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Mortality and the Attribution of Health Problems to Aging among Older Adults

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ABSTRACT

This study examined the association between mortality and attributing health problems to aging among 1391 respondents from the Longitudinal Study of Aging who indicated difficulty with activities of daily living. Of this number, 72 persons attributed impairment primarily to "old age." Logistic regression controlling for demographics, physical health problems, self-rated health, and social involvements showed an association with mortality (adjusted odds ratio = 1.78, CI = 1.05, 3.00). Attributing health problems to aging may carry a risk of adverse health events. (*Am J Public Health.* 1992;82:1139–1141)

Introduction

Research in gerontology continues to try to distinguish effects of disease from effects of aging on physical health and functioning.[1–3] Public information and professional education increasingly emphasize that attributing health problems to supposedly inevitable consequences of old age is inappropriate. The current emphasis on disease prevention and health promotion with older persons[4–6] reflects a growing recognition that chronological aging per se imposes significantly fewer limitations than was previously assumed.

It is important to understand the potential consequences of laypersons, professionals, and the general public attributing health problems to aging. Leventhal and Prohaska[7] report that attribution to aging is associated with a tendency to delay seeking care. Gjorup et al.[8] found that attribution to aging exceeds 60% for some conditions and is associated with delay in contacting a physician, while Brody and Kleban[9] note that such attribution is associated with reluctance to discuss health problems with other people or health care providers. It was therefore expected in this study that persons who made attributions to aging would have higher mortality.

Methods

Sample

The sample for this investigation was self-respondents at baseline in the 1984–1988 Longitudinal Study of Aging (LSOA) who reported difficulty with one or more activities of daily living (ADLs) (n = 1391). The baseline for the LSOA was the Supplement on Aging to the 1984 National Health Interview Survey. All LSOA participants

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TABLE 1—Bivariate Association between Mortality and Attribution of ADL Impairment to Aging

Independent Variable	Number	Percent Died	Odds Ratio	95% CI
ADL attributions to aging				
None	1319	30.0	(reference category)	
One or more	72	45.8	1.97	1.22, 3.18

TABLE 2—Multivariate Association between Mortality and ADL Attribution to Aging: Results from Logistic Analysis

Independent Variable	Adjusted Odds Ratio (AOR)	95% CI
ADL attributions to aging		
None	(reference category)	
One or more	1.78	1.05, 3.00

$-2 \times$ log-likelihood ratio change = 4.58, $df = 1$, $P < .05$

Note. Other predictors with 95% CIs excluding 1.00 are cancer (AOR = 1.54, 1.05–2.15), diabetes (AOR = 1.74; 1.23–2.44), male sex (AOR = 1.77; 1.33–2.36), age 80 to 84 (AOR = 1.86; 1.32–2.63), age 85+ (AOR = 2.32; 1.56–3.44), no. instrumental ADLS (AOR = 1.20; 1.10–1.30), self-rated health (AOR = 1.21; 1.07–1.36), body mass index (AOR = 1.18; 1.08–1.28), and social involvement (AOR = 1.31; 1.09–1.59).

were aged 70 and older in 1984. The 1984 interviews were conducted by Census Bureau staff at the individual's residence; the 1988 follow-up was conducted primarily by computer-assisted telephone interview.[10–12]

Independent Variable: Attribution of Problems to Aging

The ADLs assessed by the LSOA comprise dressing, bathing, using the toilet, eating, walking, getting outside, and transferring, and indicate basic functional health status.[13,14] A report of ADL difficulty was followed by questions about degree of difficulty, receipt of help, use of aids, and perceived cause(s) of an impairment. The attribution question allowed giving multiple causes for the impairment; if multiple causes were mentioned, respondents were asked to select one as the main cause. Therefore, persons classified for this report as attributing a problem to aging were those who chose aging as the main cause. The independent variable was defined as no ADLs attributed to aging versus one or more ADLs attributed to aging. (Note: Attribution to aging was not requested for physical health problems such as stroke, heart disease, cancer, etc.)

Dependent Variable: Vital Status

Mortality was based on the National Center for Health Statistics' "best estimate" of vital status, derived from tracking information through December 1988. In the analysis sample of 1391 persons, there were 429 deaths (30.8%).

Covariates for Logistic Analysis

Several other variables from the LSOA were used as covariates in logistic regression analysis. They included any heart problem, any circulatory problem, diabetes, stroke, cancer, gender-specific body mass index, number of limitations to instrumental ADLs, age, gender, education, race, living alone or with others, self-rated health, and an indicator for social contacts (based on group or social events out-of-home, volunteer work, and attendance at religious services).

Results

Bivariate Associations

Table 1 presents the bivariate associations between mortality and the attribution of ADL problems to old age over the 1984 to 1988 period. The number of persons who cited only old age as a cause was small (n = 72). However, an elevated risk of mortality did appear to exist.

Multivariate Associations

Results of logistic regression are shown in Table 2. Analyses were done with BMDP and unweighted data. Even controlling for the covariates listed above, the attribution of ADL difficulty to aging was associated with a higher risk of mortality, as denoted by the adjusted odds ratio (OR) and change in the log-likelihood ratio due to attribution. Other covariates associated with higher mortality were having had cancer or diabetes, being age 80 or over, being male, having difficulty with more instrumental ADLs, being in the lowest quintile for body mass index, having less favorable self-rated health, and having fewer social involvements.

Correlates of Attribution to Aging

In other analyses, few variables from the covariates listed above and from other questions from section T ("Health Opinions") of the baseline survey were found to be correlates of attributing ADL difficulty to aging. Table 3 presents bivariate associations for those variables. Several associations suggested greater aging attribution when health ratings were favorable. Multiple logistic analyses using none versus one or more attributions as the dependent variable indicated a greater likelihood of attribution for persons aged 80 to 84 (adjusted odds ratio [AOR] = 2.65; 95% CI = 1.16, 6.06) and aged 85 or over (AOR = 6.57; 95% CI = 2.95, 14.70), relative to persons aged 70 to 74 at baseline.

Discussion

Results of this investigation suggest a potential adverse consequence of attributing at least some types of health problems to old age as opposed to a specific disease. As hypothesized by Kart,[15(p78)] "Overattribution of symptoms to the aging process directs the attention of the elderly person away from real disease and/or environmental factors that may affect health. Such misattributions may have tragic consequences." Although the number of persons making such attributions was small, the database was a national sample and results are consistent with the above hypothesis and with data from earlier studies.[7–9]

In actuality, the number of persons making attributions to aging was probably underestimated because respondents were asked to choose a main cause if several were given. The group identified here is therefore selective and may represent individuals for whom attribution to old age has special significance. Their attribution may denote a cumulative judgment of "how bad things really are." Attributions to aging may be one factor differentiating "normal" from "successful" aging, as discussed by Rowe and Kahn,[1] and may also be another manifestation of self-rated health.[16] Global self-rated health, along

with social involvement, predicted mortality even in this impaired sample (Table 2).

The processes by which attribution to aging operate need further study. Table 3 suggests that aging attributions may occur when individuals report good health despite functional limitations. If individuals retain positive subjective assessments despite reporting physical impairments, old age may be a convenient and socially accepted explanation for the decline even though it is not specific. Other possibilities include less effective self-care, adherence to treatment, health-promoting actions,[17] or perhaps denial of the severity of problems. Whatever the processes, however, family caregivers and health care professionals should attend to comments indicating a belief that old age is the cause of health problems. Otherwise, the expected negative trajectory of aging may become a self-fulfilling prophecy with unfortunate consequences. □

TABLE 3—Bivariate Associations between Other Variables[a] and Attribution of ADL Impairment to Aging

Associated Variable	% Attributing to Aging	Odds Ratio	95% CI
Age group at baseline			
70–74	2.0	(reference category)	
75–79	3.8	1.88	.84, 4.24
80–84	5.7	2.88	1.30, 6.38
85+	14.4	8.06	3.86, 16.82
Activity compared with that of peers			
Much more	11.5	(reference category)	
More	5.4	.43	.19, .99
Same	5.3	.43	.24, .78
Less	2.7	.21	.08, .58
Much less/DK	2.8	.22	.09, .52
Reports getting enough exercise			
Yes	7.0	(reference category)	
No	4.1	.57	.36, .92
Health now compared with a year ago			
Same	6.6	(reference category)	
Better	3.8	.56	.23, 1.32
Worse/DK	3.5	.51	.29, .90
Worry due to health in past year			
None	7.0	(reference category)	
Hardly Any	8.2	1.17	.58, 2.38
Some	3.5	.48	.27, .87
A lot/DK	4.3	.59	.30, 1.18
Body mass index (quintile)			
Highest	3.2	(reference category)	
Moderately High	3.3	1.04	.43, 2.50
Middle	6.7	2.17	1.02, 4.63
Moderately Low	7.2	2.36	1.08, 5.15
Lowest	6.7	2.17	1.03, 4.55
Circulatory condition			
No	6.8	(reference category)	
Yes	4.3	.60	.38, .97

[a]Variables not associated with aging attribution included perceived control over future health, efficacy in taking care of health, frequency of trouble remembering things and experiencing confusion, number of medical visits in past year, recency of medical visit, sex, instrumental ADLs, social involvements, race, education, living alone or with others.

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