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A Pilot Study Exploring Treatment Burden in a Skilled Nursing Population

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Abstract

Purpose: This study aimed to measure treatment burden in adults diagnosed with multiple chronic conditions transitioning from a skilled nursing facility to home.

Design: Prospective, two-time point, cohort design utilizing convenience sampling from one skilled nursing facility in Northeast, Ohio.

Methods: Seventy-four men and women participated answering self-report questions measuring treatment burden at two time points: prior to discharge and 30 days after discharge.

Results: *t*-test analysis determined treatment burden was not statistically different between time points ($p > .05$). Multivariate analysis explained 23% of treatment burden's variance, with the severity of multiple chronic conditions and the presence of a caregiver predicting treatment burden ($p < .05$).

Conclusion: Findings were contrary to our hypothesis of this population being at risk for high treatment burden.

Clinical Relevance: Moderate, fluctuating levels of treatment burden suggest that it is possible to estimate demands of treatment prior to discharge from the skilled nursing facility to better inform discharge planning.

Keywords

Geriatrics; multiple chronic conditions; patient transfer; self-management; treatment burden

The care of individuals diagnosed with one or more chronic health conditions is one of the most challenging and complex issues facing the U.S. healthcare system today. Chronic health conditions are defined as medical conditions lasting greater than 1 year and requiring ongoing medical attention and/or limiting activities of daily living (Hwang, Weller, Ireys, & Anderson, 2001). One in four Americans are diagnosed with multiple chronic conditions (MCCs), which are defined as two or more chronic conditions (Ward, Schiller, & Goodman, 2014), and recent data suggest that MCCs are a major contributor to poor health outcomes

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and high healthcare costs in the United States (National Center for Chronic Disease Prevention and Health Promotion, 2016).

Ineffective self-management related to nonadherence to the prescribed medical and health maintenance plan is a driver of poor health outcomes in people living with MCCs. Self-management nonadherence can lead to higher rates of healthcare utilization, hospital admission, and higher costs (Kymes, Pierce, Girdish, & Matlin, 2016; Viswanathan et al., 2012). Recent international research suggests treatment burden is related to inefficient self-management in individuals living with MCCs (Demain et al., 2015; Sav et al., 2013, 2016), although little is known about the impact of treatment burden on self-management of MCCs in the United States. This study aims to measure treatment burden in the adult population with MCC who are transitioning from a skilled nursing facility (SNF) to home.

Treatment Burden

Treatment burden is defined as the burden experienced by an individual directly resulting from provider-prescribed treatments that an individual must follow to manage his or her chronic conditions (Sav et al., 2013; Tran et al., 2012). Examples of treatment burden include taking multiple medications (polypharmacy), care coordination (i.e., scheduling appointments with multiple providers), arranging transportation to multiple appointments, time waiting and spent in medical facilities, increased financial burden, self-monitoring and side effect management, and the increased social burden placed upon the individual and his or her support system. Individuals are at greater risk for treatment burden as the number of chronic conditions increase (Sav et al., 2013; Tran et al. 2012). Individuals diagnosed with a higher number of chronic conditions have a cumulative burden based on the amount of self-management “work” required to maintain their health (i.e., additional medications, additional testing, visiting multiple providers for additional care). As treatment burden increases, so does the risk of nonadherence to part or the entire prescribed treatment plan, which can lead to further illness, injury, or other health complication related to an individual’s chronic condition(s) (Sav et al., 2016; Tran et al., 2014).

Treatment burden is a relatively new concept associated with the self-management of MCCs, though researchers in this area have developed a psychometrically tested instrument to measure treatment burden in MCC populations. Initially, Tran et al. (2012) developed and tested the Treatment Burden Questionnaire-13 (TBQ-13) to measure treatment burden in French-speaking adults. The TBQ-13 was later translated for use in English-speaking populations, and the instrument’s validity was tested using a sample recruited from a patient website (Tran et al., 2014). Findings of this study resulted in the addition of two questions to the original instrument, measuring financial burden and provider burden, which formed the Treatment Burden Questionnaire-15 (TBQ-15) for English-speaking populations.

Sav et al. (2016) conducted a quantitative study using the TBQ-15. They explored predictors of treatment burden in a group of Australian adults ($n = 581$) diagnosed with at least one chronic condition. The authors found that age, the number of MCCs, the presence of a caregiver, and a diagnosis of diabetes or other endocrine disorder predicted higher treatment burden.

Adults in Skilled Nursing Care

Adults transitioning from SNF to home are at potential risk for high levels of treatment burden. In 2015, 1.7 million Medicare recipients received SNF care, costing \$29.8 billion dollars, with SNF admissions increasing 3.2% from 2014 (Crosson, Christianson, & Miller, 2017). Because of a combination of their medical acuity, multi-morbidity, and state of disability, adults diagnosed with MCCs, especially those adults with six or more MCCs, often require additional skilled care after discharge from an acute, inpatient setting before being discharged to home (Centers for Medicare & Medicaid Services [CMS], 2012; Mor, Intrator, Feng, & Grabowski, 2010; Toles, Colón-Emeric, Naylor, Barroso, & Anderson, 2016).

As a result of a decline in an individual's functional status, the individual required formal caregiving but has recovered to the extent that formal care in an SNF is no longer required. Despite notable clinical improvement, patients who have required a convalescence in an SNF have an increased likelihood of hospital readmission and worsening in their health-related quality of life (Mor et al. 2010; Toles et al., 2014, 2016).

There is significant variation in the health outcomes, such as high readmission rates, among the adults with MCCs following discharge from an inpatient setting (Bähler, Huber, Brüngger, & Reich, 2015; Naylor, Aiken, Kurtzman, Olds, & Hirschman, 2011; Verhaegh et al., 2014). It is during this crucial transition period that patients may be integrating new, unfamiliar treatments and/or adjusting to new limitations resulting from their illnesses, making them particularly vulnerable to higher levels of treatment burden. However, there is no research examining treatment burden in the adult population transitioning from SNF to home, indicating a need for evaluating treatment burden in this at-risk population. To address this gap, we measured treatment burden and the impact of factors (the number of MCCs, the severity of MCCs, the presence of a caregiver, home care visits) associated with treatment burden in the adult population transitioning from SNF to home.

Purpose

The purpose of this pilot study was to measure the level of treatment burden in adults transitioning from SNF to home. We chose the 30-day postdischarge to home as the second data collection point based on the CMS read-mission guidelines. We hypothesized (1) that adults living with MCC transitioning from SNF to home would experience high levels of treatment burden due to their age, number of chronic conditions, and the severity of chronic conditions and (2) that treatment burden would increase during participants' transition from SNF to home as compared to levels prior to current reason for inpatient care. Our aims were as follows: (1) Describe the level of treatment burden in the adult population diagnosed with MCCs transitioning from an SNF to home. (2) Compare the mean scores of treatment burden at two time points: prior to discharge to home from SNF and 30 days after discharge from SNF to home. (3) Examine the association and effect that the number of MCCs, the severity of MCCs, the number of home care visits, and the presence of a caregiver has on treatment burden controlling for demographic (age, race, gender, education, and income) variables.

Methods

Design and Sample

We conducted a prospective, two-time point, cohort design study that measured treatment burden and its associated antecedent factors prior to discharge and approximately 30 days following discharge from an SNF. Participants included adult men and women recruited in person using convenience sampling. Participants were included if they were (1) age 18 or older and (2) diagnosed with two or more chronic conditions as defined by CMS (2017). We chose the use of CMS-defined chronic conditions for data collection and statistical analysis as it provided widely accepted guidelines for chronic condition data abstraction and comparison to other studies collecting CMS chronic conditions for analysis. Participants were excluded from the study if they scored less than 8 on the Brief Interview of Mental Status Exam, which would indicate severe cognitive impairment (Chodosh et al., 2008).

Setting and Ethical Approval

We conducted this pilot study at a single, 100-bed, privately owned SNF in Northeast, Ohio. The SNF that study participants we recruited were from was representative of other Akron metropolitan area SNFs, with a multimorbid patient population primarily discharged from a tertiary hospital setting requiring additional skilled care before returning home, to assisted living, or a nursing home. Institutional review board approval was obtained from the author's university prior to recruitment and enrollment of participants.

Data Collection

A total of 74 men and women with full data were enrolled and analyzed as part of this pilot study. Participants were approached and consented by the principal investigator (PI) while being treated in the SNF. Data were collected by the PI in person before discharge from the SNF and via phone 30 days after the participant was discharged to home. Data collection in the SNF took approximately 15 minutes and included demographic and TBQ-15. Data collection at home via phone took approximately 20 minutes and included the severity of MCCs, the number of home care visits, the presence/absence of a caregiver, and the TBQ-15.

Power Analysis

Power analysis was conducted a priori using G*Power software (Faul, Erdfelder, Buchner, & Lang, 2009) for a multivariate analysis. Using sensitivity calculation for a multivariate analysis with nine independent variables in a sample of 74 subjects, inputting parameters of an alpha of .05 and a power of .80, our analysis required a medium effect size of .23 to detect statistical significance.

Measures

Treatment Burden—We used the TBQ-15 to measure participant treatment burden (Tran et al., 2014). The TBQ-15 is a psychometrically tested instrument containing 15 items (Tran et al., 2014). It asks the respondent to rank the level of burden for each question with responses ranging from 0 = *no burden* to 10 = *very high burden*, with summed scores

ranging from 0 to 150, with higher scores indicating greater treatment burden. When interviewed in the SNF before discharge, we asked participants to report their level of burden for each TBQ-15 question prior to entering the healthcare system for their current admission, thus allowing us to estimate prehospital levels of treatment burden. Treatment Burden Questionnaire-15 was our dependent variable measuring the concept of treatment burden and was analyzed as a continuous variable.

Severity of MCCs—We measured severity of MCCs as using a subjective self-report question for each diagnosed chronic condition: “What is the impact of the chronic condition (0 = *no impact*, 10 = *high impact*) on your health and overall well-being?” The impact score for each participant’s chronic condition was summed and used for analysis as a continuous independent variable. This index is not a psychometrically tested instrument but was developed in order to reflect the subject’s perception of the levels of disease burdens associated with each chronic disease. For instance, a diagnosis of osteoarthritis has a wide spectrum of clinical manifestations, ranging from sporadic, mild pain to extreme pain coupled with limited mobility. This reasoning guided our decision to develop and use an index that would approximate the cumulative severity of MCCs. The summed total severity score of all MCCs was treated as a continuous independent variable in our analysis.

Home Care Visits—Home care visits were defined as provider-ordered in-home nursing care to the patient following discharge to home. The order for home care was verified via facility electronic medical record, and the participant was asked how many visits he or she had during the 30-day transition period to home. The total number of home care visits indicated by the participant was treated as a continuous independent variable in our analysis.

Caregiver—Caregivers were defined as an individual (spouse, family member, friend, or employee) who provided assistance in the self-management of MCCs. This independent variable was dichotomous: no caregiver assisting with self-management (0), caregiver(s) assisting with self-management (1).

Demographics—Demographics were collected during the baseline visit via interview and confirmed with an electronic medical record review conducted by the PI. Age was a continuous variable recorded in number of years. Gender was a dichotomous variable: male (0), female (1). Minority status was dummy coded into a dichotomous variable: non-Hispanic White (0), all other minority classifications (1). Education was dummy coded into a dichotomous variable: less than a high school degree (0), high school degree or greater (1). Income was dummy coded in a dichotomous variable: income of \$25,000 or less a year (0), income of \$25,001 or greater a year. We chose an income of \$25,000 or less as the cutoff point for dummy coding the income variable, as it was the median value for income distribution. All demographic variables were entered into multivariate analysis as covariates to control for their influence on the dependent outcome of treatment burden. All categorical variables were dichotomized for multivariate analysis, although we provided the full range of each categorical variable in the demographic table to fully articulate the variance of responses collected from our sample.

We also examined frequency distributions for counts of each chronic condition and severity scores associated with each chronic condition. The five most diagnosed chronic conditions for the sample were: hypertension ($n = 68$), hyperlipidemia ($n = 35$), diabetes ($n = 34$), arthritis ($n = 32$), and depression ($n = 27$). The five diagnosed chronic conditions with the highest associated severity score were schizophrenia or other psychiatric diagnosis (mean score = 9, $SD = 2.45$), stroke (mean score = 7.63, $SD = 3.16$), chronic obstructive pulmonary disease (mean score = 7.31, $SD = 3.86$), cancer (mean score = 6.78, $SD = 4.15$), and heart failure (mean score = 6.22, $SD = 4.21$).

Results

All data were analyzed using SPSS, Version 24 (IBM Corp., 2016). We used frequency distributions and univariate statistics to test that our data met statistical assumptions. Statistical assumptions of linear regression and multicollinearity were tested before conducting multivariate statistical analysis. A priori statistical significance was set at .05.

Study Demographics

Table 1 summarizes study demographics. Our study sample ($n = 74$) was older in age (mean of 75 years, $SD = 9.98$, with a range of 49–96 years), and the majority of participants were Caucasian (92%) and female (74%). Participants averaged 4.30 ($SD = 1.53$) MCCs, with the incidence of four MCCs being the most common (see Figure 1).

Aim 1

The first aim of the study was to describe the level of treatment burden, using the TBQ-15. A descriptive analysis revealed similar baseline ($M = 39.06$, $SD = 25.97$) and 30-day ($M = 37.01$, $SD = 24.45$) scores of treatment burden. Tran et al. (2012) established cut points for low, medium, and high levels of treatment burden during the development and psychometric testing of the TBQ-13, the non-English measure of treatment burden that preceded the TBQ-15. Tran's cut points (low treatment burden: $M = 11.3$, $SD = 9.2$; moderate treatment burden: $M = 34.6$, $SD = 11.1$; high treatment burden: $M = 65.8$, $SD = 18.1$) are not precisely equivalent for comparison because of differences in items between the TBQ-13 and the TBQ-15; thus, cut points would be different for the TBQ-15. In addition, Tran's sample ($N = 502$) differed from our sample in that his inclusion criteria required only one chronic condition, 51.2% were inpatients, with the remainder of the sample recruited from physician clinics and was younger ($M = 59.3$, $SD = 17$). Nevertheless, these cut points can be used for comparison purposes and a point of reference for future studies. Distribution of our sample's level of treatment burden at each time point based on Tran's cut points are presented in Table 1.

Aim 2

Our second aim of the study compared the scores of treatment burden prior to discharge to home from SNF (reflecting preadmission status) and at 30 days postdischarge. We had hypothesized that treatment burden would increase due to the stress and increased burden associated with the transition from SNF to home. Analysis of this aim using a dependent

sample t test did not find a statistical difference, $t(73) = 1.48, p > .05$, in treatment burden between time points. Mean treatment burden scores for were slightly lower at the 30-day (37.01) time point than at baseline (39.06), indicating declining treatment burden levels after returning home. Frequencies associated with levels of treatment burden at each time point indicated that an additional six participants who experienced no burden before their current inpatient and SNF admission experienced increased levels of treatment burden after transitioning home (Table 1). In addition, we calculated the Cronbach's alpha for the TBQ-15 at both time points: prior to discharge from SNF (.77) and 30 days after the participant returned home (.80).

Aim 3

In Aim 3, we tested the association between our four independent variables (the number of MCCs, the severity of MCCs, the number of home care visits, and caregiver) and treatment burden via multivariate analysis, controlling for demographic variables. Correlations were analyzed between all independent variables and the dependent variable prior to multivariate analysis. We found the number of MCCs, the severity of MCCs, home care visits, and the caregiver were associated with treatment burden ($p < .05$; Table 2). No demographic variables were associated with treatment burden. The multivariate analysis demonstrated that our independent variables explained 23% of treatment burden's variance (adjusted $R^2 = .23$, $F(9,64) = 3.45, p = .002$), with the severity of MCCs (standardized beta coefficient = .33, $p = .019$) and the caregiver (standardized beta coefficient = $-.34, p = .004$) predicting treatment burden (Table 3). During our calculation of power for statistical testing, we determined that we would need an effect size of .23 to detect statistical significance; our multivariate model demonstrated an effect size of .29; thus, our effect size requirement was met.

Discussion

The purpose of this pilot study was to fill a gap in knowledge by describing treatment burden among adults living with MCCs who are transitioning from SNF to home. Our aims tested the assumption that adults living with MCCs who are transitioning from SNF to home experience a high level of treatment burden. Despite averaging 4.3 MCCs, our sample experienced only a moderate level of treatment burden before discharge and during the transition period from SNF to home. When comparing our treatment burden results (baseline: $M = 39.06, SD = 25.97$ and 30 days: $M = 37.01, SD = 24.45$) to Sav et al.'s (2016) treatment burden results ($M = 56.5, SD = 34.5$) among Australian individuals diagnosed with at least one chronic condition, our sample's mean level of treatment burden was lower at both time points.

Differences in demographics between studies may explain why treatment burden levels varied between studies. Sav et al.'s sample (mean age of 57 years) was younger than our sample (mean age of 75 years); thus, a larger proportion of Sav et al.'s participants were potentially of working age. Treatment burden may be higher in individuals who have additional responsibilities (e.g., work or family obligation) that add to the difficulty of chronic condition self-management. In addition, Sav et al. found that age significantly

predicted treatment burden (standardized beta coefficient = $-.27$, $p < .01$), with younger participants experiencing higher treatment burden compared to older participants. We did not find that age significantly predicted treatment burden in our sample of primarily older adults, though we lacked variance in our sample's age to detect this finding. This comparison and explanation of findings suggest the need for future treatment burden research to investigate if younger, working individuals diagnosed with MCCs are at higher risk for treatment burden.

A second explanation for the moderate level of treatment burden among our sample is that increased support, either from a caregiver or from a home care agency, is a mechanism for reducing treatment burden during the transition phase. The majority of our participants received provider-ordered home care (78.4%) and/or had a care-giver (64.9%). This explanation is consistent with MCC self-management literature. Smith et al. (2017), Sussman et al. (2016), and Koch, Wakefield, and Wakefield (2015) found that support from family and friends facilitated improved self-management of MCCs. Health Quality Ontario (2013) found that MCCs were better managed with assistance from a home care agency.

Our second aim found that treatment burden did not significantly change between preadmission and 30 days postdischarge from SNF, but six participants went from experiencing no treatment burden before the current reason for inpatient care to some amount of treatment burden after returning home. This finding indicates that levels of treatment burden can increase for certain individuals during the transition period to home.

The moderate level of treatment burden experienced by this sample and the individual variation in treatment burden levels between preadmission and 30 days after discharge to home suggest an opportunity for predis-charge planning. That is, treatment burden could be measured before discharge from the nursing facility and used to identify patients at risk for impaired adherence during their transition period to home after discharge from SNF. The overall treatment plan could then be evaluated for possible modifications to reduce burden before discharge or added resources put in place if the plan cannot be changed, which could be of particular benefit to those individuals with high treatment burden. We acknowledge that predischarge screening for treatment burden does have its limitations as an individual's self-management needs at home could change based on many factors, including their level of physical function at discharge, but the potential for reducing future treatment burden still exists with predischarge planning.

The analysis of our final aim demonstrated that higher numbers of MCCs, higher severity scores associated with MCCs, and higher numbers of home care visits were associated with higher treatment burden scores, while having a caregiver assist with the self-management of MCCs was associated with lower treatment burden scores. In addition, we found that the severity of MCCs predicted higher levels of treatment burden and caregivers predicted lower levels of treatment burden 30 days after our participants transitioned from SNF to home.

The association between the number of MCCs and treatment burden is supported by similar findings by Sav et al. (2016); both studies found that being diagnosed with greater number of MCCs is associated with more treatment burden. The association between higher home

care utilization and higher treatment burden may be related to self-management demands after returning home but is more likely attributed to the participant's need for skilled nursing associated with the current reason for admission, such as wound care or the need for home intravenous antibiotics. Further research is needed to better understand this finding.

The association between the severity of MCCs and treatment burden is a new and important result in the literature. This finding indicates individuals who experience more severe impact to their health and well-being due to their MCCs experience higher levels of treatment burden associated with the day-to-day self-management of those MCCs. This finding indicates that the individual's perception of the cumulative impact of all chronic conditions on the individual's health and well-being, not only the number of MCCs, is an important predictor of treatment burden.

Our finding that having a caregiver was associated with reduced treatment burden is contrary to Sav et al.'s (2016) finding of caregivers increasing treatment burden. The difference between findings may again be due to the difference in sample mean age; Sav et al. reasoned that care-givers increased treatment burden because participants felt they were a burden to their caregivers, whereas in our older adult population, help from caregivers may be expected; thus, the individual is less likely to feel like a burden to the caregiver. Our finding coincides with MCC literature: Sav et al. (2013), Schuman et al., (2016), and Koch et al. (2015) found that support from informal caregivers (family and social support systems) were facilitators to effective self-management of MCCs. Our finding demonstrates the integral role a caregiver plays in reducing the treatment burden of MCC self-management in the older adult population.

This pilot study, being exploratory in nature, was not without limitations. We may have introduced sampling error into the study by recruiting subjects from a single SNF. Specifically, our site lacked racial variance, with our sample composed of over 90% White participants. We also limited the generalizability by excluding individuals with severe cognitive impairment, such as persons diagnosed with severe dementia. We hypothesized in our findings that older retired adults with MCCs will experience less treatment burden than younger, working adults, but we did not capture the employment status of our sample. The use of a psychometrically untested index measuring the cumulative severity of MCCs in our statistical analysis also must be considered in evaluating the validity and reliability of our results.

Conclusion

Our study provided valuable insight into treatment burden experienced by individuals diagnosed with MCCs transitioning from SNF to home. We did not find the expected association between several MCCs and higher levels of treatment burden in this population, even when faced with the added complications of transitioning home. In addition, mean levels of treatment burden did not statistically differ from preadmission to 30 days post-discharge, though some participants did experience fluctuating levels of treatment burden during the transition period, indicating, on an individual level, treatment burden may increase during the transition from SNF to home. Our findings did indicate that predischarge

screening for treatment burden in an SNF can be beneficial to individuals diagnosed with MCCs by identifying areas of self-management need, such as medication adherence or transportation to scheduled provider visits, before being discharged to home. Further research is needed to test this hypothesis. Findings in our study, in concert with those of others, point to the possibility that younger, working individuals, especially those newly diagnosed with a chronic condition, are at highest risk of treatment burden. Further research is needed to ascertain if this is the population that could most benefit from interventions reducing treatment burden.

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Key Practice Points

- Skilled nursing patients experience a moderate level of treatment burden when transitioning from a skilled nursing facility to home. Individual levels of treatment burden do appear to fluctuate from preadmission to 30 days following discharge from the skilled nursing facility, thus indicating a need to assess for treatment burden before discharge to home. The lack of a caregiver assisting with self-management tasks and patients with multiple chronic conditions severely impacting their health and well-being are at risk for high levels of treatment burden during this transition period. PredischARGE screening by a provider could identify areas of self-management causing high treatment burden and, by directing resources and support based on patient needs, may improve self-management adherence during the transition period to home.

Figure 1.
Frequencies of multiple chronic conditions.

Table 1

Study sample demographics

Variable	Range	Mean	SD
Age	48–96	75.4	10.26
No. of chronic conditions	2–8	4.30	1.53
Severity of MCCs	0–50	17.65	12.14
Home care visit(s)	0–30	7.62	8.48
	<i>n</i>	%	
Gender			
Male	19	25.7	
Female	55	74.3	
Race			
White	68	91.1	
Black	6	8.9	
Education			
Grades 1–11	16	21.6	
High school	27	36.5	
Some college	19	25.7	
College/postcollege graduate	13	16.3	
Income			
\$5,000 or less	2	2.7	
\$5,001–10,000	5	6.8	
\$10,001–25,000	58	78.4	
\$25,001–50,000	6	8.1	
>\$50,001	3	4.1	
Caregiver assisting self-management at home			
Yes	48	64.9	
No	26	35.1	
Treatment burden prior to current admission			
No treatment burden (scores 0–1)	9	12.2	
Low treatment burden (scores 2–21)	17	23.0	
Medium treatment burden (scores 22–46)	20	27.0	
High treatment burden (scores >47)	28	37.8	
Treatment burden 30-days after transition home			
No treatment burden (scores 0–1)	3	4.0	
Low treatment burden (scores 2–21)	24	32.5	
Medium treatment burden (scores 22–46)	19	25.7	
High treatment burden (scores >47)	28	37.8	

Note. *N* = 74. MCC = multiple chronic condition.

Table 2

Correlations between treatment burden and independent study variables

	1	2	3	4	5	6	7	8	9	10
1. Treatment burden	—									
2. Caregiver	-.36***	—								
3. Home care visits	.20*	.07	—							
4. Age	-.18	.41***	.09	—						
5. Gender	-.07	.13	.07	.11	—					
6. Race	-.14	-.14	-.13	-.08	.16	—				
7. Education	.16	-.07	-.12	.04	.17	.02	—			
8. Income	-.03	.15	-.05	.23	.12	.09	-.07	—		
9. Severity of MCCs	.39***	-.15	.35***	-.35***	.08	-.14	-.12	-.15	—	
10. Number of MCCs	.23*	-.20*	.20*	-.41***	.07	.16	.00	-.03	.54***	—

Note. Correlations between treatment burden and independent study variables. MCC = multiple chronic condition.

* $p < .05$.

**

$p < .01$.

$p < .001$.

Table 3

Multivariate analysis table

	Unstandardized Beta Coefficients	Standardized Beta Coefficients	<i>P</i>
Caregiver	−17.52	−.34	.004
Home care	0.38	.13	.260
Age	0.01	.04	.760
Gender	−5.40	−.01	.372
Race dummy	−11.60	−.12	.288
Education	12.26	.21	.052
Income	8.53	.10	.345
Severity of MCC	0.65	.33	.019
Number of MCC	0.03	.01	.990

Note. Adjusted $R^2 = .23$. MCC = multiple chronic condition.