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Pain Assessment, Management and Impact among Older Adults in Assisted Living

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Abstract

Objectives: The purpose of this study was to describe the incidence, pharmacologic management and impact of pain on function, agitation, and resistiveness to care among assisted living residents.

Design: This was a descriptive study.

Data Sources: Baseline data from 260 residents in the second cohort of the study, Dissemination and Implementation of Function Focused Care for Assisted Living Using the Evidence Integration Triangle (FFC-AL-EIT).

Review/Analysis Methods: Descriptive analyses for the Pain Assessment in Advanced Dementia (PAINAD), Visual Descriptor Scale (VDS), and use of medication for pain management and hypothesis testing using linear regression analyses were performed.

Results: The majority of the sample was female (71%) and white (96%) with a mean age of 87 (SD=7). Fifty-two out of the 260 residents (20%) reported pain based on either the PAINAD or the

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VDS. Out of the total 260 residents, 75 (29%) received pain medication. Twenty-two out of the 52 individuals (42%) reporting pain were not getting pain medication. Controlling for age, gender and cognition, the PAINAD was significantly associated with agitation, function, and resistiveness to care and the VDS was only associated with function.

Conclusions: The incidence of pain was low among participants based on the PAINAD or the VDS. Pain measured by the PAINAD was significantly associated with function, agitation and resistiveness to care.

Nursing Practice Implications: Pain assessments should include both objective and subjective measures and management of pain should be considered as it may help to optimize function and decrease behavioral symptoms among assisted living residents.

Chronic pain associated with musculoskeletal disorders among institutionalized older adults (i.e., those living in assisted living and nursing home settings) is a critically important symptom to consider and address given the negative impact it has on the individuals' mood, activity, behavior, and overall life satisfaction (Bauer et al., 2016; Corbett et al., 2016; Karadag Arli, Bakan, Varol, & Aslan, 2018; Klapwijk, Caljouw, Pieper, van der Steen, & Achterberg, 2016). The percentage of individuals in institutional settings with pain ranged from 25 to 90% depending on the population studied and measures used(Brown, Kirkpatri, Swanson, & McKenzie, 2011; Schofield & Abdulla, 2018). It has been repeatedly noted that pain was under-reported, underrecognized, and under-treated among older adults in long term care settings (Fain, et al., 2017; Ferrell, Ferrell, & Revera, 1995; Hendriks, Smalbrugge, Galindo-Garre, Hertogh, & Van der Steen, 2015). Under-reporting or under-recognition of pain was particularly prevalent among those who have cognitive impairment, were older, and were not Caucasian (Fain, et al., 2017; Robinson-Lane & Vallerand, 2018).

Numerous reasons for under-recognition of chronic pain have been identified. These include resident issues, provider and caregiver factors, and measurement challenges. Resident issues include: (1) cognitive changes and the inability of those with cognitive impairment to accurately report pain; (2) inconsistency of the pain experience with pain being more intense some days than others due to coping mechanisms or level of activity; (3) socially desirable responses on the part of the resident and/or fear of being judged if one reports pain; (4) acceptance of the pain as a normal part of aging; (5) resident fear of dependence/addiction; and (6) the timing of pain assessment such that the resident may not have pain at the time of testing because he or she was sitting quietly (Herr, 2011; Herr, Mobily, & Richardson, 1998; Herr & Mobily, 1991; 1993; Herr, Spratt, Mobily, & Richardson, 2004; Ngu et al., 2015; Schofield, 2014; Veal et al., 2018). Provider and caregiver factors include: (1) an assumption that pain is a normal part of aging; (2) lack of knowledge for how to evaluate pain in older adults; (3) difficulties in provider-staff communication; and (4) the possibility that staff may become desensitized to pain (Herr, 2011; Herr et al., 1998; Herr & Mobily, 1991; 1993; Herr et al., 2004; Ngu et al., 2015; Schofield, 2006; Veal et al., 2018). Measurement issues include the lack of consistency between objective and subjective measures of pain among older adults, particularly among those with cognitive impairment (Schofield & Abdulla, 2018).

In addition to challenges to accurate evaluation and recognition of pain among older adults, there are also concerns about how to best manage pain among older individuals. This is particularly relevant due to rising concerns about the opioid epidemic and the side effects older adults experience related to the use of pharmacological treatment options. Further, in contrast to prior concerns that pain was not being evaluated or managed among older adults in institutional settings, recent studies suggest that nationally and internationally there is an increased use of opioids in these settings (Jensen-Dahm, Gasse, Astrup, Mortensen, & Waldemar, 2014; La Frenais, Bedder, Vickerstaff, Stone, & Sampson, 2018; Pitkala et al., 2015). It is not clear that this reflects better pain assessment and management. It is possible that individuals are being treated for some type of behavioral or other symptom that may or may not reflect pain. It was noted, for example, that 36% of nursing home residents treated with Fentanyl were opiate naïve and 92% did not have persistent pain (Fain, et al., 2016).

Most of the assessment and management of pain among institutionalized older adults has been in nursing home settings. Much less is known about the management and treatment of pain in assisted living settings. Regulations in assisted living vary state by state with regard to medication administration and level of assistance with medication allowable within the setting. In most states and settings there is not 24-hour nursing coverage available to assess for pain and determine the need for “as needed” dosing of an opioid or treatment of an acute exacerbation of a chronic problem. Not surprisingly, in the few studies (Corbett et al., 2016; Klapwijk et al., 2016) that have been done describing pain in assisted living, it has been noted that pain was not well evaluated or managed. Specifically, there was a lack of pain awareness among staff, a lack of knowledge about pain assessment and management, a lack of a personcentered approach to pain assessment and management, and a lack of consistency in care with regard to pain management (Corbett et al., 2016; Klapwijk et al., 2016).

The purpose of this study was to describe the current incidence of pain among a group of assisted living residents measured both subjectively and objectively and to describe the pharmacological management of pain and the impact of pain and management of pain on physical function, agitation and resistiveness to care. Specifically, we hypothesized that controlling for age, gender, comorbidities, and cognition, pain would be negatively associated with function and positively associated with agitation and resistiveness to care among older adults in assisted living settings. In addition, controlling for age, gender, comorbidities, and cognition, treatment for pain based on receiving pain medication would be positively associated with function and negatively associated with agitation and resistiveness to care among older adults in assisted living settings. Understanding current practice and the impact of pain among residents in assisted living will help guide future pain management and optimize outcomes among individuals living in these settings.

Methods

Design

This study used baseline data from the second cohort of the study entitled, Dissemination and Implementation of Function Focused Care for Assisted Living Using the Evidence Integration Triangle (FFC-AL-EIT). In the second cohort, resident participants were recruited from 28 assisted living settings in Maryland, Pennsylvania and Massachusetts.

Settings were invited to participate if they: (1) had at least 25 beds; and (2) identified a nurse (a direct care worker, licensed practical nurse or registered nurse) to be the champion and work with the study team in the implementation of FFC- AL-EIT; and (3) were able to access email and websites via a phone, tablet, or computer.

Study Participants

Residents were eligible to participate in this study if they were 65 years of age or older, able to speak English, lived in a participating assisted living setting at the time of recruitment, and were able to recall at least one out of three words as per the Mini-Cog (Borson, Scanlan, Chen P, & Ganguli M, 2003). Residents were excluded from the study if they were enrolled in hospice. All participants were administered the Evaluation to Sign Consent, a five item questionnaire evaluating the individual's understanding of participation in the research project (Resnick et al., 2007). Potentially eligible participants were identified by the staff in the assisted living setting and were randomly approached until ten residents per setting were recruited. In cohort two of the study, a total of 452 residents were screened and of these 447 were eligible based on age and not being enrolled in hospice. Of these, 175 refused and 265 consented. One individual was ineligible due to the Mini-Cog score and 264 were enrolled in the study. Prior to baseline data collection, four individuals withdrew from the study leaving data on 260 participants.

Procedures

Following consent, demographic and descriptive information was obtained from residents' charts including age, gender, race, comorbidities based on the Cumulative Illness Rating Scale for Geriatrics (Linn, Linn, & Gurel, 1968), and marital status. The evaluators were trained research assistants who had prior experience gathering data from residents and staff related to residents' function and physical activity, mood and behavior. Evaluator training was done via simulations and then in real world settings. Evaluators were trained to observe residents in situations in which the resident consented to have the evaluator present and evaluators were respectful of resident privacy during bathing, dressing and toileting activities.

Function—Data about the residents' function were obtained using the Barthel Index (Mahoney & Barthel, 1965) based on input from the direct care worker that was assigned to the resident on the day of testing. The Barthel Index is a 10-item measure of activities of daily living (e.g., bathing, dressing). Items are weighted to account for the amount of assistance required. A score of 100 indicates complete independence. Estimates of internal consistency ranged from alpha coefficients of 0.62 to 0.80, interrater reliability was supported based on an intra-class correlation of 0.89 between two observers; and validity was based on correlations with the Functional Inventory Measure ($r=0.97$, $p<.05$) (Mahoney & Barthel, 1965).

Cognition—Cognition was evaluated using the Saint Louis University Mental Status Examination (SLUMS) (Morley & Tumosa, 2002; Stewart, O'Riley, Edelstein, & Gould, 2012; Tariq, Tumosa, Chibnall, Perry, & Morley, 2006). The SLUMS is a 30-point screening measure that tests for orientation, memory, attention, and executive function. Prior testing of

the SLUMS provided evidence of reliability and convergent validity when compared to the Mini Mental Status Examination (MMSE) (Stewart, et al., 2012). Moreover, the SLUMS is better at detecting a mild neurocognitive disorder compared to the MMSE (Stewart, et al., 2012). Scoring of the SLUMS takes into consideration education and differentiates between those who have no dementia, mild cognitive impairment, or dementia.

Pain—Pain was evaluated using the Verbal Descriptor Scale (VDS) and the Pain Assessment in Advanced Dementia (PAINAD) scale. The VDS focuses on pain that is occurring at the time of testing and consists of a series of phrases that represent different levels of pain intensity with scores allocated to each level of intensity: none=0; mild=1; discomforting=2; distressing=3; horrible=4; and excruciating=5 (Herr, 2011; Herr et al., 1998; Herr & Mobily, 1991; 1993; Herr et al., 2004). The VDS was noted to be feasible to complete and to have sufficient evidence of reliability and validity when used with older adults, including those with moderate dementia (Herr, 2011; Herr et al., 1998; Herr & Mobily, 1991; 1993; Herr et al., 2004). The PAINAD scale (Warden, Hurley, & Volicer, 2003) is an observational measure and includes five behaviors that are commonly noted among individuals with pain. These include breathing independent of vocalization, negative vocalization, facial expression, body language, and consolability. Observations were done during periods of activity such as transferring or ambulating. Scoring ranges from 0 to 2 for each specific pain behavior. A total score of 1 – 3 is indicative of mild pain, 4 – 6 is moderate pain and 7–10 is severe pain. The PAINAD has established evidence of reliability based on inter-rater reliability (DeWaters, et al., 2008) and high sensitivity (92%) but low specificity (62%) when used with older adults with dementia (Jordan, Hughes, Pakresi, Hepburn, & O'Brien, 2009). Evidence of validity was based on a correlation between the PAINAD and the numeric pain scale and the Discomfort Scale for Dementia of the Alzheimer's Type (DeWaters et al., 2008; Warden, et al., 2003).

Agitation and Resistiveness to Care

Agitation was evaluated using the Cohen-Mansfield Agitation Inventory (CMAI) (Cohen-Mansfield, 1986, 1988; 1989; Cohen-Mansfield, Marx & Rosenthal, 1989). The CMAI is a survey of disturbing behaviors commonly found in residents with dementia. The 14 item version of the CMAI uses a 5-point Likert scale to rate the frequency of behavioral symptoms. Prior use supported evidence of reliability and validity (Cohen-Mansfield, 1986, 1988;1989; Cohen-Mansfield, Marx & Rosenthal, 1989). Individuals are rated by a primary caregiver regarding the frequency with which they manifest physically aggressive, physically non-aggressive, and verbally agitated behaviors. Internal consistency reliability (Cronbach's alpha) for the CMAI was 0.86, 0.91, and 0.87 for the day, evening, and night shift raters. For the 14-item survey prior inter-rater reliability testing provided sufficient evidence for reliability with exact agreement between raters being a 0.82 correlation and a 0–1 point discrepancy between raters resulting in a 0.92 correlation (Cohen-Mansfield, 1986, 1988; 1989; Cohen-Mansfield, Marx & Rosenthal, 1989). Validity of the CMAI was based on a factor analysis and convergent validity with a significant correlation between subscales and the total scale (Zare, Shayeghian, Birashk & Ebrahimi, 2012).

The Resistiveness to Care Scale (Mahoney et al., 1999) was used to assess the residents' behavioral responses to care interactions. The Resistiveness to Care Scale is a reliable and valid 13 item Likert observation scale that assesses residents' behaviors during activities of daily living. Prior testing of the scale provided evidence of content validity and reliability estimates with alpha coefficients of 0.82 – 0.87 for internal consistency and good to excellent kappas (Mahoney, et al., 1999). Criterion-related validity with observed discomfort and construct validity by factor analysis support the proposed structure of the Resistiveness to Care Scale (Mahoney, et al., 1999). Additional testing with individuals with dementia provided support for the reliability and validity of this scale (Galik, Resnick, Vigne, Holmes, & Nalls, 2017; Mahoney, et al., 1999). Specifically, reliability was supported based on a Cronbach alpha of 0.84 and Rasch analysis showing the items fit the model based on INFIT and OUTFIT statistics and a DIF analysis showing no difference in resistance to care between male and female participants (Galik, et al., 2017).

Data Analysis

Descriptive statistics were done using SPSS 23 to describe the sample. The frequency of pain based on the PAINAD and Visual Descriptor Scale were examined, as well as the use of medication for pain management. Correlations between the two pain measures were evaluated using Pearson correlations. Hypothesis testing was done using linear regression analyses and a hierarchical approach. A stepping method of entry level probability of F was set at p=.05 and removal level at p=.10. The outcome measures, function, agitation, and resistiveness to care were regressed on both the objective (PAINAD) and subjective measure of pain (VDS), controlling for age, gender, comorbidities and cognition.

Results

As shown in Table 1, the majority of the sample was female (71%) and white (96%) with a mean age of 87 (SD=7). Overall the mean score on the SLUMs was 15.41 (SD=5.02) indicating that there was mild to moderate cognitive impairment on average among the participants and there was a mean of 4.70 (SD=1.73) comorbidities. The participants had low levels of agitation (mean = 14.81, SD= 2.24) and little resistiveness to care (mean =.10, SD=.57). The sample was noted to have moderate functional impairment with a Barthel Index score of 64.10 (SD=18.62).

As shown in Table 2, a total of 29 residents out of the total 260 residents (11%) were noted to have mild to moderate pain based on the PAINAD observational measure and 34 out of the total 260 residents (13%) reported pain based on the VDS. There were 11 individuals who reported pain on both measures. Overall there were 52 individuals out of 260 (20%) who had pain based on either the PAINAD or the VDS. The correlation between the two measures was low but significant at .26 (p=.01). There were 9 participants who were not able to provide subjective input on pain using the VDS.

Results of the regression analysis are provided in Table 3. As hypothesized, after controlling for age, gender, and cognition, pain measured using the PAINAD observation was significantly associated with agitation and accounted for 15% of the variance (Beta .24, t= 3.88, p=.001), was significantly associated with function and accounted for 6% of the

variance (Beta=−.15, t=−2.29, p=.023), and was significantly associated with resistiveness to care (Beta 3.190, t = 3.19, p=.002) and accounted for 5% of the variance. The subjective measure of pain, the VDS, was not associated with agitation (Beta= .05, t=.83, p=.41) or resistiveness to care (Beta =.02, t=.26, p=.79). The subjective measure of pain was significantly associated with function (Beta=−.14, t=−2.11, p=.04) and accounted for 6% of the variance in function.

As shown in Table 4, of the total 260 participants nearly one third of the participants were receiving some type of pain medication (N=75/260, 29%). Twenty-two individuals out of the 52 who reported pain (42%) were not being treated with any pain medication. The majority of the 75 individuals being treated with pain medication received acetaminophen (N=51/75, 68%), the next most prevalent treatments were non- steroidal anti-inflammatory drugs (NSAIDs; N=10/75, 13%), local treatment with ointments and patches (N=8/75, 11%), and tramadol (N=9/75, 12%). The remaining individuals received opioids (N=11/75, 15%). The hypothesis testing the associationbetween pain management with medications was not supported. Controlling for age, gender, comorbidities and cognition, there was no association between getting a pain medication and function, agitation, or resistiveness to care among residents.

Discussion

The incidence of pain reported in this sample of assisted living residents was lower than the anticipated prevalence of 25–80% reported among older adults in nursing home settings (Fain, et al., 2016; Hendriks, et al., 2015; Veal, et al., 2018). Some differences may be due to differences in the scales used to measure pain. To comprehensively evaluate pain the current study included both observational as well as subjective measures of pain. Pain was only evaluated, however, during a brief 5 minute period in which the resident was engaged in some type of activity. The resident may have had pain at different periods during the day. It is possible that those living in assisted living settings have less pain than those in nursing home settings or that it is better controlled. Nursing home residents tend to be more physically frail and functionally dependent and may have more musculoskeletal pain than those in assisted living (Centers for Medicare and Medicaid Services, 2018; Resnick & Galik, 2015).

Of the 52 individuals who reported having pain, 22 out of the 52 (42%) were not receiving any analgesic treatment for the pain. This rate of potentially insufficient pain management is higher than reports of insufficient pain management in nursing homes settings where the rate was noted to be 17% (Fain et al., 2017). Further, these findings are not consistent with the concerns about a rising use of opioids and acetaminophen in long term care settings (Fain, et al., 2016; Jensen-Dahm, et al., 2014; Pitkala, et al., 2015). In assisted living settings, there may be less use of pain medication for the treatment of pain as there is less access to on-site health care providers who can assess pain, prescribe treatment, and monitor responses. In addition, there is no requirement across all states to report pain and pain management as a quality indicator in assisted living as there is in nursing home settings.

The 15% rate of opioid use was lower in our assisted living sample than the 41– 69% rate of use reported in nursing home samples (Fain, et al., 2017; Jensen-Dahm, et al., 2014).

Conversely, the 15% rate of opioid use in our sample was slightly higher than the previously reported rate of use of 11% in assisted living settings in 2011 (Pitkala, et al., 2015). It is not clear if this larger percentage of individuals receiving an opioid for pain is reflective of better pain management or if it indicates potential abuse of these drugs or inappropriate medication use (Achterberg, 2016). In the assisted living setting pain medication may be initiated during an acute episode of pain such as after a fall. The medication would need to be scheduled routinely rather than given “as needed” since in most assisted living settings there would not be a nurse available to provide an “as needed” opioid. Although regulations vary by state, a medication technician can only give a medication ordered “as needed” if the resident asks specifically for the medication. Individuals with cognitive impairment are less likely to request treatment. Once initiated as a regular medication, it is possible that the opioids are continued long after the pain has resolved. Given the potential risks associated with use of opioids, as well as other pain medications such as nonsteroidal anti-inflammatory drugs, careful consideration should be given to the appropriateness of treatment with these agents. Careful consideration is also needed in assisted living settings to ensure that those with pain are being treated and that those who are being given opioids, as well as other pain medications, are given them because they still need them to manage pain. This requires ongoing pain assessments and trials of de-prescribing of pain medications.

The assessment of pain based on a verbal versus objective measures of pain resulted in some differences in identification of pain among this sample. There were 52 (20% of the total sample of 260) participants that were noted to have pain based on one measure but not on the other. If only one measure was used some of these individuals would not have been identified as needing treatment for pain. As hypothesized, the objective measure of pain, the PAINAD, was associated with function, agitation, and resistiveness to care as one might anticipate. The VDS was only associated with function. It is possible, therefore, that the objective measure of pain is more sensitive to identify pain among these individuals. Conversely, it is possible that the PAINAD is identifying behavioral symptoms that might not really be reflective of pain but might have more to do with agitation from other causes.

Regardless of the measure used and controlling for age, gender, cognition and comorbidities, only a very small percentage of the variance in agitation, function or resistiveness to care was explained by pain. Other factors that might influence these outcomes include such things as interactions with staff during direct care and whether or not the individual was encouraged to engage in function and physical activity, whether or not he or she was approached with too much talk and/or too much touch, and or approached too quickly making the resident uncomfortable, scared or upset by the interaction (Resnick, Galik, Gruber-Baldini, & Zimmerman, 2011). Further there was no evidence that treatment with pain medication had a positive impact on function or behavioral symptoms as hypothesized. Research is needed, however, as it is not clear that medication management was appropriately provided as some individuals were receiving medication who may or may not have needed it and some individuals were having pain but not getting medication.

There were 75 individuals who were receiving pain medication yet only 52 individuals reported experiencing pain. It is possible that there were some individuals whose pain was relieved by medication, or that they were no longer having pain and the medication could be

eliminated or at least a trial at deprescribing initiated. Although some authors report that older adults tend to report that pharmacological interventions are the most effective ways in which to manage pain (Brown, et al., 2011; Knoop- Sihota, Patel, & Estabrooks, 2016), ongoing research is needed to explore the appropriateness of pharmacologic versus non-pharmacological treatment approaches and opioid versus non-opioid pharmacologic interventions. Non-pharmacological treatments include such things as physical activity, positioning, music, and other distractions which were not considered in this study. It is possible that residents, with or without reported pain at the time of testing, were using these techniques as a way to manage and cope with pain. Further, we did not consider the use of co-analgesics and adjunctive medications such as anti-convulsant medications (e.g., gabapentin and pregabalin), antidepressants, or steroids as pharmacologic interventions for pain management.

Study Limitations

This study was limited by virtue of the relatively small sample of residents from 28 assisted living facilities across three states. Further, the number of individuals with pain in this study was so small that strong conclusions and recommendations cannot be established. There may be regional and cultural issues within the settings that influence pain assessment and management that make generalization of these findings to other settings challenging. Measures included both objective and subjective information but were obtained at a single point in time. Pain may fluctuate among these individuals and may have been underestimated. The PAIN-AD measure was specifically developed for individuals with cognitive impairment. In this study, however, we used the PAIN-AD with some individuals in which there was no evidence of cognitive impairment. We did not obtain information in this study as to whether or not the setting had in-house access to primary health care providers, or whether or not there was 24-hour availability of nursing onsite. This information may have an impact on how pain is evaluated and managed.

Conclusion

Despite the noted limitations, this study provides important information about pain and pain management among older adults living in assisted living settings. In terms of reporting of pain, there were different findings noted when using the PAINAD versus the VDS. It may be useful, therefore, to measure pain using both objective and subjective assessments among older adults in assisted living settings. Pain measured by the PAINAD was significantly associated with function, agitation and resistiveness to care, but accounted only for a small amount of the variance in function and behavioral symptoms. Treatment of pain was not associated with function and behavioral symptoms. Further research is needed to continue to consider these associations and whether or not treatment of pain, using a variety of modalities, may be helpful to manage pain, optimize function, and decrease behavioral symptoms among assisted living residents. Further research is needed to determine when opioid and other pharmacological interventions (e.g., non-opioids, adjunctive medications) are appropriate to achieve optimal pain management of residents and how to best identify when individuals may no longer need opioids or other pharmacologic interventions, to test the impact of access to health care services and 24-hour nursing coverage within assisted living and whether or not this influences pain assessment and management.

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Table 1

Description of the Sample

Variable	Minimum	Maximum	Mean	Std. Deviation
PAINAD	.00	10.00	.1628	.53
Pain Descriptor	0	6	1.21	.63
Age	66.00	102.00	87.88	7.48
Cognition	1.00	26.00	15.40	5.02
Agitation	0	30.00	14.81	2.24
Resistiveness to Care	.00	6.00	.10	.57
Comorbidities	1.00	10.00	4.70	1.73
Function	5.00	80.00	64.10	18.61

Table 2

Frequency of Pain Based on the PAINAD and Visual Descriptor Scale (N=260)

Measure	N (%)
PAINAD	
0	229 (88%)
1	21 (8%)
2	4 (2%)
3	3 (1%)
4	1 (.5%)
Missing	2 (.5%)
Visual Descriptor Scale	
None	217 (83%)
Mild	16(6%)
Discomforting	17 (6%)
Excruciating	1(1%)
Missing	9 (4%)

Table 3

Regression Models for Association of Pain with Function, Agitation and Resistiveness to Care*

Model Agitation				
Pain measure	**Adjusted R^2**	**F Change (p)**	**Beta**	**t (p)**
Objective Measure of Pain: PAINAD	.15	15.07 (.001)	.24	3.88(.001)
Subjective Measure of Pain	.09	.69 (.41)	.05	.83(.41)
Model Function				
Objective Measure of Pain: PAINAD	.06	5.26(.023)	−.15	−2.29(.023)
Subjective Measure of Pain	.06	4.46(.04)	−.14	−2.11 (.04)
Model Resistiveness to Care				
Objective Measure of Pain: PAINAD	.05	10.22(.002)	.21	3.19(.002)
Subjective Measure of Pain	.009	.07(.79)	.02	.26(.79)

*age, gender, comorbidities and cognition were controlled for in all models

Table 4

Medication Use of the Total Sample (N = 260)

Medication Use of the Total Sample (N=260)	
Medication Use	**N (%)**
Any Type of Pain Medication	
Yes	75(29%)
No	185(71%)
Medication Use Among the Individuals Receiving Pain Medications (N=75)	
Specific Medications	**N(% of those getting medications)**
Acetaminophen	51 (68%)
NSAID	10 (13%)
Fentanyl	2 (3%)
Flexeril	1(1%)
Oxycodone	7 (9%)
Dilaudid	1(1%)
Hydrocodone	1(1%)
Tramadol	9(12%)
Patches/gels/creams (lidocaine;bengay)	8(11 %)