

ARTHRITIS AND COEXISTING HEALTH CONDITIONS

Arthritis is considered to be a risk factor for other health conditions such as hypertension, cardiovascular disease, and others¹⁻⁹. In addition, disability escalates among persons with arthritis who are also



burdened with other chronic health conditions¹⁰. Despite the relationship between arthritis and other chronic conditions, most public health reporting and intervention efforts focus on single conditions and rarely address the issue of comorbid conditions. Therefore, the intent of this report is to present data on arthritis and comorbid conditions, focusing on nine common chronic conditions in Utah.

Methods

The 2001 BRFSS survey was used to identify samples of Utah adults with and without arthritis and to estimate the prevalence of arthritis in Utah adults. Also, arthritis prevalence by obesity and physical activity status was estimated. Further, the odds that persons with arthritis also had other chronic medical conditions (comorbid conditions), compared to persons without arthritis were calculated for nine chronic medical conditions. The data were weighted to reflect the year 2001 estimated Utah population with respect to age, gender, and county of residence. The rates in Figure 3 and the odds ratios in Figure 4 were adjusted to control for age, gender, and obesity status. Institutionalized adults were not interviewed for the BRFSS, therefore, persons with the most severe health conditions were not represented in this report.

Results

- In 2001, about 471,000 (32%) Utah adults ages 18 or older reported having arthritis. More Utah women than men reported having arthritis (35% vs. 29%). The prevalence of arthritis increased substantially with age for Utah adults. (Figure 1)
- Forty-five percent of obese adults in Utah reported having arthritis, and forty-eight percent who reported not participating in leisure-time physical activity also reported having arthritis. (Figure 2)

DEFINITIONS:

Arthritis: The 2001 BRFSS definition of arthritis recommended by the Centers for Disease Control and Prevention was used to measure arthritis prevalence. Persons with arthritis were defined as those having either chronic joint symptoms (CJS) or doctor-diagnosed arthritis. Persons were considered to have CJS if they responded “yes” to the questions: “During the past 12 months, have you had pain, aching, stiffness, or swelling in or around a joint?” and “Were these symptoms present on most days for at least one month?” Persons who responded “yes” to the question, “Have you ever been told by a doctor that you have arthritis?” were defined as having doctor-diagnosed arthritis. All other respondents were defined as persons without arthritis.

Comorbidity: The existence of two or more health conditions simultaneously. This analysis is limited to the simultaneous existence of arthritis and one other health condition and does not account for the possibility that an individual may have three or more conditions.

Figure 1. Percentage of Utah Adults Who Reported Doctor-Diagnosed Arthritis and/or Chronic Joint Symptoms by Sex and Age, Utah BRFSS, 2001

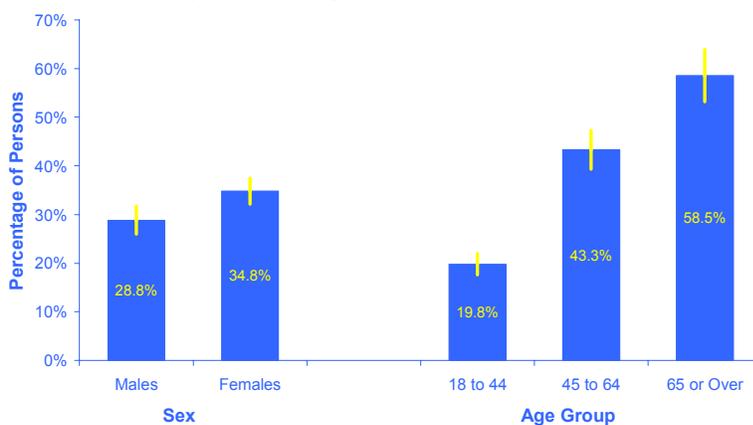
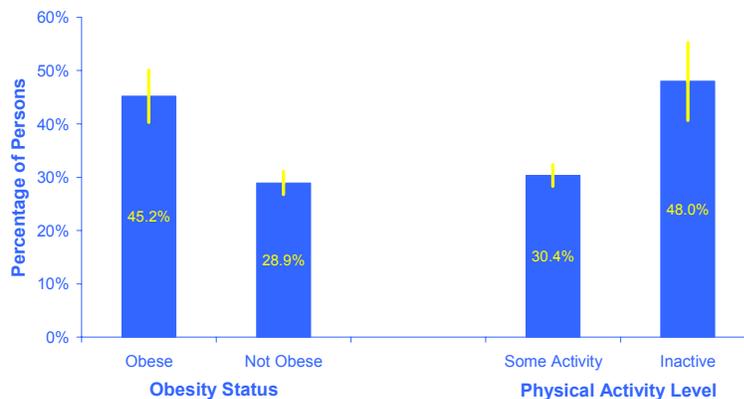


Figure 2. Percentage of Utah Adults Who Reported Doctor-Diagnosed Arthritis and/or Chronic Joint Symptoms by Obesity Status and Physical Activity Level, Utah BRFSS, 2001



Note: Obesity is defined as a BMI ≥ 30.

- Utahns with arthritis experienced higher prevalences of other health conditions than Utahns without arthritis. Hypertension especially occurred at a significantly higher rate in persons with arthritis (30.5%) when compared to persons without arthritis (18.4%), even after adjusting for age, sex, and body mass index. (Figure 3)

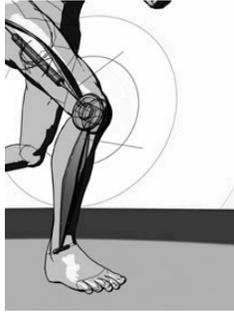
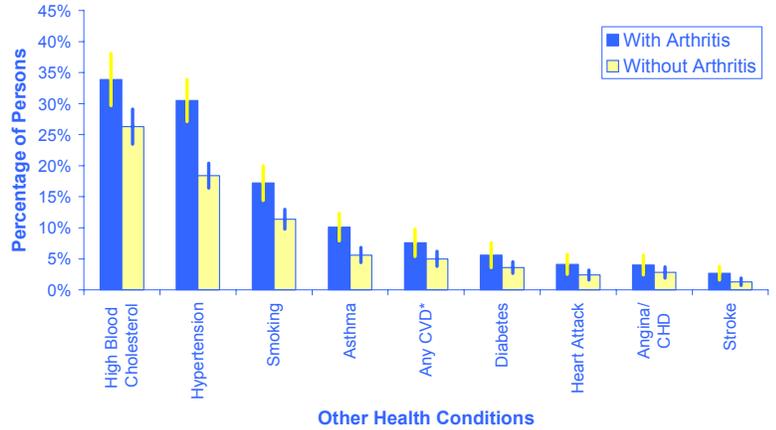


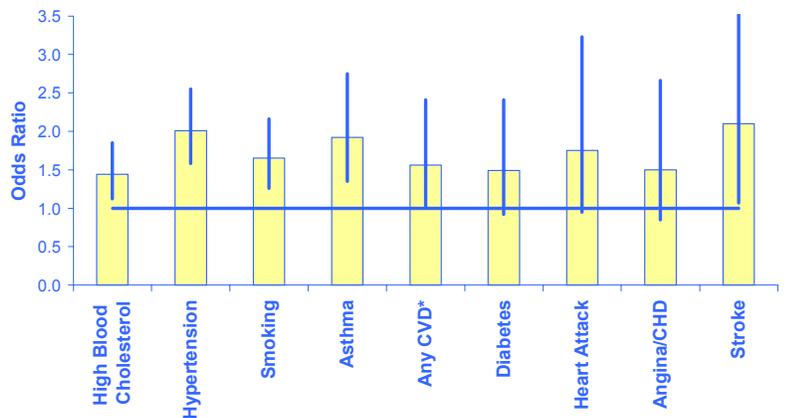
Figure 3. Percentage of Utah Adults With and Without Arthritis Who Reported Other Health Conditions, Utah BRFSS, 2001



Rates are adjusted for the distribution of age, sex, and body mass index for comparison purposes.
 * Any CVD includes Heart Attack, Heart Disease, and/or Stroke

- Odds ratios for each of the health conditions examined in this report were greater than 1.0, suggesting that persons with arthritis had increased odds of having the comorbid condition compared to those without arthritis. It is important to note that if the confidence interval bar does not include 1.0, then the odds ratio is considered statistically significantly different from 1.0. For example, hypertension and stroke were twice as likely to occur in persons with arthritis than in persons without arthritis. (Figure 4)

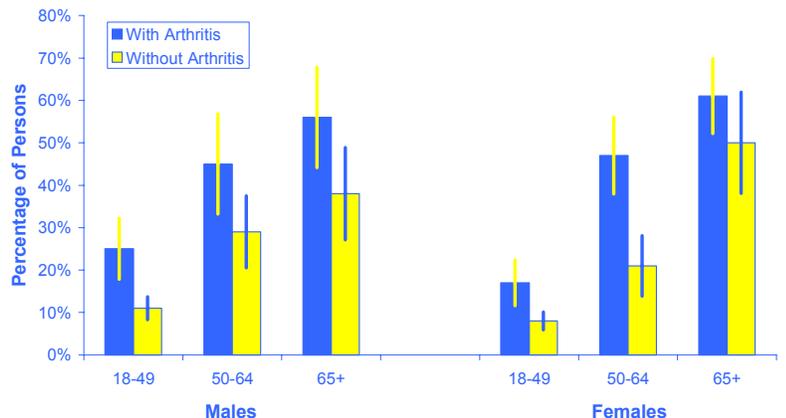
Figure 4. Odds Ratios of Health Conditions for Adults With vs. Without Arthritis, Utah BRFSS, 2001



Data are adjusted for sex, age and body mass index for comparison purposes.
 * Any CVD includes Heart Attack, Heart Disease, and/or Stroke

- The high prevalence of hypertension in the general adult population and the increased odds of hypertension in those with arthritis suggests that hypertension is a significant problem among persons with arthritis. Analyses were performed to better describe the relationship. Figure 5 illustrates that the relationship between arthritis and hypertension was consistent between males and females by age group, even in the youngest age group (ages 18-49 years) for both sexes.

Figure 5: Percentage of Utah Adults With and Without Arthritis Who Reported Being Told They Had Hypertension, by Sex and Age Group, Utah BRFSS, 2001



Conclusion

These results suggest that several health conditions occurred at a higher rate in persons with arthritis when compared to persons without arthritis, even after adjusting for age, sex, and body mass index. These data especially reveal an increased odds of hypertension among Utahns with arthritis compared to the population without arthritis, and this relationship may be particularly important given the relatively high proportion of hypertension in the general adult population. It is possible that the coexistence of other health conditions may impact medical outcomes and may be important in determining effective treatment protocols.

This information points to a need for increased dialogue among public health professionals, medical providers, persons with arthritis, voluntary organizations and others to better understand combinations of arthritis and coexisting health conditions. These groups need to be aware of the risks that coexisting health conditions may pose and then identify potential opportunities for public health and/or clinical quality improvement.



The Utah Department of Health Arthritis Program was established in December 1999, with funding from the Centers for Disease Control and Prevention (CDC). The mission of the Utah Arthritis Program is *to increase the quality of life among persons in Utah affected by arthritis.*

The Arthritis Program vision is that all Utahns will:

- Be aware of the impact, seriousness, and ability to treat arthritis;
- Recognize chronic joint symptoms as a concern;
- Be proactive in seeking care for their arthritis;
- Be aware of, and be able to access, effective self-management programs; and
- Have less disability and pain from arthritis.

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References

1. Verbrugge LM, Lepkowski JM, Konkol LL. Levels of disability among US adults with arthritis. *J Gerontol* 1991;46:S71-S83.
2. Verbrugge LM, Gates DM, Ike RW. Risk factors for disability among US adults with arthritis. *J Clin Epidemiol* 1991;44:167-82.
3. Yelin E. The cumulative impact of a common chronic condition. *Arthritis Rheum* 1992;35:489-97.
4. CDC, Prevalence of disabilities and associated health conditions, among adults - United States, 1999. *MMWR* 2001; 50(7):120-125.
5. Pincus T, Callahan LF. Taking mortality in rheumatoid arthritis seriously - predictive markers, socioeconomic status and comorbidity. *J Rheumatol* 1986;13:841-5.
6. Pincus T, Callahan LF Quantitative measures to assess, monitor and predict morbidity and mortality in rheumatoid arthritis. *Bailliere's Clin Rheumatol* 1992;6:161-91.
7. Berkanovic E, Hurwicz ML. Rheumatoid arthritis and comorbidity. *J Rheumatol* 1990;17:888-92.
8. Verbrugge LM Lepkowski JM, Imanaka Y. Comorbidity and its impact on disability. *Milbank Q* 1989;67:450-84.
9. Mitchell JM, Burkhauser RV, Pincus T. The importance of age, education, and comorbidity in substantial earnings losses of individuals with symmetric polyarthritis. *Arth Rheum* 1988;31:348-57.
10. Verbrugge LM, Lepkowski JM, Imanaka Y. Comorbidity and its impact on disability. *Milbank Q* 1989;67:450-84.



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The Utah Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing effort by the Utah Department of Health in conjunction with the U.S. Centers for Disease Control and Prevention (CDC) to assess the prevalence of and trends in health-related behaviors in the non-institutionalized Utah adult population aged 18 years and older. The survey is supported in part by funds from Cooperative Agreement No. U58/CCU800572 from the CDC. Data are collected monthly from a random telephone sample of adults living in households with telephones. Utah has participated in the BRFSS continuously since 1984.

The BRFSS questionnaire is modified each year by the CDC in collaboration with participating state agencies. The questionnaire has three parts. The first part is a core set of questions that is asked by all states. The second part consists of a series of topical modules developed by the CDC. States have the option of adding modules as they wish. Utah has used several of the CDC modules. The final part of the questionnaire consists of questions designed and administered by individual states to address issues of local concern. These have been revised annually in Utah to maximize the survey's ability to address the needs of Utah's health programs.

Participants in the Utah BRFSS are asked about a wide variety of behaviors such as seat belt use, exercise, tobacco and alcohol consumption, health services utilization and basic demographic information. Participation in the BRFSS is completely anonymous and voluntary. Prior to analysis, BRFSS data are weighted so that the findings can be generalized to the Utah adult population. The Utah Department of Health would like to thank the citizens of Utah who have participated in this survey.

For more information about the Utah BRFSS, contact the Utah BRFSS Coordinator at the Utah Department of Health at (801) 538-6434. You may also visit the Utah Department of Health's website, at: <http://health.utah.gov/ibisph>.
