Marital Status and Health: Exploring Pre-Widowhood

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ABSTRACT

Background: Health and function vary by marital status across the life-course, but little is known about older adults approaching spousal loss (pre-widowed).

Objective: To explore health and function by marital status focusing on the pre-widowed and to examine factors associated with shorter time to spousal loss.

Participants, design, and measurements: We used 3 years of data from African American and white community-dwelling older adults in the UAB Study of Aging ($N = 1000$). Participants were categorized as “continuously married” (married at baseline and 3 years), “widowed” (widowed at baseline), “single” (never married/divorced); and “pre-widowed” (married at baseline and widowed within 3 years). Assessments included sociodemographic characteristics, and measures of depression, anxiety, life-space mobility, and self-reported health. χ^2 and analysis of variance (ANOVA) were used to examine baseline differences. Using Cox regression, we explored factors having independent and significant associations with shorter time to spousal loss among married older adults.

Results: There were significant differences by marital status category for sociodemographic factors, health, and function. Pre-widows differed from other categories by sociodemographic characteristics as well as levels of depression, anxiety and self-reported health. Among married older adults, being female and having lower self-reported health at baseline were independent significant hazards for shorter time to widowhood; while rural residence and providing spousal care were independent significant hazards for a longer progression to widowhood.

Conclusions: Health deficits associated with spousal bereavement may be evident earlier in the marital transition than previously thought, warranting attention to the health of elderly persons whose spouses have chronic/life-limiting conditions.

INTRODUCTION

MARITAL STATUS has important implications for health and well-being.¹ Research with older adults has identified significant differences in morbidity by marital status.^{2,3} Married adults older than 45 have a lower relative risk of mortality than widowed, divorced/separated, and never-married per-

sons.⁴ The transition from married to widowed is a major life event,⁵ with effects evident 10–20 years postloss.⁶ The association of spousal loss and well-being is well documented.^{7–9} A systematic review of research on the relationship between widowhood and emotional health found that the relative risk of developing a mood or anxiety disorder was 3.5 to 9.8 times higher among recently widowed compared to non-

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widowed.¹⁰ Research on postbereavement psychological adjustment among widowed persons in the Netherlands, identified sociodemographic factors and physical disorders associated with negative mental health outcomes.¹¹

Married persons are at risk for spousal loss and may exhibit psychological and physical distress in anticipation of such an event.^{12,13} Little work has been done to characterize the transition from married life to widowhood by developing and operationalizing the concept of pre-widowhood as a distinct category of marital status. In research on the sociodemographics of pre-widowhood Karamcheva and Munnell¹⁴ found that compared to continuously married persons, eventual widows were older, poorer, and less educated. Research on marital transitions and health indicate married individuals have an increased prevalence of depressive symptoms preceding loss of a spouse.^{15–19} Analysis of survey data from 1457 older adults in Flanders found females had lower self-reported quality of life than males due to greater vulnerability to widowhood and apprehension of spousal loss.²⁰ Recognition of women's increased risk of widowhood prompted the development of an individually focused educational intervention to prepare married women for spousal loss in Japan.²¹

Beginning with Lindemann's conceptualization of "anticipatory grief,"²² the prebereavement period has been an important area of scientific investigation,^{23–26} including retrospective research²⁷ and longitudinal studies^{28–32} with older adults. Although distress during the pre-widowhood period has been attributed to caregiver burden and a sense of impending loss, it has been suggested that there are "underlying psychological differences between women who become widowed and women whose husbands survive."¹⁷ It is possible that pre-widowed persons differ from single and currently widowed persons in measures of health and well-being.

The purpose of this study was to expand our understanding the relationship of marital status to the health of older adults by comparing sociodemographic and health characteristics of pre-widowed persons with those of married, single, and widowed persons; isolating specific symptoms of depression and anxiety distinguishing pre-widows from other categories of marital status; and assessing the hazards for shorter time to spousal loss. We hypothesized that pre-widowed persons would comprise a category of marital status distinct from other married persons, exhibiting a unique profile of mental and physical health characteristics.

METHODS

We studied pre-widowhood using data from 3 years of follow-up from the UAB Study of Aging, a population-based, prospective, observational study of 1000 African American and white community-dwelling adults aged 65 and over, recruited between 1999 and 2001. The University of Alabama at Birmingham (UAB) Institutional Review Board (IRB) approved the study protocol.

Participants were a stratified sample of randomly selected Medicare beneficiaries in five counties of central Alabama. Two counties were classified as urban and three as rural based on the distribution of the state population by county.³³ To provide balanced race, gender, and residence categories, African Americans, males, and rural residents were oversampled. Details of the study have been previously described.³⁴ After obtaining informed consent, in-home baseline interviews assessed sociodemographic characteristics and measures of physical and mental health. Telephone follow-up interviews occurred at 6-month intervals.

Baseline age, gender, race, marital status, education, income, caregiving status, and transportation difficulty were self-reported. For this analysis the sociodemographic variables were dichotomized: 65–74 and 75 years or older; male and female; African American and white; urban and rural residence; education less than 12 years and 12 years or more; annual income less than \$12,000.00 and \$12,000.00 or more; and providing care for spouse or not. Transportation difficulty was defined as a positive response to either: "Over the past 4 weeks, have you had any difficulty getting transportation to where you want to go?" or "Do you limit your activities because you don't have transportation?" Marital status categories were defined as "continuously married" (married at baseline and 3 years), "single" (never married/divorced at baseline and 3 years), "widowed" (widowed at baseline and 3 years), and "pre-widowed" (married at baseline but widowed by 3 years). The pre-widowed category was conceptualized to differentiate and characterize older adults in the period before spousal loss.

Depression was assessed using the 15-item Geriatric Depression Scale (GDS). Higher scores indicate more depressive symptomology.³⁵ Anxiety was measured using the 5 items of the AIMS2 Anxiety subscale.³⁶ Individual items were coded dichotomously so that 1 = the presence of an anxiety symptom. A simple count of symptoms was created. Higher scores represented greater anxiety. Self-reported health was assessed using a 1–5 scale, with 1 = excellent. A comorbidity score was created from participants' reports

of physician diagnoses of medical diseases and conditions. One point was given for each disease category of the Charlson comorbidity index³⁷ without consideration of severity. Higher scores indicated greater disease burden. A medication count was derived from participants' reports of prescription medication with higher scores indicating greater numbers of prescribed medications.

The UAB Life Space Assessment (LSA) was used to measure mobility based on the distance through which a person reports moving during the 4 weeks preceding the assessment. Questions established movement to specific life-space "levels" ranging from within one's dwelling to beyond one's town. Frequency of movement and use of assistance (from equipment or persons) were also assessed. Life-Space values range 0–120, with higher scores reflecting greater, more frequent, and independent mobility. This assessment is particularly useful in evaluating mobility among the full continuum of community-dwelling older adults who experience changes both in social roles and health status and is sensitive to health-related limitations and adaptations that older persons experience.^{38,39}

Spousal loss was identified at 6-month intervals over the 36-month observation period. Using χ^2 and ANOVA, we explored variations in sociodemographics, health, and function by marital status and looked at individual items of the GDS and AIMS scales to identify differences among marital status categories in mental health symptomology. In addition, the influences of baseline sociodemographic characteristics and health and functional status on time to widowhood among married persons were evaluated with a Cox multivariable regression model. Time-to-widowhood is the equivalent of the duration of pre-widowhood, thus factors that are associated with shorter time (increased hazard ratio) to widowhood potentially reflect the effect of the factors related to the effect of the spouse's health on the pre-widow. SPSS (Statistical Package for the Social Sciences; SPSS Inc., Chicago, IL) was used to analyze the data.

RESULTS

The sample is described in Table 1. There were a total of 43 spousal bereavement events over 3 years with an average of 7 events each reporting period. Two thirds of the events occurred at least 1 year postbaseline, and over one third took place at least 2 years from the start of the study. At baseline, 49% (21/43) of the pre-widowed persons reported providing care to a spouse.

TABLE 1. BASELINE SOCIODEMOGRAPHIC CHARACTERISTICS, HEALTH, AND FUNCTION ($n = 1000$)

Variable	%	Mean (SD)
White race	50%	—
Female gender	50%	—
Education <12th	50%	—
Income <\$12,000	42%	—
Married	51%	—
Rural	51%	—
Transportation difficulty	17%	—
Age	—	75.30 (6.70)
Life Space Mobility	—	64.11 (24.93)
Geriatric Depression Scale	—	2.36 (2.33)
Self-reported health	—	3.21 (1.13)
Anxiety	—	1.18 (1.43)
Comorbidity	—	2.25 (1.59)
Medications	—	4.29 (3.26)

Life Space Mobility: range 0–120; higher scores reflect greater mobility; Geriatric Depression scale: range 0–15; higher scores indicate more symptoms; Self-reported Health: range 1–5; higher scores indicate poorer health; Anxiety: range 0–5; higher scores indicate greater anxiety.

SD, standard deviation.

Significant baseline differences in sociodemographics, health, and function by marital status were observed, with the pre-widowed group demonstrating characteristics unlike other categories (Table 2). Our findings indicated that although pre-widowed persons were similar to their married cohorts in age, income, residence, transportation difficulty, and life-space mobility, they were better educated than continuously married persons. In measures of physical health such as the numbers of comorbidities and medications, the totals for pre-widowed participants were higher than those for all other categories, exhibiting a nonsignificant trend toward greater health care utilization.

In the area of mental health and perceived well-being, our findings place pre-widowed persons in a distinct category of marital status. In measures of self-reported health and anxiety, the mean scores of pre-widowed participants tended to align with those of widowed participants rather than continuously married and single older adults. For depression, in general, and individual items in the depression scale, in particular, pre-widowed respondents were more similar to unmarried (widowed and single) participants than they were to continuously married persons. Pre-widowed persons were also more likely than other groups to report energy deficits, declining interests and activities, feelings of hopelessness, emptiness, and fear of something bad happening (Table 3).

Significant independent predictors of longer time to spousal loss were self-identification as a spousal care-

TABLE 2. BASELINE SOCIODEMOGRAPHIC CHARACTERISTICS, HEALTH, AND FUNCTION BY MARITAL STATUS

Variable	Continuously married (N = 470)		Widowed (N = 394)		Single (N = 93)		Pre-widowed (N = 43)	
	n	%	n	%	n	%	n	%
White race ^a	282	60.0	152	38.6	33	35.5	33	76.7
Female gender ^a	138	29.4	300	76.1	33	35.5	28	65.1
Education <12th ^a	194	41.2	235	59.7	57	61.3	12	28.0
Income <\$12,000 ^a	103	21.9	246	62.2	58	62.4	10	23.3
Rural ^b	226	48.1	222	56.3	49	52.7	17	39.5
Transportation difficulty ^a	38	8.1	106	26.9	23	24.7	4	9.3
Age ^a	73.54	[5.72]	77.76	[7.35]	74.3	[6.22]	74.42	[5.00]
Life-Space ^a	71.84	[24.0]	54.57	[22.7]	62.55	[25.9]	70.43	[22.8]
GDS Score	2.01	[2.18]	2.70	[2.48]	2.59	[2.00]	2.47	[2.65]
Self-reported Health ^c	3.11	[1.11]	3.33	[1.13]	3.11	[1.15]	3.37	[1.16]
Anxiety ^b	1.01	[1.35]	1.38	[1.50]	1.08	[1.39]	1.35	[1.51]
Comorbidity ^a	2.20	[1.59]	2.29	[1.61]	2.20	[1.58]	2.49	[1.61]
Medications	4.26	[3.35]	4.42	[3.29]	3.60	[2.73]	4.95	[2.81]

^a $p < 0.001$; ^b $p < 0.01$; ^c $p < 0.05$.

p values indicate a significant difference among groups.

giver and rural residence (Table 4). Pre-widowed persons caring for a spouse had a one third lower risk of shorter time to spousal loss than noncaregivers. Rural residence was a significant and independent predictor of longer time to spousal loss. The risk for later progression to widowhood for rural residents was twice that for urban dwellers.

Significant independent predictors of shorter time to spousal loss included being female and lower self-reported health (Table 4). The risk for earlier progression to widowhood among pre-widowed females was five times greater than the risk for pre-widowed males. These findings reflect the higher rate of spousal loss among females in this sample where females were

at greater risk of losing a spouse (28/166; 16.8%) versus 15 of 347 (4.3%) over 3 years.

Lower self-reported health was significantly and independently associated with shorter time to spousal loss. The risk for earlier progression to spousal loss among pre-widowed persons with lower self-reported health was 1 $\frac{1}{2}$ times greater than that for pre-widowed persons with higher self-reported health.

DISCUSSION

Significant variations by marital status in levels of self-reported health, life-space mobility, anxiety, and

TABLE 3. SIGNIFICANT DIFFERENCES IN SYMPTOMS OF DEPRESSION AND ANXIETY BY MARITAL STATUS

Variable	Continuously married (N = 470)		Widowed (N = 394)		Single (N = 93)		Pre-widowed (N = 43)	
	n	%	n	%	n	%	n	%
Tense ^b	166	35.3	182	46.2	31	33.3	22	52.1
Life Empty ^a	35	7.4	64	16.2	18	19.3	7	16.3
Dropped Activities ^b	62	13.2	87	22.1	12	13.0	10	23.3
Energy Deficits ^c	182	38.7	174	44.2	42	45.2	22	52.1
Hopelessness ^c	34	7.2	36	9.1	10	10.7	5	11.6
Fear something bad will happen ^c	29	6.2	34	8.6	3	3.2	4	9.3

^a $p < 0.001$.

^b $p < 0.01$.

^c $p \geq 0.05$ (trend toward significantly higher frequency for pre-widowed persons).

p values indicate a significant difference among groups in frequency of symptoms.

TABLE 4. INDEPENDENT AND SIGNIFICANT SOCIODEMOGRAPHIC PREDICTORS OF SHORTER PROGRESSION TO SPOUSAL LOSS: COX REGRESSION MODEL

<i>Item</i>	<i>Hazard ratio</i>	<i>95% CI</i>	<i>p-value</i>
Female gender	4.85	[2.45–9.28]	<0.001
Urban residence	1.96	[1.02–3.75]	0.042
Low self-reported health	1.61	[1.20–2.15]	<0.001
Not providing care to spouse	2.54	[1.37–4.72]	0.003

depression, as well as specific symptoms of depression among participants in this study support previous research on the importance of marital status for the health and well-being of older adults. Our findings are consistent with Fenwick and Barresi³⁰ who suggest that the transition from married to unmarried status, rather than widowhood itself, is responsible for declines in perceived health among older adults. Since pre-widowed persons still have a spouse, it is not surprising that they share characteristics with continuously-married counterparts. Pre-widowed participants' lower baseline scores for health and well-being are more difficult to explain, however, because two thirds of pre-widows in our analysis were at least 12 months away from losing a spouse; and up to one third of them were at least 24 months away from a spousal bereavement event. One possible explanation is that protective health benefits of marriage begin to wane in advance of spousal loss, making pre-widowed persons vulnerable to deficits in health and function associated with widowed, never married, or divorced persons.

The increased rate of spouse-death related to being female is not surprising given that males have a considerably shorter life expectancy. Our findings on residence also are not unexpected given that rural residence may confer a protective health benefit.⁴⁰ However, the higher frequency of frailty among rural older adults compared to their urban counterparts⁴¹ suggests a prolonged period of potential burden. Although research among rural caregivers has found that only 16% of rural families provide in-home terminal care,⁴² families of older rural adults with declining health typically provide long-term care in the home. Deficits in formal rural health care are associated with lower self-perceived health among caregivers.⁴³ Subjective assessments of health correlate substantially with objective health measures among older adults, predicting 1-year mortality.^{44–45}

Our finding that providing care to a spouse predicts longer time to spousal loss seems counterintuitive, since it seems reasonable to assume that a spouse who

requires care would die sooner. However, this finding might reflect the participant's inability to provide care to a terminally ill spouse, necessitating end-of-life care from others. Unfortunately we do not have information on the health status of the spouse of the participant, which would enable us to disentangle the association between providing spousal care and widowhood.

Our finding that following enrollment in this study, participants caring for a spouse remained pre-widowed for longer periods of time implies prolonged exposure to the deleterious effects of physical and emotional stress. Although, there is substantial evidence of the protective effect of marriage among older adults,^{46–47} there is compelling evidence that the declining health of one spouse can impact the well-being of the other.⁴⁸ Examining the interconnectedness of health and illness among spouses, Christakis and Allison⁴⁸ conclude, "interpersonal health effects" are clinically relevant for the care of patients and families and point to the importance of an early focus on the health of elderly persons whose spouses have chronic and life-limiting conditions.

As individuals age, the salience of the marital relationship increases,⁴⁹ yet, spouses of older adults with declining health may experience decreasing social and emotional benefits from the marital relationship.⁵⁰ The quality of the marital relationship can be diminished by spousal morbidity across a range of chronic conditions, impacting the subjective well-being of the otherwise healthy partner and compromising physical and mental outcomes.^{51–58} Bonanno and colleagues^{18,19} found that among a subgroup of depressed older adults, the prebereavement period was characterized by low marital satisfaction and adjustment.

Research among older adults indicates unfulfilling relationships can be a source of emotional loneliness even when social contact is frequent.⁵⁹ Across the life course, the quality of the couple relationship impacts the perception of general health for chronically ill adults.⁶⁰ Spouses of chronically ill partners, in general, and wives, in particular, are also at risk for de-

clines in self-reported health and could benefit from clinical informational and counseling interventions to improve psychological sense of control and enhance sense of well-being during the pre-widowed period.⁶¹ Our finding that pre-widows have lower health status is consistent with this. Our finding that lower self-reported health predicted a shorter time to spousal death could reflect the health affects of having an unhealthy spouse. An alternative explanation may be that the lower health status of the pre-widowed partner accelerated the spouse's death.

Couples exhibit increased interdependence as they age.⁶² Among older married adults, the maintenance of "couple functioning" and "collaborative everyday problem solving" enhances health-promoting behaviors and health-related problem solving.⁶³⁻⁶⁵ Declines in mutuality over the course of the spouse's illness can affect the mental and physical health of the marriage partner.⁶⁶ The absence of marital intimacy and lack of a confidant were associated with a higher risk of depression among community-dwelling women.⁶⁷ The health trajectories of older adults are more sensitive to the health effects of negative marital experience than those of younger adults. Older women, in particular, are at risk for higher levels of marital strain, lower levels of marital quality, and subsequent health disadvantage.⁶⁸

There is evidence of the usefulness of dyadic approach to assessing and managing the stresses of chronic illness among older adults.⁶⁹ An intervention targeting older adults and their caregiving spouses as a couple resulted in increased efficacy in managing the patient's pain and symptoms over targeting the patient alone.⁷⁰ Sterba and colleagues⁷¹ developed and tested a measure of dyadic efficacy for couples dealing with chronic illness and found when couples are empowered to work together as a team, psychological benefits accrue to both parties individually and the marriage dyad.

Future research is needed to examine the effectiveness of couple-focused interventions for older married adults dealing with chronic and potentially life-limiting medical conditions. Lyons and Sayer⁷² recommended using multilevel modeling to examine processes of dyadic change, improve methods for assessing the effectiveness of interventions, and increasing understanding of the interactive nature of health and illness. Such research, used in conjunction with qualitative inquiry into the lived experience of older married couples, can identify at risk prebereaved persons, address their concerns, and attend to their potential health care needs.

A methodological limitation of this study is the absence of information on the relationship among so-

ciodemographic characteristics, health status, spousal mortality risk, and an individual's willingness to enroll in a research study. Although a small body of literature compares 3-year and 5-year mortality rates between older adults who elect to take part in research and those who refuse,^{73,74} to the best of our knowledge, no one has examined the effect of spousal health status on research participation. Although it was not within the scope of this study to pursue this line of inquiry, it is conceivable that older adults may have declined participation in the UAB Study of Aging because of the demands of providing care to a chronically ill spouse and may have significantly different profiles from those who agreed to take part. Moreover, spousal end-of-life situations may play an important role in influencing research participation. For example, in rural settings, the low frequency of at-home, in-county terminal care for the chronically ill may remove the spouse from the home, thus reducing pre-widowhood caregiver demands and facilitating research participation even in the last weeks and months of the spouse's life. On the other hand, in urban areas where it is more likely for older chronically ill adults to die at or closer to home, caregiving burden may inhibit research participation in the final stage of the illness trajectory.

Questions about gender, racial, and socioeconomic differences in how pre-widowed individuals situate themselves in the marital status continuum and the impact of such differences on short- and long-term health and well-being remain unanswered. Considerations such as these cannot be fully addressed by large observational studies, because of the relatively low occurrence of spousal loss following study enrollment and the lack of longitudinal data to identify subjects. Ideally, the qualitative dimensions of pre-widowhood need to be examined in greater depth, perhaps through targeting spouses of chronically ill patients.

Our examination and characterization of the pre-widowed category of marital status has described a subgroup of older adults whose prebereavement needs are often not identified. The unique role and health consequences of persons married to a spouse with chronic disease may be difficult to identify and are often overlooked. This transition phase of the marital life cycle merits consideration, particularly in view of the remaining life-expectancy of the soon-to-be bereaved spouse. While caregiving research stresses alleviation of physical and mental health problems of the caregiver, little attention has been paid to preparation for widowhood. Similarly, much research focuses on the after effects of bereavement leaving the potential for prebereavement interventions unexplored.

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