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Determinants of psychology service utilization in a palliative care outpatient population

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Abstract

***Objective*: Research has demonstrated that treating cancer patients' psychological and physical health leads to improved overall health. This may be especially true for palliative care patients facing serious illness. This study examines the proportion and determinants of psychology service utilization in an outpatient palliative care population.**

***Methods*: Data from an existing clinical database in an outpatient palliative clinic utilizing a collaborative care model to deliver psychology services were explored. This study was framed by Andersen's Behavioral Model of Health Service Use, which incorporates three main components: predisposing, enabling, and need factors to model health service utilization. The sample ($N = 149$) was majority middle aged, female, and White with a primary diagnosis of cancer. Cross-tabulations were conducted to determine how many patients who met screening criteria for depression or anxiety sought psychology services. Logistic regression analyses were conducted to assess for predisposing, enabling, and need factor determinants of psychology service utilization.**

***Results*: Among patients who met criteria for moderate depression or anxiety, 50% did not access readily available psychology services. Enabling factors were the strongest determinant of psychology utilization. Factors associated with need for psychology services (i.e., emotional distress and psychological symptom burden) did not reach significance in determining psychology service use.**

***Conclusions*: This study extends current knowledge about psychology utilization to palliative care outpatients receiving care within a collaborative care model. Directions for future research include further investigation of care models that optimize enabling strategies to enhance access to these services, and examination of patient-reported barriers to receiving this care.**

Introduction

Depressive and other psychological disorders assume an important role in the course and outcomes of serious disease [1], including cancer [2]. Collaborative care [3] is an approach in which physicians and mental health providers collaborate in an organized way to manage common mental disorders. Such programs are pragmatic and apply principles of chronic disease management, including establishing and sustaining effective communication and collaboration between medical care providers, mental health providers, and care managers. This collaboration may support systematic diagnosis and outcome tracking and facilitate adjustment of treatments based on clinical outcomes (stepped care) [4,5].

We were unable to identify literature describing a collaborative care model to address psychological needs in the palliative setting. Referrals in outpatient palliative care clinics consist primarily of patients with a primary cancer diagnosis who present for care related to symptom management (e.g., pain, fatigue, etc.), psychological treatment, and goals of care determination [6,7]. Research has demonstrated that 12% of terminal cancer patients met criteria for a major psychological condition [8] (similar to the general population [9]), 28% accessed a mental health intervention for a psychological illness since the cancer diagnosis, 17% had discussions with a mental health professional, and 90% were willing to receive treatment for emotional problems [8]. Factors contributing to psychological distress in individuals with cancer [6] include grief about current and anticipated losses, fear of death, concerns about loved ones, the effect of chemotherapeutic drugs on mood [2,10–12], and the biology of the malignancy [13]. In a systematic review, Massie noted the difficulties studying the prevalence of depression in this population because of the overlap in physical symptoms related to cancer (i.e., fatigue and appetite changes) with depression symptoms. However, she goes on to state the importance of this knowledge because ‘comorbid illnesses complicate the treatment of both and may lead to poor adherence to treatment recommendations and to less desirable outcomes of both conditions [2, p. 59]’.

Although psychological disorders in cancer patients are highly treatable [14,15], studies suggest that healthcare providers do not adequately address psychological illness in this population [16–19]. Untreated psychological illness in cancer patients is associated with amplified pain [18], increased desire for hastened death [20], increased disability [21], impaired ability to participate in end-of-life planning [6], and diminished psychosocial functioning of caregivers [22]. Clearly, understanding determinants and utilization patterns of mental health care is critical to increasing the likelihood that cancer patients with psychological illness receive the psychological treatment they may need. Psychology services are the mental health treatment option offered in the collaborative care clinic represented in this study.

This study is informed by Andersen’s Behavioral Model of Health Service Use [23], which incorporates three main components: predisposing, enabling, and need factors. Components of Andersen’s behavioral model measured in the current study are displayed in Figure 1.

There were two aims of this study. The first aim was to determine the proportion of outpatient palliative care patients who met screening criteria for moderate depression or moderate anxiety symptoms and who utilized the clinic’s psychology services during the data collection period. The second aim was to examine the determinants of utilization of psychology services by palliative care outpatients, using available predisposing, enabling, and need variables (Figure 1) from a clinical care dataset. The purpose of knowing the proportion and understanding such determinants is to guide future interventions to increase the likelihood that these patients, who are at higher risk for comorbid psychological illness, are being identified, have access to psychology services, and are motivated to engage in these services.

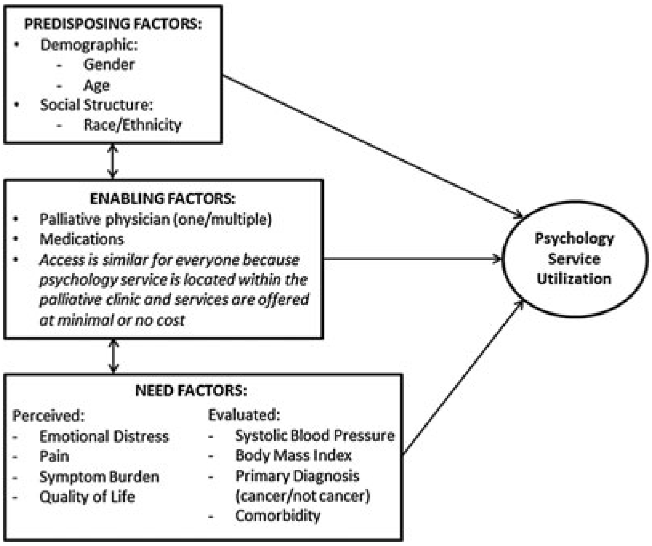

Figure 1. Conceptual framework adapted from Andersen’s Behavioral Model [23]

Methods

Permission to use outpatients’ clinical information for research purposes was obtained from the university’s institutional review board prior to undertaking data collection. Patients provided informed consent for the use of routinely collected clinical data for research purposes. Permission was granted by a second university’s institutional review board to conduct a secondary data analysis on these data.

The outpatient palliative and supportive care clinic is set in an urban area in the southeastern USA and is affiliated with a university medical center. During the study period (2006–2009), the clinic averaged 750 patient contacts and 220 new patients per year. Routine clinical care data are collected in the outpatient palliative care practice to assess patients’ outcomes and perceptions of quality of care (continuous quality assurance). The primary data collection from which this secondary data analysis stems began in 2006 and includes patient-reported outcomes as well as patient demographics and disease-related variables. This secondary data analysis used data from individuals who began treatment after the complete questionnaire battery had been introduced [24]. Of those approached, 98% elected to participate. The battery was completed by the patient at time of appointment check-in, utilized by clinicians in clinical care, and entered by graduate students into Excel spreadsheets. To facilitate this analysis, data were merged into the PASW Statistics 18 software package [25].

Conceptual framework

As the Andersen model was applied in framing analysis in the current study, predisposing characteristics include demographic (age and gender) and social structure components (race/ethnicity). Enabling factors are associated with forces external to the individual patient that affect utilization of services. In this setting, physicians are the gatekeepers to identifying and informing patients to the psychology service; thus, each palliative physician was coded and assessed as an enabling variable in the model. Medications of interest as enabling factors are those related to mood and anxiety (e.g., antidepressants and benzodiazepines), medications related to pain (opioid and non-opioid), and somatization-related medications (muscle relaxants). Data were collected in a palliative care clinic using a collaborative model with a psychologist scheduled to be present during their weekly clinics to ensure their availability for consultation. Patients did not pay a separate charge for psychology services. They were asked to pay a nominal co-pay ($2.00 for the period these data were collected), but that was waived if patients indicated difficulty with the cost. All study participants therefore had the same level of physical and financial access to psychology services.

Need factors may be perceived by the individual or evaluated by the health professional. Perceived need factors reported by the patient included routinely collected measures of emotional distress (depression and anxiety), pain, symptom burden, and quality of life. The need variables evaluated by health professionals and included in this study are as follows: systolic blood pressure (SBP), BMI, primary diagnosis, and comorbidities. These variables are biological indicators that have been linked with higher risk of psychological distress.

Patient characteristics

The demographic information for the 149 patients in the sample included patient age, race/ethnicity, and gender. Dichotomous variables were created to capture patient's primary diagnosis (cancer or noncancer), comorbidities (diagnosis present or not), and medications (listed on patient's list of medications? yes/no). Comorbidities were collected from self-reported illness and categorized by symptom (pain, psychological, sleep, or irritable bowel syndrome) or bodily system (gastrointestinal, reproductive, or neurological disease). If a patient reported a secondary diagnosis, the bodily system to which that illness belonged was classified as present. Whether the patient saw one or multiple physicians during the study period was classified as yes/no. BMI and SBP (i.e., physical health information) were included as continuous variables.

Psychology service utilization

The outcome variable, psychology service utilization, was dichotomous. If the patient had at least one visit to psychology services during the 37-month data collection period that spanned from 2006 to 2009, she/he was determined to have utilized these services. Data regarding physician referral of patients to psychology services were not collected.

Psychology services offered at the clinic are primarily set within a brief treatment context of psychotherapy and provided by either of two licensed staff psychologists. The sessions could include patient and family members if warranted. Group therapy was not provided.

Patient-reported measures

Emotional distress

The Patient Health Questionaire-9 (PHQ-9) [26] is a nine-item depression scale that is used for assisting clinicians in diagnosing depression, as well as selecting and monitoring treatment. Cut points of 5, 10, and 15 are interpreted as representing mild, moderate, and severe levels of depression [27].

The Generalized Anxiety Disorder-7 (GAD-7) [27] was used to assess patient's anxiety level. The GAD-7 scale scores range from 0 to 21 with each of the seven items scored from 0 to 3. Cut points of 5, 10, and 15 are interpreted as representing mild, moderate, and severe levels of anxiety on the GAD-7 [27].

To avoid multicollinearity, the PHQ-9 and GAD-7 scale scores were combined to create an emotional distress score. In the sample, the correlation between PHQ-9 and GAD-7 is $r = .78$. These scores were transformed using Z-score transformation, and an emotional distress score was calculated by summing the two Z-scores.

Quality of life

The McGill Quality of Life scale was used to assess patients' quality of life within a 2-day time frame, with 16 items plus a single-item global scale. This study utilized the overall index score, which is calculated from the means of five subscales [28].

Physical and psychological symptom burden

The MD Anderson Symptom Burden Inventory [29] is designed to assess experienced symptoms in cancer patients; however, all observed patients were administered this assessment regardless of diagnosis. It consists of 10 symptom items, each rated for presence and severity from 0 to 10. Each question is a measure in itself, and scores ≥ 7 are considered severe [29].

To decrease multicollinearity between the psychological burden questions and the other psychological self-report measures, each participant received one psychological burden score (average score of all of psychological burden ratings: depression and anxiety) and physical burden score (average score of all physical burden ratings: pain, fatigue, nausea, drowsiness, shortness of breath, appetite, sleep, and well-being).

Pain

The 16-item Brief Pain Inventory was used to measure pain interference and intensity. Pain intensity and pain interference scores are continuous and range from 0 to 10 [30].

Statistical analysis

To assess the first aim of this study, we conducted a cross-tabulation of psychology service utilization with the presence of moderate or greater depression or anxiety symptoms. This was achieved by using cut scores on the PHQ-9 and GAD-7 of 10 or greater to determine if patients met screening criteria for at least one of these diagnoses.

Logistic regression models based on the conceptual model (Figure 1) were used to examine the second aim of this study. Psychology service utilization was modeled using predisposing factors (sex, race/ethnicity, and age), enabling factors (palliative physician and medication use), and need factors (primary diagnosis, comorbidity, BMI, SBP, emotional distress, pain, quality of life, physical symptom burden, and psychological symptom burden) as explanatory variables.

Total clinic visits were included in each logistic regression model to control for exposure effect. Each determinant variable was examined individually using bivariate regressions and eliminated if it did not achieve marginal significance ($p \le .07$). Then, factors were analyzed in three separate logistic regression models: predisposing factors (age, race, and sex), enabling factors (physician and medications), and perceived and evaluated need factors. A final full model included all variables from each individual model that reached statistical significance ($p \le .05$).

To decrease multicollinearity, a comparison analysis was conducted, which eliminated variables based on their tolerance levels. One model that included all variables was assessed, and at each iteration, the variable with the lowest tolerance score was removed, and the model was rerun until all variables included in the model were above the tolerance cut point ($Tol = .4$) [31].

Results

There were 149 participants with the majority being middle aged ($M = 55$, range 21–98, $SD = 14.73$), female ($n = 112$; 75.2%), and White ($n = 123$; 82.6%) with a primary diagnosis of cancer ($n = 117$; 78.5%) (Table 1). Overall, the sample had a mean of 4.30 (range 1–21, $SD =$ 3.84) total appointments with their palliative physician across the data collection period and a mean of 1.74 (0–32) psychology service visits whereby 83 (55.7%) did not utilize these services at all. Their mean depression scores were in the moderate range ($M = 11.72$, $SD = 6.87$),

Table 1. Participant characteristics by psychology service utilization ($N = 149$)

		All ***N* (%)**	**Utilizers** ***n* (%)**	**Non-utilizers** ***n* (%)**	***p*-value**[a]
Psychology service visits	No.	83 (55.7)	–	–	–
Gender	Female	112 (75.2)	55 (83.3)	57 (68.7)	.040
Race/ethnicity	White	123 (84.2)	51 (78.5)	72 (88.9)	.086
Primary cancer diagnosis		117 (78.5)	56 (84.8)	61 (73.5)	.094
Antidepressant medication	Yes	95 (69.3)	46 (75.4)	49 (64.5)	.168
Anticonvulsant medication	Yes	41 (29.9)	18 (29.5)	23 (30.3)	.924
Anxiolytic/hypnotic mediation	Yes	79 (57.7)	35 (57.4)	44 (57.9)	.951
Muscle relaxant medication	Yes	17 (12.4)	7 (11.5)	10 (13.2)	.767
Non-opioid medication	Yes	28 (20.4)	8 (13.1)	20 (26.3)	.057
Opioid medication	Yes	100 (73.0)	41 (67.2)	59 (77.6)	.172
Psychological comorbidity	Yes	110 (75.3)	54 (83.1)	56 (69.1)	.052
Pain comorbidity	Yes	43 (28.9)	22 (33.3)	21 (25.3)	.282
Sleep-related comorbidity	Yes	32 (21.5)	17 (25.8)	15 (18.1)	.256
Weight-related comorbidity	Yes	13 (8.7)	5 (7.6)	8 (9.6)	.658
Gastrointestinal tract disorder comorbidity	Yes	56 (37.6)	26 (39.4)	30 (36.1)	.684
Reproductive tract disorder comorbidity	Yes	17 (11.4)	7 (10.6)	10 (12.0)	.783
Irritable bowel syndrome	Yes	10 (6.7)	5 (7.6)	5 (6.0)	.707
Pancreas/gall bladder/kidney disease comorbidity	Yes	30 (20.1)	19 (28.8)	11 (13.3)	.019
		Mean (*SD*)			
Age		55.01 (14.73)	51.65 (14.01)	57.69 (14.83)	.013
Total palliative care visits		4.30 (3.84)	6.20 (4.42)	2.80 (2.45)	<.001
BMI		25.33 (6.11)	26.23 (5.98)	24.57 (6.17)	.138
Depression (PHQ-9)		11.72 (6.87)	12.63 (7.36)	11.00 (6.42)	.158
Anxiety (GAD-7)		8.99 (6.33)	10.68 (6.62)	7.50 (5.71)	.004
Psychological burden (MDASI)		4.45 (3.04)	5.52 (2.95)	3.59 (2.84)	<.001
Physical symptom burden (MDASI)		4.07 (1.91)	4.10 (1.92)	4.04 (1.90)	.860
Pain intrusiveness (BPI)		5.09 (3.24)	4.92 (3.40)	5.23 (3.12)	.576
Pain severity (BPI)		4.70 (2.63)	4.46 (2.54)	4.89 (2.71)	.334
Quality of life (MQoL)		4.68 (2.14)	4.16 (2.14)	5.09 (2.07)	.010

PHQ-9, Patient Health Questionaire-9; GAD-7, Generalized Anxiety Disorder-7; MDASI, MD Anderson Symptom Burden Inventory; BPI, Brief Pain Inventory; MQoL, McGill Quality of Life.

[a] $\chi 2$ test, Fisher's exact test, *t*-test, as appropriate.

and their mean anxiety scores were in the mild anxiety range ($M = 8.99$, $SD = 6.33$). Overall, this sample had moderate levels of pain intrusiveness ($M = 5.09$, $SD = 3.24$) and severity ($M = 4.70$, $SD = 2.63$), and their BMIs were in the upper-normal range ($M = 25.33$, $SD = 6.11$).

Table 1 also includes results of tests of association between patient characteristics and psychology service utilization. These tests revealed significant relationships between psychology service utilization and several psychosocial variables: GAD-7 anxiety score ($p = .004$), psychological symptom burden ($p < .001$), and quality of life ($p = .010$). Other nonpsychological variables demonstrating statistically significant relationships with psychology service utilization were as follows: gender ($p = .04$), age ($p = .013$), total palliative care visits ($p < .001$), and kidney/liver/gall bladder disease comorbidity ($p = .019$).

Findings for aim 1

The utilization patients who met screening criteria for moderate or greater depression (PHQ-9 $\geq$ 10) or moderate or greater anxiety (GAD-7 $\geq$ 10) were examined using cross-tabulation. Findings indicate that of the patients who met criteria for moderate depression or anxiety ($n = 94$; 63.1%), 47 (50%) utilized psychology services. Of the 55 (36.9%) patients who did not meet this criterion, 36 (65.4%) patients did not utilize psychology services, and 19 (34.5%) did.

Findings for aim 2

As displayed in the top section of Table 2, the first logistic regression included the predisposing factors that were marginally significant in bivariate models, as well as the total number of palliative care visits as predictors of psychology service utilization. The significant determinants in this model were total appointments ($p < .001$) and younger age ($p = .030$).

The second model examined the enabling factors and is displayed in the middle portion of Table 2. The total number of visits ($p < .001$), seeing multiple providers ($p = .001$), and not taking a non-opioid analgesic ($p = .042$) were significant determinants of psychology service use.

Results for the third model examining the need factors are displayed in the bottom portion of Table 2. Findings indicate that the total number of visits ($p = .027$), having a diagnosed pancreas, gall bladder, or kidney disease comorbidity ($p = .019$), and higher BMI ($p = .037$) were determinants of psychology service use.

All significant variables from the three preceding analyses were modeled together and are displayed in Table 3. The total number of visits ($p < .001$), seeing multiple providers ($p = .002$), and absence of a non-opioid analgesic ($p = .024$) were found to be the statistically significant determinants of psychology service use.

The findings from the second analytic step, in which tolerance levels were used for variable elimination in order to decrease multicollinearity, were the same as the previous models.

Discussion

This study is an exploration of the proportion of palliative care outpatients' utilization of psychology services in an outpatient collaborative care, palliative clinic with on-site psychology services available at very low (i.e., $2 co-pay) or no cost. In addition, the determinants of utilization of these services were informed by Andersen's Behavioral Model of Health Service Use [23]. To our knowledge, this study is one of the first to examine determinants of psychology service use in a palliative care outpatient sample.

Our first aim was to explore psychology service utilization among palliative care patients reporting moderate or severe levels of depression or anxiety in comparison with patients who were not self-reporting such distress. Cross-tabulation calculations demonstrated that only 50% of patients that met screening thresholds for at least moderate depression or moderate anxiety utilized psychology services from their palliative care outpatient clinic. These results suggest that factors other than severity of anxiety or depression drove uptake of psychology services in this population.

There are many possibilities as to why patients are not utilizing these services more frequently. Previous research [16] findings suggest that healthcare providers do not adequately address mental illness in this population by referring individuals with mental distress to psychologists or other mental health professionals. Contradicting studies, however, indicate that in some settings, this is not the case. Payne *et al.* [32] determined that among breast cancer patients attending either of two ambulatory breast cancer clinics, those most in need of mental health services received referrals for further evaluation. Data regarding whether palliative care physicians referred patient to psychology services were not collected in this clinical quality assurance dataset. In this study, it is unknown whether individual provider bias and idiosyncratic practice characteristics influenced whether psychology referrals were made.

As shown in Table 1, 65% of patients that did not utilize psychology services were currently prescribed antidepressants, and 57% were prescribed anxiolytics/hypnotics. Therefore, patients were identified by a health care professional with prescription privileges as having some mood disturbance and were receiving treatment. This finding may illustrate a preference for pharmacologic treatments in this population. Possible explanations for this may be that pharmacotherapy may be associated with less stigma than psychotherapeutic approaches [9]. Another possible

Table 2. Three logistic regressions of factor determinants of psychology service utilization

	***B* (*SE*)**	**Wald χ2**	**Odds ratio**	**95% CI, odds ratio**	
				Lower	**Upper**
Predisposing factors					
Age	−.029 (.013)	4.713*	.971	.946	.997
Male gender	−.391 (.460)	.720	.677	.274	1.668
Non-White race	−.971 (.521)	3.395	.379	.135	1.064
Total palliative visits	.341 (.079)	18.559**	1.407	1.204	1.643
Constant	.898 (.890)	1.019	2.456		
Nagelkerke R^2 = .346					
Enabling factors					
Total palliative visits	.305 (.079)	14.690**	1.356	1.160	1.585
Multiple palliative providers	2.323 (.682)	11.609**	10.210	2.683	38.856
Antidepressant	.340 (.497)	.469	1.405	.531	3.722
Non-opioid	−1.185 (.583)	4.139*	.306	.098	.958
Opioid	−.519 (.497)	1.090	.595	.225	1.577
Anticonvulsant	−.210 (.494)	.180	.811	.308	2.136
Anxiolytic/hypnotic	−.358 (.453)	.622	.699	.288	1.701
Muscle relaxant	.271 (.753)	.129	1.311	.300	5.735
Constant	−1.261 (.581)	4.705*	.283		
Nagelkerke R^2 = .424					
Need factors					
Total palliative visits	.309 (.140)	4.902*	1.362	1.036	1.791
Primary cancer diagnosis	.060 (.807)	.005	1.061	.218	5.166
Psychological comorbidity	.504 (.809)	.388	1.655	.339	8.078
Pain comorbidity	.466 (.881)	.280	.627	.112	3.525
Reproductive system comorbidity	.710 (.978)	.527	.492	.072	3.342
Sleep-related comorbidity	−.063 (.822)	.006	.939	.187	4.704
GI system comorbidity	−.071 (.672)	.011	.932	.250	3.479
Weight-related comorbidity	−.276 (1.055)	.069	.758	.096	5.998
Pancreas/gall bladder/kidney disease comorbidity	2.608 (1.109)	5.535*	13.574	1.545	119.234
Irritable bowel syndrome comorbidity	.701 (1.108)	.400	2.016	.230	17.692
Quality of life	−.303 (.246)	1.514	.739	.456	1.197
Pain severity	−.057 (.221)	.067	.944	.612	1.456
Pain intensity	−.223 (.212)	1.109	.800	.528	1.212
Emotional distress	.632 (.343)	3.393	1.882	.960	3.687
Psychological symptom burden	.080 (.174)	.211	1.083	.770	1.524
Physical symptom burden	−.577 (.308)	3.524	.561	.307	1.026
BMI	.113 (.054)	4.340*	1.120	1.007	1.246
Systolic blood pressure	−.013 (.021)	.363	.988	.948	1.029
Constant	1.719 (3.590)	.229	5.578		
Nagelkerke R^2 = .568					

GI, gastrointestinal.
*$p < .05$.
**$p < .01$.

Table 3. Logistic regression of all significant factor determinants of psychology service utilization

	***B* (*SE*)**	**Wald χ2**	**Odds ratio**	**95% CI, odds ratio**	
				Lower	**Upper**
Total palliative visits	.358 (.096)	13.897**	1.431	1.185	1.728
Multiple palliative providers	2.673 (.846)	9.994**	14.489	2.762	76.009
Non-opioid	−1.738 (.768)	5.114*	.176	.039	.793
Pancreas/gall bladder/kidney disease comorbidity	.329 (.622)	.280	1.390	.411	4.701
BMI	.070 (.040)	3.123	1.073	.992	1.159
Age	−.028 (.016)	2.921	.972	.942	1.004
Constant	−2.032 (1.278)	2.528	.131		
Nagelkerke R^2 = .505					

*$p < .05$.
**$p < .01$.

explanation is that patients may be too sick or burdened to engage in psychology services.

In this sample, the perceived need factors, which included self-report measures assessing psychological distress, were not statistically significant determinants of psychology service use after controlling for exposure (total palliative care visits). However, these clinic data do not include referral information, so it is not clear which patients were referred by their palliative physician to the psychologist and then, perhaps, failed to schedule or attend a psychology service visit. It is also possible that these palliative patients may be too sick to utilize readily available psychology services. Even with low to no-cost on-site services available, the effort to address their psychological concerns may be too fatiguing or overwhelming for these patients. It is important to note that access is an important component to receiving services and although it was not an issue for the participants in this study, in other settings, ability to pay for services could further hinder patients from receiving psychological services. Therefore, in typical pay-for-service models, psychology service utilization may be less than reported here.

In cancer patients specifically, many researchers have already reported a need for routine screening for depression and cost-effective treatments for patients in need of psychology services [32–34]. This study highlights that even with routine mood screenings and cost-effective psychological treatments in an easily accessible location, a substantial proportion of patients are not utilizing the on-site services provided. Thus, further investigation is warranted to determine other barriers to treatment utilization. Face-to-face treatment delivery of psychology services may be burdensome and may deter some patients from receiving treatment. Future investigations exploring alternative treatment delivery modalities (e.g., telephone, home-based psychotherapy) for psychology services are warranted.

Our second aim, using Andersen's Behavioral Model of Health Service Use [23], was to explore predisposing, enabling, and need factors related to psychology service utilization. The findings from the logistic regression model that included only significant determinants from each of Andersen's three factors, as well as the model that eliminated variables based on multicollinearity, demonstrated that *enabling* factors are the primary determinants of patients' utilization of an accessible psychological health service. The most highly associated determinant of psychology service utilization was the total number of appointments these patients had at the palliative outpatient clinic. This may be explained by both exposure and severity. With increased physician visits, a patient has increased opportunity to be identified as needing psychology services and, thus, be referred. In addition, the patients with highest distress might be more likely to seek care from their physician most often. This severity explanation may underlie the finding that patients seeing multiple physicians at the clinic were more likely to seek psychology services. Symptom severity may cause patients to seek care at a 'same-day sick' appointment resulting in exposure to multiple physicians and increasing the likelihood they would be identified as needing psychological services.

After controlling for exposure, the significant associations between psychological service utilization and psychological burden variables did not hold. Given this findings, one plausible hypothesis is that increased psychological burden leads to more physician visits, which in turn increases the likelihood that a patient's emotional distress is recognized and subsequently information regarding psychology services may be given to patients.

Limitations

The data were collected in one clinic in the southeastern USA, resulting in a relatively small sample size; therefore, caution should be taken in generalizing these results. The use of a clinical care database for secondary analysis limited the information available to inform our exploration of determinants of psychology service utilization in outpatient palliative care. In particular, we were unable to ascertain whether provider referrals were made for the proportion of patients who screened positive for mental health issues but did not receive services. It is also unclear if the patients are receiving treatment for their psychological needs outside of the palliative care clinic. It is possible patients were referred to psychology services but did not follow through on the referral within the clinic because they desired to undergo treatment elsewhere.

Conclusions and implications

This study is among the first to provide insight into frequency of the use and factors that determine utilization of psychology services to address symptom burden related to psychological functioning in palliative care outpatients. This understanding is an important step toward designing models of care that enable palliative patients in need of psychological services to receive the care they need. The collaborative and stepped care models are designed to increase communication and decrease barriers for patients in receiving mental health care. These models have been shown to decrease overall healthcare cost and improve health outcomes; however, if patients are not being identified and receiving referrals or are too sick to use mental health services provided in the outpatient clinic, these systemic changes will not reach their full potential. Future studies should examine the receptivity for psychology service provision using alternate modalities (e.g., psychotherapy over the telephone or internet or home visits).

Prospective primary research specifically designed to understand the determinants of mental health care utilization will further characterize the patients that are utilizing mental health services. This information will guide health services delivery to address currently under-addressed symptom burden and emotional suffering. Given current guidelines mandating screening for psychosocial distress in cancer patients [35], understanding what service delivery models for mental health care will most effectively meet the needs of these patients is a pressing priority.

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Conflict of interest

The authors have no financial or personal conflicts of interest that might bias their work.

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