Published in final edited form as:
Am J Geriatr Psychiatry. 2006 March ; 14(3): 228–236.

A Flexible Item to Screen for Depression in Inner-City Minorities During Palliative Care Symptom Assessment

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Abstract

Objective— There is inconsistent evidence for the validity of a single item to screen depression. In inner-city minority populations, the "yes/no" forced-response option may encourage bias, especially in elders and men, who view depression as stigmatizing or the healthcare system as untrustworthy. In contrast, an open-choice format with a category for ambivalent and missing responses could be acceptable if administered during the legitimized context of a physical symptom assessment.

Method— Retrospective data were analyzed from 146 black and Latino inner-city patients receiving palliative care for various physical conditions. Bivariate analyses and ordinal regressions are based on the most recent comprehensive patient assessment conducted by a black female nurse and a bilingual Latina social worker.

Results— The depression item (no, unknown, yes) predicts pain and symptom attitude, which is more "hopeful" in older men with unknown depression status than in younger and older women with unknown depression status or no depression.

Conclusions— The more "hopeful" pain and symptom attitudes by older men in the unknown category for depression suggest that depression, apathy, and resignation in older minority men may be hidden from clinicians in the absence of the open-choice depression item.

Keywords

Depression; diagnosis and classification; mental health/physical health interactions; pain

The development of valid, single-item measures and very brief scales for palliative and end-of-life settings will be critical to support advances in research and clinical evaluation, especially in minority and underserved populations. An important motivation for this development is that the administration of standardized measures, which include multiple and closely related items, imposes unacceptable response burdens on patients compromised by cognitive, physical, and mental health symptoms. These response burdens may magnify feelings of incompetence and stigma, especially when standardized measures are not culturally appropriate.

There is consistent evidence for the validity of single-item measures of the two most prevalent multidimensional *physical* symptoms, pain and fatigue. A five-category single-item ordinal pain relief scale consistently showed high sensitivity to change in comparisons across 20

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The hospital Institutional Review Board exempted the study from full review because the data collection was already part of routine care, patient data was coded so that it could not be used to identify individual patients, and the researcher had no contact with patients or other patient data that could be used to identify individual patients. Informed consent by patients was not required.

The author received financial support from a Social Work Leadership Development Award (Project on Death in America, Open Society Institute), the NIMH, and the Hartford Geriatric Social Work Faculty Scholar Initiative.

clinical trials involving the opioid agonist–antagonist dezocine against standard opioid analgesics and placebo.[1] The five-category, ordinal item "distress from lack of energy" performed similar to the Brief Fatigue Inventory (BFI) and the Functional Assessment of Cancer Therapy–Fatigue Subscale (FACT-F) in predicting several quality-of-life constructs and clinical factors.[2] Similarly, the four-category, ordinal fatigue item "I get tired for no reason" was highly correlated with a gold standard measure of anemia (Functional Assessment of Cancer Therapy–Anemia, FACT-An) and resulted in sensitivity of 78.95% and specificity of 87.88% when the cutoff point for fatigue was set at the third ordinal category.[3]

SINGLE-ITEM MEASURES TO ASSESS DEPRESSION

On the other hand, evidence for the validity of single-item measures of patient self-assessed *depression* is inconsistent.[4,5] Research on single items for depression that is experienced most of the time has been based on a forced-choice response option (i.e., "yes" or "no"). Tests of the validity of the single item are based on its comparison with subsequent findings using one of two standard approaches for assessing depression in clinical practice and research settings: 1) a gold standard semistructured interview based on criteria such as the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)*, or 2) a standardized depression scale of self-reported symptoms typically administered as a highly structured interview.

Two studies provide favorable assessments. A single item ("Do you often feel sad or depressed?") accurately classified more than 80% of elderly patients[6] or patients with stroke,[7] which is impressive because both sets of findings were confirmed using a standardized depression scale rather than a semi-structured interview.

Three other studies yield inconsistent findings that may reflect differences from variations in item context and phrasing, populations targeted for screening, and sites of care.

In one study, the use of a semistructured interview (Schedule for Affective Disorders) confirmed 100% sensitivity, specificity, and positive predictive value for the question "Are you depressed?" that was asked of patients receiving palliative care for terminal conditions.[8] However, these findings could be biased because it appears that the question was included within (and not before) the semistructured interview.[5] Also, the perfect screening performance may be more likely because patients with terminal illness comprise a particularly high-risk subgroup within palliative care. For similar reasons, better performance may be expected in palliative care compared with the wider range of illness severity and progression seen in primary care.

In the second study, the performance of the same question ("Are you depressed?") was *not confirmed* in palliative care using a semistructured interview based on the criteria of *DSM–IV* (55% sensitivity, 74% specificity, 44% positive predictive value, 82% negative predictive value).[5] The low sensitivity and moderate specificity could mean that the term "depressed" may have different meanings or may not be culturally appropriate across respondents. In particular, it may be less stigmatizing to acknowledge *feeling* depressed than a state of *being* depressed.

Finally, in the third study, a semistructured interview based on *DSM–IV* criteria *did confirm* the related question ("Do you often feel sad or depressed?") in older adults from a general hospital inpatient setting (i.e., 83% sensitivity, 83% specificity), but not from primary care practices or nursing homes.[4]

MINORITY AND UNDERSERVED POPULATIONS

None of the studies reported missing data for the single item on depression, which was discouraged, of course, by the confirmatory semistructured interview or depression scale. Yet, bias from socially desirable responses may be the tradeoff for the clinical strategy to avoid missing data. This strategy to eliminate missing data may not be appropriate across settings, as well as in underserved minorities,[9,10] other demographic groups such as men and older adults, and vulnerable patient groups (e.g., with cognitive impairment, severe symptom distress[11]).

Inner-city minority and underserved populations may lack trust in the healthcare system, face language or cognitive barriers, or feel stigma acknowledging depression.[12,13] Clinicians diagnose depression and recommend treatment less frequently in men[14,15] and elders[14–18] and prescribe antidepressants less frequently in black elders.[18] Blacks and Latinos appear much less likely than whites to attend specialty mental health care or take antidepressants.[19] There is some evidence that somatic complaints may contribute more than mood changes to depression in older blacks.[20] Patients with a greater component of somatic symptoms could experience greater ambivalence about whether to acknowledge depression, which may be more difficult for clinicians to detect.

APATHY AND RESIGNATION IN MEN

Apathy, which may occur disproportionately in older men, may contribute to ambivalent and absent responses. An epidemiologic study comprising a range of physical conditions consistently detected stronger associations between physical symptoms and depression among men and old-old elders.[21] Brain imaging studies are helping to explain these provocative findings. Sex differences in brain structure, after controlling for chronic medical illness burden, suggest that older men with depression may be at greater risk for atrophy in frontal subregions of the brain and the development of apathy and psychomotor retardation compared with older women with depression.[22] The atrophy process may begin in men during earlier adulthood. In young, healthy adults, men were found to experience a greater loss of brain volume across successive age groups, especially in the dorsolateral prefrontal regions.[23]

On the other hand, ambivalent and absent responses to the depression item could also stem from gender-related socialization that fosters feelings of resignation in men. Differences in gender expectations may influence whether resignation or depressive affect is experienced. In a European sample of patients with advanced cancer, distress in men was strongly related to their psychologic condition, whereas distress in women was strongly related to their physical condition.[24] The researchers interpret these findings to mean that men tend to experience the sick role as an internalized threat to masculinity and self-esteem, whereas women often experience physical symptoms and disability as external stressors that threaten their role as family caregivers.

Men may cope with the threat posed by the sick role to their masculinity and self-esteem by minimizing pain and symptoms, which may be reflected as resignation and in more “hopeful” pain and symptom attitudes characterized by social desirability response bias. Women may tend to internalize responsibility for self-care, increasing their vulnerability to feelings of guilt and sadness when symptoms remain unresolved, whereas men may become more resigned because they may view intransigent symptoms as inevitable.[25] It is plausible that a state of resignation in men could serve to repress or suppress emotion such as sadness, but may be marked by greater withdrawal than “normal sadness” and crying, which serve to elicit help. Resignation would appear to correspond to anhedonia, or loss of interest in normal activities, which may substitute for dysphoric mood according to *DSM–IV* criteria for major and minor depressive episodes.

A paradox may be evident here. Barr-Zisowitz reminds us that the state of depression "… is often viewed as an inability to feel emotion, and depressed people often cry less, not more than others, because affect is suppressed." [26] Patients who are withdrawn such as those with progressed atrophy of the pre-frontal brain region and silent cerebrovascular disease, yet who lack external cues of depression such as crying, may be ambivalent about whether to endorse feeling depressed on self-report single-item and standardized measures.

METHODS

An ordinal-scale item for depression (*no, unknown, yes*) from a comprehensive physical symptom assessment was tested as a predictor of patient attitudes toward pain and other symptoms, which have well-documented relationships with depression.[27–29] Patient attitudes were hypothesized to be more hopeful in subgroups that were male or older.

One hundred forty-six inner-city black and Latino adults with a range of diagnoses were continuously enrolled to receive hospital-based palliative care during a 16-month period between late December 2000 and late March 2002. Patient ages ranged from 32 to 97 years (mean: 62.4); 59.4% were female. Primary medical diagnoses included cancer (breast, 18%; throat, 9%; lung, 8%; colon, 8%; prostate, 5%), congestive heart failure (7%), AIDS (6%), and end-stage renal disease (5%).

These patients were referred by a network for continuous palliative care when they were residing in the community and during inpatient admissions. Health professionals making referrals were required to complete a referral assessment form, which asked about demographic data, diagnosis, health status, health insurance, pain and symptom needs, and psychosocial status and concerns.

A black female nurse clinical coordinator and a bilingual Latina social worker completed an initial comprehensive assessment with each patient, which included single items regarding depression (*no, unknown, yes*), pain attitude (*hopeful, neutral, pessimistic/fearful*), other symptoms attitude (*hopeful, neutral, pessimistic/fearful*), and difficulty with pain medication (*none, some, a lot*). Periodic reassessments were conducted every two months during a case conference with the patient. The range of assessments per patient ranged from one to eight with a median of four. However, only data from the latest assessment for each patient were available for the current study.

The pain and symptom attitude index is an additive composite (six categories) of the items for pain attitude and other symptoms attitude. With regard to the depression item, the nurse or social worker asked the patient "Did you feel depressed during the past week?" The specific wording may have varied, for instance, when the item was translated into Spanish for some patients. However, the emphasis was always on whether the patient *felt* depressed, and language was avoided that would characterize the patient as *being* depressed. In a few situations, a caregiver response was used because the patient was unable to answer.

Analytical Framework

The frequencies of depression item responses across four gender–age subgroups are reported in Table 1. Differences in depression item responses across all four gender–age subgroups were assessed.

The Aday-Andersen conceptual framework of factors that predispose, enable, and reflect need by patients for access to care[30] was used to identify predictors of the pain and symptom index and guide the order of specification within two ordinal regressions. However, 27 predictors across all three factors were identified—too many given the sample size. Therefore, the final

ordinal regressions in Table 2 were trimmed based on a carefully considered rationale, which impacted findings minimally.

The ordinal logit regressions were conducted using the PLUM procedure in SPSS-PC. In the first version of the regression, interactions were specified to test whether pain and symptom attitudes vary across different types of subgroups involving depression in older men (i.e., male–age–depression). However, it was unclear whether the estimates were overly determined by the nine "yes" responses from the third category of the depression variable in Table 1 (with seven endorsed by younger women), which would effectively reduce the true influence of the much larger middle category of unknown depression. Therefore, these nine observations were excluded in a second parallel regression, which was based only on the first two categories for the depression variable (*no, unknown*).

RESULTS

In each of four gender–age subgroups, univariate frequencies were conducted within and across the categories of the depression item (Table 1). With the exception of younger women, depression was acknowledged (i.e., the "yes" category) in only a couple of patients across the three remaining demographic groups.

Almost one-third of all patients (43 of 146; 29.5%) fell within the "unknown" category. Greater proportions of younger men (39.3%) and older men (55.6%) fell within the "unknown" category compared with younger women (21.2%) and older women (15.4%).

Of all patients within the "unknown" and "yes" categories, older women comprised the smallest proportions (14.0% and 11.1%, respectively).

There were highly significant differences in depression among the four age–gender subgroups (Kruskal-Wallis, $\chi^2 = 15.489$ [3], p = 0.001). Separate follow-up analyses revealed that compared with the combined subgroup of younger and older women, depression was more likely be unknown in older men (Mann-Whitney, $\chi^2 = 14.203$ [1], p = 0.001) and in younger men (Mann-Whitney, $\chi^2 = 5.010$ [1], p = 0.025). On the other hand, there were no significant differences across the four gender–age subgroups for the pain and symptom attitude index (F = 1.655 [3,142], p = 0.180).

Crosstabulations revealed that the depression item categories "unknown" and "yes" were more likely to include patients who were Catholic, unaware of their prognosis, or reporting pessimistic or fearful pain and symptom attitudes. The "unknown" and "yes" depression item categories were also more likely to include patients responding "no" to several variables (Protestant and other Christian, Medicaid/Medicaid HMO, healthcare proxy, living will, lost health insurance, and formal supports). Older men at risk for depression were not more likely to have fewer palliative care assessments than either the rest of the sample (Mann-Whitney, $\chi^2 = 0.004$ [1], p = 0.948) or the subgroup of patients at risk for depression or acknowledging depression (Mann-Whitney, $\chi^2 = 0.070$ [1], p = 0.791).

Table 2 presents two versions of the multivariate ordinal regression analysis, the first based on all three open-choice categories (i.e., *no, unknown, yes*) and the second based on just the first two categories (i.e., *no, unknown*). The predicted ordinal variable, "pain and symptom attitude index," is positively skewed; frequencies for the five ordinal categories are 71, 26, 45, 2, and 2. When the four observations in the last two categories are dropped, the interaction involving male, age, and depression remains highly significant in both versions of the regression.

In the second version of the regression, consider the first-order terms for male, age, and depression, as well as all four possible interactions between them. Of these seven predictors,

only the highest-order interaction (male * age * depression) remains significant. *These findings mean that older men with unknown depression status endorsed more hopeful attitudes toward pain and symptoms compared with younger and older women with unknown depression status or no depression.*

DISCUSSION

Masked depression and related mental health symptoms may be particularly difficult to detect in older men receiving palliative care in the absence of the open-choice depression item, although such hidden symptoms may occur regardless of gender or age in inner-city minorities. The bivariate analyses reveal that depression was more likely to be unknown in younger and older men but do not reveal significant differences in the pain and symptom attitude index across gender–age subgroups. However, the multivariate analyses reveal that older men *at risk for depression* (i.e., those with ambivalent or absent responses) actually tend to endorse more "hopeful" pain and symptom attitudes than older women and younger women who do not acknowledge depression (i.e., those responding "no" or with ambivalent or absent responses).

It cannot be determined that these older men at risk really do feel more hopeful about their pain and symptoms or whether their responses stem from highly correlated negative emotional states. Rather than based on a sense of hope, responses by older men could reflect resignation, denial, apathy, or other stressful emotions such as stoicism and worries about addiction and tolerance as suggested by research involving blacks and Latinos with cancer.[31] Together, these factors would suggest that older minority men are at risk of being underserved in palliative care, even in settings devoted to minority patients. On the other hand, men may indeed experience more hopeful attitudes about their pain and symptoms, which could help them cope with internalized threats from being sick to masculinity and self-esteem. It is also possible that more hopeful attitudes about pain and symptoms could interfere with the capacity to be conscious of depression (i.e., alexithymia).

Older minority men at risk for depression may reply ambiguously to the depression item, or may avoid it altogether, to minimize stigma and response burden. These factors may be related to masculine role expectations (internalized and social projections), aging, ageism, culture, and racism, and may include cognitive or language difficulties, mistrust of the healthcare system, and religious beliefs in the redemptive value of suffering.[13,16]

These findings and interpretations could also mean that apathy, resignation, and masked depression may be more prevalent among older men who fell in the "unknown" category of the depression item. Older men fell more frequently in this category than younger and older women, and the women in this category endorsed more negative pain and symptom attitudes that are likely to attract clinical attention. Although resignation to unrelieved pain and symptoms in some older men could help them avoid feelings of sadness and loss of interest in activities, in others, it could constitute an especially well-hidden form of masked depression characterized by anhedonia, apathy, or even anxiety.[4]

Patients may perceive ambivalent responses or nonresponses to the single item on depression to be more acceptable when it occurs during a legitimized comprehensive physical symptom assessment, as in the current study, in contrast to when the item is asked alone or within the context of similar items on depression. Furthermore, the three-category, open-choice item preserves opportunities for future follow up in contrast to a two-category, forced-choice depression item (*no, yes*) that may encourage a biased "no" response.

Still, in some cases, clinicians may avoid asking the depression item during initial or early assessments if they suspect that strong stigma or mistrust may prevent a patient from returning for follow-up visits or participation in palliative care. In the current study, most patients were

beyond the initial assessment period. There is no evidence that clinicians avoided asking the depression item, although this possibility cannot be completely ruled out.

Almost two-thirds of all patients responded “no” to the three-category depression item. Less than one-third is classified in the “unknown” category; these patients should be followed up. Recall that the latest patient assessment was used, which may explain why lower proportions of women, especially older women, fall within the “unknown” category of Table 1. That is, the tendency for women to endorse more negative pain and symptom attitudes than older men at risk for depression could mean that clinicians were able to recognize depression risk in women during earlier assessments, which could have led to earlier intervention and resolution. Also, both clinicians were women, which may have facilitated depression recognition in female patients.[16]

We should consider these explanations cautiously, however. Even if female patients experienced earlier resolution of depression, there is no evidence that older male patients at risk for depression had fewer periodic comprehensive assessments that would reflect lower length of stay.

Strengths and Limitations

The second regression in Table 2 reveals the parameter for the interaction, male * depression, to be statistically nonsignificant (b = 3.562, standard error: 2.221, p = 0.109). It is possible that the small sample was underpowered to detect this interaction, although there are other indications that statistical power is not an issue. It is remarkable that the final specification with 15 predictors yielded highly similar findings compared to an original specification with 27 predictors; in both specifications, only the interaction for male * age * depression remained highly significant in the second regression in Table 2. Thus, the findings are robust.

The availability of just the depression item from the last comprehensive assessment poses important limitations. A follow-up assessment after a short period by another clinician would have been useful to assess reliability, especially when the depression item was asked in Spanish. In addition, a series of responses across all two-month assessments would have permitted analyses to detect stability and trends over time. Of course, the absence of a follow-up diagnostic interview for depression (and anxiety) precludes assessment of the prevalence of masked depression and anxiety that fall within the “unknown” category.

Implications

The open-choice item offers the potential for improving the number and timeliness of appropriate geriatric psychiatry referrals and consultations from allied mental health and health providers with ongoing patient contact in palliative care settings, including social workers, nurses, and physicians. Referrals and consultations may increase most dramatically for older minority men, an especially underserved group. Follow-up geriatric psychiatric assessment should foster more widely initiated treatments for depression, apathy, and anxiety syndromes while confirming issues of resignation and mistrust in other patients that impede adherence with care. In turn, geriatric psychiatric feedback and consultation with the palliative care team should afford greater opportunities for multidisciplinary collaboration that lead to more coordinated and effective patient counseling, medication and symptom management, and physical care.

The period during a multidimensional symptom assessment provides a unique opportunity for initiating psychoeducation about the importance of integrating mental health care into symptom management. There is a need for research, including studies that test the open-choice item, to investigate whether psychoeducation during multidimensional symptom assessments may

reduce confusion and stigma of depression in minority elders by helping patients and family members appreciate that:

1. Depression, the physical illness, and physical symptoms such as pain and fatigue are often reciprocal and mutually reinforcing,[32]
2. Treatment for depression as part of palliative and end-of-life care is not inconsistent with the strong value placed by blacks and other minorities on medical care to prolong life,[33,34] and
3. Mood states related to depression such as resignation, apathy, and anxiety may be related to physical symptom burden.

The goal would be for greater acceptance of treatment for depression and related mental health conditions when such treatment is understood to be integral to the treatment of the physical illness and physical symptoms.

Acknowledgements

The author thanks three contributors. Access to the palliative care site was facilitated through the efforts and connections of two colleagues associated with the Project on Death in America, Open Society Institute (Dr. Richard Payne, M.D., who was Chief of the Pain and Palliative Care Service at Memorial Sloan-Kettering Cancer Center and is now Director of the Duke University Divinity School Institute on Care at the End of Life; and Dr. Victoria Raveis, Co-Director of the Center for the Psychosocial Study of Health and Illness at Columbia University Mailman School of Public Health). Dr. Payne also allowed access to the data, which was obtained without patient identifiers. Debra Burns, a research assistant, created the SPSS data file and conducted preliminary analyses, under the direction of the author. The author conducted all of the reported analyses and wrote the article.

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TABLE 1

Depression Item Responses Across Age–Gender Subgroups

	Depression Item (three categories)			
	No	Unknown	Yes	Total
Age–Gender Subgroup	No. (row %) [column %]	No. (row %) [column %]	No. (row %) [column %]	No. (row %) [column %]
Younger women (≤65)	34 (65.4) [36.2]	11 (21.2) [25.6]	7 (13.5) [77.8]	52 (100) [35.6]
Younger men (≤65)	16 (57.1) [17.0]	11 (39.3) [25.6]	1 (3.6) [11.1]	28 (100) [19.2]
Older women (>65)	32 (82.1) [34.0]	6 (15.4) [14.0]	1 (2.6) [11.1]	39 (100) [26.7]
Older men (>65)	12 (44.4) [12.8]	15 (55.6) [34.9]	0 (0.0) [0.0]	27 (100) [18.5]
Total	94 (64.4) [100]	43 (29.5) [100]	9 (6.2) [100]	146 (100) [100]

TABLE 2

Ordinal Regressions Predicting 'Pain and Symptom Attitude' Index*

Predictor	Full Sample (N = 146) Depression (no, unknown, yes)					Partial Sample (N = 137) Depression (no, unknown)				
	Estimate	Standard Error	Significance	95% CI		Estimate	Standard Error	Significance	95% CI	
Male	0.384	0.529	0.467	−0.652	1.421	−0.279	0.640	0.663	−1.534	0.976
Age	−0.004	0.018	0.812	−0.040	0.032	0.013	0.032	0.673	−0.049	0.076
Catholic	−0.392	0.592	0.507	−1.552	0.507	−.123	0.610	0.840	−1.319	1.072
Protestant and other Christian	−1.145	0.438	0.009‡	−2.003	−0.286	−1.085	0.455	0.017†	−1.977	−0.192
Private insurance	−1.840	0.905	0.042†	−3.615	−0.065	−1.793	0.928	0.053	−3.611	0.026
Lost health insurance	1.040	0.673	0.123	−0.280	2.359	1.141	0.686	0.096	−0.204	2.487
Cancer	−0.794	0.383	0.038†	−1.544	−0.044	−0.718	0.392	0.067	−1.487	−0.051
Patient unaware of prognosis	0.272	0.286	0.340	−0.288	0.832	0.149	0.296	0.615	−0.431	0.729
No pain medication prescribed	1.189	0.789	0.132	−0.357	2.736	0.587	0.831	0.480	−1.042	2.216
Difficulty with pain medication	0.298	0.688	0.664	−1.049	1.646	0.008	0.701	0.991	−1.365	1.382
Depression	−0.350	0.525	0.506	−1.379	0.680	2.584	1.559	0.097	−0.472	5.640
Male age*	−0.010	0.032	0.757	−0.074	0.054	−0.037	0.042	0.372	−0.119	0.044
Male* depression	**5.429**	**1.985**	**0.006‡**	**1.538**	**9.320**	3.562	2.221	0.109	−0.791	7.916
Age depression*	−0.067	0.039	0.084	−0.143	0.009	−0.029	0.086	0.739	−0.197	0.140
Male* age* depression	**−0.463**	**0.152**	**0.002§**	**−0.761**	**−0.164**	**−0.514**	**0.170**	**0.002‡**	**−0.847**	**−0.181**

* The fit of each regression to the actual data was acceptable based on goodness-of-fit p values of *non*significant differences between the predicted model and actual data. Goodness-of-fit p values were as follows: 1) first regression: Pearson χ^2 (p = 0.836) and deviance χ^2 (p = 1); and 2) second regression: Pearson χ^2 (p = 0.077); deviance χ^2 (p = 1). Pseudo R^2 statistics for the first regression (Cox and Snell = 0.347) and the second regression (Cox and Snell = 0.369) were reasonable.

† $p < 0.05$.

‡ $p < 0.01$.

§ $p < 0.005$.