white (48%), followed by non-Hispanic black (43%) and Hispanic (9%). All participants had a high school diploma or GED; 43% had a two-year college degree or some college education and one third had a four-year college degree. Participants had worked for an average of 6.8 years as a PCA ($SD=5.4$). On average, participants worked 30 hours per week ($SD=13.0$) at an hourly rate of \$12.3 ($SD=2.1$). (Results not shown in tables).

Individualized care.—A prominent theme from PCAs’ narratives was individualized care, reflected in 3 sub-themes: recognition and assessment of depression, attitude towards depression treatment, and practice behaviors caring for older adults with depression.

Recognition and assessment of depression.—PCAs’ assessment of depression in clients is highly individualized. When asked how they knew an older client was depressed, PCAs named a few common symptoms of depression in clients, including loss of interest or pleasure in activities, excessive sleepiness, mood change, sadness, crying, facial expressions that convey sadness or feeling down, loss of appetite, and disengagement with PCAs. One PCA described:

Some of the signs, I know it can fluctuate depending on the person, but some of the signs I have noticed are sleeping a lot because for that particular client. The first I had her she was pretty much up the whole time. The second time she was pretty

much sleeping the whole shift. There may be days ...where she was more compliant than normal and the other day she was really resistant. I guess for some reason she wasn't in the mood to do certain things that she normally was...Not wanting to get out and about. Maybe not wanting to do activities, like maybe that person is really into card games and all of a sudden, they never want to play card games anymore. It's like they are losing interests in activities that they normally enjoy. Or their appetite has changed. Maybe they normally eat all of their dinner, but all of a sudden, they eat a few things and leave the rest of it. I know it can depend on the client, it is not always the same.

"Not their normal self" was regarded as an important sign of depression. PCAs developed intimate knowledge of clients, enabling them to quickly assess what was constituted as normal in clients' behaviors and affects. Another PCA summed:

We see what's going on as soon as we have some type of a change. We have what's called "normal" for an individual client. When you are going to somebody's home you get accustomed to what's normal for them. When something is happening and it's not a normal situation, it's outside of that normal, then you pay attention. It could be that ... they may be depressed, it could mean that they are physically not feeling well. It is knowing who your client is, knowing what their normal situation is, how they normally behave and then pay attention to when it's not normal.

Attitudes toward depression treatment.: Congruent with the survey results, there was a general preference for therapy and distrust of medication for treating depression in older clients. One PCA responded without hesitation when asked which would work better for their clients, medication or therapy:

It would not be medication, it would definitely be therapy. I believe that would be good. A lot of times even if a person is depressed medication is not needed for every aspect of things...because everybody deals with a little bit of depression you know.

As detailed in another PCA's response, therapy was perceived as more easily tailorable and individualized and therefore likely to be more effective than medication:

You can make that [therapy] very personal. You can individualize that [therapy]. For the medication, there is a certain type of medication given for a certain demographic. They say, "oh this medication is for this population of people". For therapy, you can really personalize that and say, "oh this client really loves massage therapy where she can have a full massage for an hour and music in the background and sounds of ocean waves". That is really tailored to her personal interests.

Yet another PCA explained her aversion to medication due to concerns of overmedicating in older adults and medication side effects:

Honestly, I think way too many clients are over medicated...I'm sure medication does help. But I'm not a big fan of meds. I go in and see people take fifteen pills for breakfast and ten pills before they go to bed. I'm just wondering, what side effects does this pill have and what kind of side effects does that kind of pill have...

Despite their general preference for therapy over medication, most PCAs acknowledged that the specific treatment should consider clients' preference and needs. As one PCA stated:

Whatever is better for the patient... If they feel like talking to a person can help them then they should talk to the person. If they feel like medication, medication. If they feel like both, then let them do both. I think it is whatever is in the interest of the patient compared to what the doctor feels as well.

Practice behaviors.: PCAs generally suggested doing activities that aligned with clients' interests, reflecting their individualized approach to patient care. PCAs frequently applied the following domains of practice behaviors in response to late-life depression in clients: communication, behavioral, cognitive, emotional regulation, relational and external (Table 4). The most frequently reported behaviors are communicating with clients and encouraging them to participate in enjoyable activities.

Synthesis of qualitative and quantitative findings

Findings from the survey and the interviews were largely congruent with respect to depression recognition, treatment preference, and practice behaviors by PCAs. PCAs were able to correctly name common symptoms of depression in the interview, corroborating with the survey finding that showed a high accuracy of recognition of depression in case vignettes. Moreover, preference for therapy over medication for treating depression was evident in both the survey and interview results. In addition, communication and behavioral strategies were the most commonly reported practice behaviors caring for older clients with depression from both data sources. While several knowledge gaps were identified through the survey, self-reported practice behaviors of PCAs in the interviews were largely consistent with the principles of evidence-based practice for depression. All things considered, PCAs expressed a sense of self-efficacy in meeting the needs of older clients with depression. The workers developed intimate knowledge of their clients through their close contacts and prolonged interactions, enabling them to individualize the services they provided.

Discussion

This mixed-methods study examined knowledge, beliefs, and attitudes toward late-life depression among direct care workers from private-duty home care agencies and their self-reported practice behaviors caring for older adults with depression. Responses to structured assessments revealed several areas of perceptions inconsistent with the current scientific view. Regarding the nature of depression, most PCAs underestimated suicide rate among older adults, overrated self-help ability of the depressed person, underrated the difficulty of diagnosing depression in older adults, and tended to attribute depression to personality flaws (e.g., Most survey respondents believed that "people with depression have poor stamina in dealing with life difficulties"). Psychotherapy and emotional support from friends/relatives were perceived as more helpful ways of dealing with late-life depression whereas medication was generally regarded as ineffective or unhelpful. However, acceptance of medication as a helpful treatment increased when depression was perceived as severe. Despite these discordances, PCAs' self-reported practice behaviors included techniques that were largely consistent with the scientific view, particularly relating to behavioral activation.

The knowledge gaps among PCAs identified in the present study are largely congruent with reports from previous studies, which have consistently reported that direct care workers lacked a comprehensive understanding of the symptoms of depression and tended to view depression as dispositional problems (Ayalon et al., 2008; Davison et al., 2009; Gleason & Coyle, 2016; Konnert et al., 2018; McCabe et al., 2008). Compared with other LTSS staff such as social workers, nurses, and case managers, direct care workers tended to hold less accurate beliefs about symptoms of depression and were less familiar with the effectiveness of depression treatments (Ayalon et al., 2008), possibly due to a lower level of education. Nevertheless, PCAs from our study outperformed a sample of community adults with a much higher proportion of college graduates but little background in aging and mental health (Pratt et al., 1992) on the late-life depression knowledge quiz. Davison et al. (2009) have shown that more years of work experiences in aged care settings were associated with a better knowledge of late life depression. PCAs' relevant work experiences averaged 6.3 years in our study sample which could explain their enhanced performance on the knowledge quiz in comparison to community adults. Interestingly, 72% of PCAs in our study disagreed or strongly disagreed with the statement that depression is a natural part of being old whereas normalization of depression in later life was a prevalent misconception among direct care workers from previous studies (Ayalon et al., 2008; Davison et al., 2009; Konnert et al., 2018).

A prominent theme from PCAs' narratives was individualized care, reflected in recognition and assessment of depression, attitude towards depression treatment, and practice behaviors caring for older adults with depression. PCAs used their intimate knowledge of clients to discern changes in mood and behavior. Their practice behaviors were also based on their knowledge of client's likes and dislikes. Communication and behavioral strategies were the most often reported practice behaviors. PCAs reported initiating conversations on clients' favorite topics and motivating and facilitating clients to engage in their favorite activities. They also mentioned that they would notify their supervisors and suggest clients talk to their friends or family. While most of their intuitive practice behaviors were consistent with the principles of evidence-based practice for depression, their utility in addressing clients' depression is constrained by a lack of a standard care protocol for addressing depression at their agency. None of the interview participants recruited from nine home care agencies were aware such protocol existed at their agency. They were left completely on their own discretion to notify their supervisors and take any further actions. Moreover, consistent with previous studies that documented a lack of specific training on mental health among aged care staff (Gleason & Coyle, 2016), none of the PCAs ever received any specific training on late-life depression and such training was not provided at most of the home care agencies involved in our study.

This study has several limitations. Survey respondents came from a convenience sample of PCAs from no more than 15 private pay home care agencies in Michigan. Although the exact number of private pay home care agencies is difficult to ascertain, our preliminary search identified over 600 home care and home health agencies in Michigan. The 15 agencies included in our study therefore represented only a small fraction of the home care industry in Michigan. Two particularly motivated sites provided a larger share of respondents than other sites. These two sites may have a different organizational culture

from the sites that did not respond to our request. Participants who agreed to be in this study may feel more confident in their knowledge than those who refused to participate. Comparing with the national profile of home care workers (PHI, 2017), there was a higher proportion of non-Hispanic whites, a lower proportion of Hispanics, and a higher proportion of high school graduates and college educated persons in our survey sample. Moreover, all sites were based in Michigan, which does not require a special license to operate a non-medical home care business as of 2019. Because private duty home care agencies are unregulated in Michigan, training standards can be uneven and inconsistent. Results from this study, particularly findings regarding PCAs' knowledge, may not be generalizable to PCAs working in states with a higher training standard. Furthermore, limited socio-demographic information and agency characteristics were collected, restricting our ability to examine the impact of these factors on PCAs' knowledge and perceptions. Nevertheless, we did not collect any agency information or other potentially identifying information to protect anonymity so that PCAs may speak honestly about their perspectives. Gleason and Coyle (2016) adopted a similar approach in their study, calling for researchers' sensitivity when studying direct care workers as this population includes a large proportion of low-wage, female, minority, and foreign-born individuals. Finally, the practice behaviors of PCAs were self-reported. Future studies adopting ethnographic methods are better suited for in-depth examinations of their actual practice behaviors.

Conclusion

Mental health specific training is required to realize the potential of PCAs in addressing the mental health needs of hard-to-reach homebound older adults. Specialized training is an important determinant of knowledge on depression among aged care staff (Ayalon et al., 2008; Davison et al., 2009). Insights from this study point to several knowledge gaps relating to late-life depression that training programs need to address including suicide risk, etiology, recognition of symptoms and the basics in diagnostics, and various treatments of depression and associated effectiveness. At the organizational level, a standard depression care protocol needs to be in place to support the work of the PCAs. An area of future research is to develop a depression care protocol that fits the home care setting and the associated implementation strategies that can facilitate the uptake of such protocol among home care agencies. At the policy level, a more rigorous training standard is essential to protect both the workers and the clients they serve.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1.

Personal care aides' treatment and action recommendations regarding depression by case vignette (N=87)

	Mild/Moderate ^a	Severe ^b	P-value ^c
<i>Rate if each of the following item would be helpful for the person in the case vignette:</i>	% rated helpful	% rated helpful	
1. Talk to a therapist	86.2	91.9	.267
2. Go to church, talk to a clergy, or pray	43.0	53.6	.096
3. Talk to a friend or relative	79.1	81.9	1.000
4. Go to see an herbalist	9.4	19.3	.021
5. Take medication	31.4	60.0	<.001
<i>If this person were a client of yours, what would you do?</i>	% yes	% yes	
1. Talk to the client and help them replace negative thoughts with positive ones.	96.6	95.4	1.000
2. Encourage clients to do activities they used to enjoy	96.6	92.9	.219
3. Help clients overcome obstacles to doing enjoyable activities	88.5	88.4	1.000
4. Distract them	46.4	56.6	.013
5. Call office to let them know	60.5	72.1	.021
6. Refer clients to a doctor or a health professional	47.6	71.8	<.001

Note.

^aIndicates responses to questions in the mild/moderate depression case vignette^bIndicates responses to questions in the severe depression case vignette^cP-values from the McNemar Test comparing responses by depression severity in case vignettes

Table 2.

Personal care aides' responses to the knowledge quiz on late-life depression (N=87)

Late Life Depression quiz items	% correct ^b
1. It is normal for older people to feel depressed a good part of the time. (False) ^a	71.8
2. Memory problems may be a sign of depression. (True)	62.4
3. Depression is easy to recognize in an older person who is physically ill. (False)	76.5
4. Older people are more likely than younger people to say, "I am depressed." (False)	90.6
5. A complete medical evaluation is needed to rule out physical reasons for depression. (True)	80.0
6. Family and friends can usually help the depressed older person by telling him/ her to "count your blessings" or "look at the bright side." (False)	75.3
7. There is a higher suicide rate among the elderly than among younger adults. (True)	14.1
8. It is common for older people to talk about potential suicide. (False)	75.3
9. Most older persons who talk about committing suicide are not serious. (False)	82.4
10. Health professionals often have difficulty diagnosing depression in an older person. (True)	41.0
11. If depression is severe, there is little the depressed person can do to help him/herself. (True)	26.2
12. Depression among the elderly can be effectively treated with medication. (True)	71.8
Mean % correct	64% (SD =24)
Mean number of quiz items answered correctly	7.6 (SD=1.7)

Note.

^aTrue/false response in parentheses indicates correct response to item. Explanations of these responses are available in Pratt et al. (1992).^bIndicates % of correct response to item.

Table 3.

Personal care aides' responses to the modified-Depression Attitude Questionnaire (N=87)

Depression attitude questionnaire items	% agree or strongly agree	% neutral or undecided	% disagree or strongly disagree
<i>Nature of depression</i>			
1. More of my clients have had depressive symptoms.	32.6	33.7	33.7
2. Most older adults are depressed due to their recent hardships.	42.5	28.7	28.8
4. Severe depression is caused by a chemical imbalance in the brain.	65.5	32.2	2.3
5. It is hard to tell whether older adults are just unhappy or if they have clinical depression that needs treatment.	40.2	33.3	26.5
6. There are two main groups of depression: psychological and chemical depression.	57.0	34.9	8.1
7. People with depression have poor stamina in dealing with life difficulties.	68.6	15.1	16.3
8. Some older adults are depressed because they had hardship in early life.	40.2	40.2	19.6
10. Some older adults have depression because they respond to hardship more negatively.	28.2	43.5	28.3
11. Depression is a natural part of being old.	8.1	19.8	72.1
<i>Treatment preferences</i>			
3. Most depression in older adults improves without medication.	12.6	54.0	33.4
12. A home care worker could be a useful person to support depressed older adults.	91.9	4.7	3.4
14. If an older adult does not respond to what their regular doctor recommends, not much else can be done.	5.8	21.8	72.4
16. Therapy does not seem to help older adults with depression.	8.1	39.1	52.8
17. Medication is usually successful in treating older adults with depression.	37.9	56.3	5.8
18. Therapy for older adults with depression should only be done by a professional.	47.1	28.7	24.2
19. If therapy were freely available, it would be more beneficial to older adults than medication in treating depression.	57.7	32.9	9.4
<i>Professional reaction</i>			
9. I feel comfortable meeting the needs of older adults with depression.	80.5	10.3	9.2
13. Working with depressed older adults is difficult.	32.2	33.3	34.5
15. It is rewarding to care for depressed older adults.	60.9	34.5	4.6

Note. Original response options were "Strongly Disagree," "Disagree," "Neutral/Undecided," "Agree," and "Strongly Agree." Some response options presented in this table were combined.

Practice behaviors reported by personal care aides caring for older clients with depression (N=22)

Behavior domains	Examples	Representative quotes
Communication	Listening, talking, asking questions	"... 'Come on so and so, let's get out of bed, come on, it's a nice day out here'. If he says no, I may sit down on the bed and say, 'do you want to talk, is there something you want to talk about?' Let me know how you're feeling."
Behavioral	Encouraging activities, doing things together	"I try to get them to do something that they like to do, I ask them if they would like to go outside for a walk. I ask them if they want to play a game. I ask them if they like to talk. I ask them if they wanted to get out and go do something fun for the day. We will do that... We play a game and they start to a little bit by little bit get out of the funk to take their mind off whatever it is that they're going through."
Cognitive	Taking mind off, helping with positive thinking	"... Trying to take their mind off of whatever it is." "Redirect their attention, try to get them to laugh, think of something funny. Basically, I do a lot of redirecting to try to get them to think about other things. Have them think about positive things."
Emotion regulation	Staying positive, smiling	"Be positive, be uplifting, have a smile on your face. You can be a ray of sunshine when you walk into a client's house. That can make a world of a difference to somebody."
Relational	Companionship, being there building trust,	"I came into the home one day and one of the clients was crying... I did what I know to do best. I comforted it, I talked to her. Listen, we are going to get through this. There are going to be some hard days, there are going to be some good days, but we're not going to let that stop us."
External	Notify supervisor, family, suggest talk to friend/family or seek help	"Well, when a caregiver notices that something is different, something's going on, they've got to call the office. Then the office takes it from there... We also communicate with our nurse supervisor... If we feel that it is a situation that needs to be alerted to something different such as APS [adult protective services] or the police then we will address that too. My responsibility as a caregiver is to make sure I report any changes to the office so the office can alert the appropriate people."