High Rates of Obesity and Chronic Disease among United Methodist Clergy

Rae Jean Proeschold-Bell, Ph.D.
Duke Global Health Institute
Duke University Center for Health Policy
Durham, N.C.
rae.jean@duke.edu

Sara LeGrand, M.S.
Duke University Center for Health Policy
Durham, N.C.
sara.legrand@gmail.com

Abstract

We used self-reported data from United Methodist clergy to assess the prevalence of obesity and having ever been told certain chronic disease diagnoses. Ninety-five percent (n=1726) of all actively-serving United Methodist clergy in North Carolina (NC) completed self-report height and weight items and diagnosis questions from the Behavioral Risk Factor Surveillance Survey (BRFSS). We calculated Body Mass Index categories and diagnosis prevalence rates for the clergy and compared them to the NC population using BRFSS data. The obesity rate among clergy aged 35-64 was 39.7%, 10.3% (95% CI=8.5%, 12.1%) higher than their NC counterparts. Clergy also reported significantly higher rates of having ever being given diagnoses of diabetes, arthritis, high blood pressure, angina, and asthma compared to their NC peers. Health interventions that address obesity and chronic disease among clergy are urgently needed.

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Introduction

The number of clergy in the United States (US) is estimated at 404,000 (1). Clergy engage in a vocation that is unique in many ways. In addition to pastoral activities such as prayer and preaching, clergy oversee budgets and staff (2), serve as mentors, spokespersons, and liaisons (3), and are on the frontline of deaths and crises. The clergy workday is busy, fragmented, and varied, with much emotion and little predictability (3). In a review of the clergy stress literature, five salient stressors were identified: mobility, low financial compensation, inadequate social support, high time demands, and intrusions on family boundaries (4). Clergy recently reported that these combined stressors decrease their engagement in healthy behaviors (5). Thus, there is reason to examine clergy health, despite historical studies indicating lower standardized mortality rates for clergy (6).

The US has experienced striking changes in obesity and chronic disease. The prevalence of obesity doubled between 1980 and 2002 (7). It is well-documented that obesity is related to higher rates or exacerbation of several chronic diseases, including diabetes, arthritis, hypertension, angina, and asthma (8-10). Rates for these diseases are increasing (11-12). The extent to which the recent increases in obesity and chronic diseases are experienced by clergy is unknown. We could only identify one study reporting disease prevalence among clergy. The Evangelical Lutheran Church in America reported a 34% clergy obesity rate compared to a US national average of 22% (13). However, they did not adjust for gender (74% male) and age (mean=50).

This study examined the prevalence rates among United Methodist clergy of having ever been told that one has certain chronic diseases. It also examined the prevalence of obesity based on self-reported height and weight. Clergy are important community leaders. The degree to which clergy exhibit healthy behaviors potentially shapes social norms around health and weight. Assessing the prevalence of rates among clergy is a first step in understanding clergy health and its repercussions.

Methods and Procedures

We obtained names of United Methodist Church (UMC) clergy in the North Carolina (NC) and the Western NC Annual Conferences through the UMC conference directories. All currently-serving UMC clergy were offered study participation. This census included all full-time and part-time pastors, district superintendents, bishops, extension ministers, currently-serving deacons (n=1,820).

We contracted with the research organization Westat to collect data between July and November 2008. To obtain a mix of data collection modes (interview, self-administered), staff randomized clergy in advance to telephone (33%) or web (67%) conditions. They sent all eligible clergy a letter introducing the survey with a prepaid incentive of $25. By condition, staff contacted clergy to schedule an interview, or emailed a web link and password to access the survey online. If the survey was not completed after four prompts, additional modes (paper, telephone for the web condition clergy) were offered.

The overall study response rate was 95% with a total of 1,726 participants. Telephone interviews composed 38%, web surveys 58%, and paper surveys 4%. Sixteen participants who reported not having health insurance were excluded from the analyses because health insurance may affect health status.

All procedures were approved by the Duke University Medical Center and Westat Institutional Review Boards.

Measures

Behavioral Risk Factor Surveillance Survey (BRFSS). The BRFSS is a telephone survey sponsored by the Centers for Disease Control and Prevention and conducted by each state in the US. Modules in 2008 included self-reported diagnoses of diabetes, angina, and asthma, and in 2007 included high blood pressure and arthritis. Data were weighted to be representative of NC by weighting for the probability of selection of a telephone number, number of adults in a household, and number of telephones in a household. A final post-stratification adjustment was made for non-response and non-coverage of households without telephones. The clergy survey used identical wording to the BRFSS: "Have you ever been told by a doctor that you have diabetes? Yes, Yes but female told only during pregnancy, No, No pre-diabetes or borderline diabetes, Don't know/Not sure"; "Has a doctor, nurse, or other health professional EVER told you that you had angina or coronary heart disease? Yes, No, Don't know/Not sure"; "Have you ever been told by a doctor, nurse, or other health professional that you had asthma? Yes, No, Don't know/Not sure"; "Have you EVER been told by a doctor, nurse, or other health professional that you have high blood pressure? Yes, Yes but female told only during pregnancy, No, Told borderline high or pre-hypertensive, Don't know/Not sure"; and "Have you ever been told by a doctor or other health professional that you have some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia? Yes, No, Don't know/Not sure".

Body Mass Index (BMI). Participants reported height and weight without shoes, consistent with BRFSS wording. We converted pounds and inches into kilograms and meters, respectively, for BMI computation. We divided patients into standard BMI categories using National Heart Lung and Blood Institute cut-off scores: underweight as <18.5 kg/m2, normal weight as 18.5–24.9 kg/m2, overweight as 25–29.9 kg/m2, and obese as 30 kg/m2 or greater.

Demographics. Demographic items included age, gender, ethnicity, education, marital status, and health insurance status. Household income included income for ministry work, additional household income, and an estimated housing allowance. Because both age and gender relate strongly to health, rates were calculated separately for gender and by age group. We selected three age groups that provided large samples per group: age 35-44 (n=252); 45-54 (n=602); and 55-64 (n=561). Because only 8% of clergy were younger than 35, this age was chosen to be the lower bound. The upper age bound of 64 was chosen because retirement, commonly occurring at age 65 among North Carolinians, may relate to health.

Statistical Analyses

We compared prevalence of self-reported diagnosis for clergy against North Carolinians. Because all clergy in our sample were employed and had health insurance, prevalence rates were calculated just for NC BRFSS participants who had been employed in the past year and who reported any form of current health insurance. Because all but 9% of the clergy sample identified as White and large samples are needed to accurately represent prevalence rates, rates between samples were compared only for Whites, although non-White data are reported. We standardized clergy rates to the age and gender distribution for the appropriate year of the subsample of the NC population that was White, employed in the past year, had any kind of health insurance, and was aged 35-64. We tested whether proportions observed in the clergy data, essentially census data, significantly differed from the corresponding sample means of North Carolinians.

Results

The sample was 75% male, 91% White, 7% Black, 87% married, older (mean age=52), and highly educated with 71% holding a masters or doctoral degree. Mean household income was $87,147 (SD=$47,833). Participants had spent an average of 18 years in ministry.

Mean BMI was 29.46 (SD=6.06). The computed obesity rate for male and female clergy combined ages 35-64 was 39.7%, compared with 29.4% for North Carolinians (see Table 1). The most striking difference is among male clergy ages 45-54 whose computed obesity rates were 14.0% higher than NC counterparts. Clergy exhibited lower prevalence of computed overweight (34.9%) than North Carolinians (40.3%).

Male and female clergy combined ages 35-64 had significantly higher rates of having ever been told diagnoses of diabetes, arthritis, high blood pressure, and asthma than their NC counterparts. Asthma rates were higher particularly for clergy in the youngest age group. High blood pressure disparities were present for male clergy and the older age group of female clergy.

The self-reported disease rates (non-standardized) for non-White clergy, aged 35-64, were higher than those of their White counterparts: obesity, 51.1%; diabetes, 15.7%; arthritis, 35.1%; high blood pressure, 42.9%; and angina, 6.1%; with the exception of asthma, 11.2% and overweight, 32.8%.

Discussion

This study is the first to rigorously compare clergy health by disease to that of clergy population counterparts. The standardized prevalence of clergy obesity found in this study, 39.7%, is alarming. Only 25.4% of clergy, compared to 30.3% of North Carolinians, were neither overweight nor obese. Obesity is related to hypertension, hypercholesterolemia, stroke, heart disease, diabetes, certain cancers, and arthritis (8-10), indicating that this is a particularly important health condition to tackle. Unfortunately, clergy face numerous challenges to exercise and healthy eating habits. These challenges include a vocation that is sedentary, with an average of four evenings per week away from home (2), and frequent work weeks of more than 50 hours (2) with little schedule predictability (5). An additional environmental challenge to clergy diet in this study is the eating habits of the North Carolinians around them. NC is ranked 12th worst in the nation for obesity (14).

We can only speculate as to why self-reported disease rates were higher for clergy. Obesity is likely one contributing factor. Another reason may be a tendency among clergy to put the needs of others before their own, in their work to serve God (5).

An important limitation of this study is that its sample is limited to UMC clergy in NC. One must be cautious in generalizing to clergy of other faiths, denominations, and locations. Another limitation is the difference in data collection modes. Research indicates that study participants are more forthcoming about undesirable behaviors in self-administered modes (15), and so to compare to BRFSS data, we intentionally assigned one-third of our sample to a more expensive phone collection condition. In analyses by mode, except for angina, the telephone interview rates were higher than the self-administered rates, counter to what would be predicted. It is possible that clergy are particularly truthful in reporting undesirable conditions, or that the smaller telephone interview sample sizes are less accurate when considered alone. Thus, mode bias may be present.

In conclusion, this study suggests an urgent need to target health interventions to UMC and possibly other clergy. These interventions should focus on decreasing obesity and chronic disease. Churches and other religious institutions have often been viewed as structures in which to enact health interventions. However, this study's findings indicate that it is critical to improve the health of clergy themselves.

Disclosure

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Table 1. Proportion difference tests of self-reported diagnoses between NC clergy and NC population data

Diagnosis and Gender, Age	% of Clergy Population (n)[a]	% of NC Sample[b]	Difference Between Percentages (%, 95% CI)	Z statistic
Obese	41.2 (1234)			
Weighted prevalence[c]	39.7 (1234)	29.4	10.3 (8.5, 12.1)	11.16**
Males, 35-44	38.4 (164)	29.2	9.2 (4.7, 13.7)	4.00**
Males, 45-54	45.1 (368)	30.9	14.2 (9.9, 18.5)	6.45**
Males, 55-64	41.7 (391)	34.6	7.1 (2.4, 11.8)	2.96**
Females, 35-44	35.9 (64)	26.9	9.0 (4.7, 13.3)	4.09**
Females, 45-54	41.9 (148)	28.8	13.1 (9.4, 16.8)	6.89**
Females, 55-64	31.3 (99)	26.2	5.1 (.98, 9.2)	2.42*
Overweight	37.8 (1234)			
Weighted prevalence[c]	34.9 (1234)	40.3	-5.4 (-7.3, -3.5)	-5.51**
Males, 35-44	36.6 (164)	51.4	-14.8 (-19.7, -9.9)	-5.92**
Males, 45-54	39.1 (368)	47.7	-8.6 (-13.1, -4.1)	-4.09**
Males, 55-64	41.9 (391)	47.0	-5.1 (-10.0, -.2)	-2.04*
Females, 35-44	28.1 (64)	28.7	-.6 (-4.9, 3.7)	-.27
Females, 45-54	27.7(148)	28.0	-.3 (-3.8, 3.2)	-.17
Females, 55-64	39.4 (99)	34.3	5.1 (.8, 9.4)	2.32*
Diabetes	12.7 (1266)			
Weighted prevalence[c]	9.8 (1266)	6.5	3.3 (2.3, 4.2)	6.94**
Males, 35-44	4.2 (167)	2.6	1.6 (-.01, 3.2)	1.95†
Males, 45-54	13.5 (377)	7.6	5.9 (3.7, 8.1)	5.36**
Males, 55-64	16.8 (398)	13.2	3.6 (.07, 7.1)	2.00*
Females, 35-44	3.1 (64)	4.3	-1.2 (-3.6, 1.2)	-1.00
Females, 45-54	9.6 (156)	4.8	4.8 (3.2, 6.4)	6.00**
Females, 55-64	18.3 (104)	10.8	7.5 (4.8, 10.2)	5.36**
Arthritis	33.8 (1265)			
Weighted prevalence[c]	29.2 (1265)	26.7	2.5 (.76, 4.2)	2.82**
Males, 35-44	18.0 (167)	17.5	0.5 (-3.4, 4.4)	0.25
Males, 45-54	30.3 (376)	26.9	3.4 (-.7, 7.5)	1.62
Males, 55-64	42.2 (398)	37.4	4.8 (-.1, 9.7)	1.92†
Females, 35-44	17.2 (64)	17.0	0.2 (-3.7, 4.1)	0.10
Females, 45-54	38.5 (156)	28.6	9.9 (6.2, 13.6)	5.21**
Females, 55-64	43.3 (104)	45.2	-1.9 (-6.4, 2.6)	-0.83

Diagnosis and Gender, Age	% of Clergy Population (n)[a]	% of NC Sample[b]	Difference Between Percentages (%, 95% CI)	Z statistic
High blood pressure	36.2 (1153)			
Weighted prevalence[c]	29.0 (1154)	24.7	4.3 (2.6, 6.0)	4.96**
Males, 35-44	25.8 (155)	18.5	7.3 (3.0, 11.6)	3.32**
Males, 45-54	35.5 (332)	29.7	5.8 (1.5, 10.1)	2.64**
Males, 55-64	47.5 (364)	38.7	8.8 (3.9, 13.7)	3.52**
Females, 35-44	10.5 (57)	11.0	-0.5 (-3.2, 2.2)	-0.36
Females, 45-54	24.8 (149)	23.3	1.5 (-1.8, 4.8)	0.88
Females, 55-64	44.8 (96)	37.4	7.4 (3.1, 11.7)	3.36**
Angina	4.4 (1261)			
Weighted prevalence[c]	2.3 (1261)	2.4	-.09 (-.64, .46)	-.33
Males, 35-44	1.2 (167)	0.6	0.6 (-.07, 1.3)	1.76†
Males, 45-54	3.7 (375)	2.6	1.1 (-.1, 2.3)	1.80†
Males, 55-64	9.4 (395)	6.9	2.5 (.1, 4.9)	2.08*
Females, 35-44	0 (64)	2.0	-2.0 (-3.5, -.5)	-2.67**
Females, 45-54	0.6 (156)	1.5	-0.9 (-2.2, .4)	-1.34
Females, 55-64	1.0 (104)	2.6	-1.6 (-2.9, -.3)	-2.46*
Asthma	13.8 (1266)			
Weighted prevalence[c]	13.8 (1266)	9.7	4.1 (3.0, 5.2)	7.29**
Males, 35-44	15.6 (167)	8.0	7.6 (5.1, 10.1)	5.85**
Males, 45-54	12.2 (377)	8.0	4.2 (1.7, 6.7)	3.23**
Males, 55-64	8.8 (398)	7.6	1.2 (-1.3, 3.7)	0.92
Females, 35-44	15.6 (64)	10.8	4.8 (2.1, 7.5)	3.43**
Females, 45-54	15.4 (156)	13.4	2.0 (-.7, 4.7)	1.43
Females, 55-64	12.5 (104)	10.1	2.4 (-.1, 4.9)	1.85†

a All clergy data are from 2008.
b The NC population data are from 2008, with the exception of the high blood pressure and arthritis data which are from 2007.
c Standardized to the age and gender distribution for the appropriate year of the subsample of the NC population that was White, employed in the past year, had any kind of health insurance, and was aged 35-64.
† $p<.10$
* $p<.05$
** $p<.01$