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Background

- Arthritis is the most common cause of disability among U.S. adults and is particularly common among persons with multiple chronic conditions.

- In 2003, arthritis in the United States resulted in an estimated $128 billion in medical-care costs and lost earnings.
Study Rationale

- To update previous U.S. estimates of the prevalence of doctor-diagnosed arthritis and arthritis-attributable activity limitation (AAAL)
  - Compare these estimates to our projected estimates

- Examine how arthritis and AAAL prevalence differs by different study characteristics
  - Focus on chronic conditions such as heart disease, diabetes, and obesity
Study Population

- National Health Interview Survey (NHIS) from 2010-2012

- Annual, nationally representative, in-person interview that uses a complex multi-stage design

- In each household identified, one adult was randomly selected

- For all 3 years, sample size was N=94,696 and final response rates were over 60%
Arthritis and AAAL Measurements

- Arthritis was defined as having answered "yes" to "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?"

- AAAL was defined as a “yes” response to the question "Are you now limited in any way in any of your usual activities because of arthritis or joint symptoms?"

- Prevalence of AAAL was estimated for the overall adult U.S. population and for adults with arthritis.
Study Characteristics

- Demographic and Anthropometric
  - Age, sex, race, education, employment, and BMI (kg/m²)

- Lifestyle Variables
  - Physical Activity (min/week)

- Medical History
  - Health status, heart disease, diabetes disease
**Statistical Analysis**

- **All analyses were weighted**
  - Account for household nonresponse and oversampling of blacks, Hispanics, and Asians.
  - Poststratification adjustments were subsequently also applied.

- **Unadjusted prevalence estimates for arthritis and AAAL describe the absolute population burden.**

- **Age-adjusted prevalence estimates describe relative population burden among various analytic subgroups.**

- For all comparisons, differences were considered statistically significant if the 95% confidence intervals of the age-adjusted estimates did not overlap.
Main Findings

- 52.5 million (22.7%) U.S. adults reported doctor-diagnosed arthritis
  - Almost half of all adults ages ≥65 years

- About half of persons with heart disease (49.0%) and diabetes (47.3%) had arthritis and less than a 1/3 of obese adults (31.2%) had arthritis

- 22.7 million had AAAL (9.8% of the general population, or 43.2% of those with arthritis)

- More than a quarter of adults with heart disease (26.8%) or diabetes (25.7%) had AAAL, and more than 15% of obese adults had AAAL
Other Findings
(Arthritis Prevalence by Characteristics)

- Arthritis prevalence was significantly higher among:
  - Women (23.9%) than men (18.6%)
  - Whites (22.9%) and blacks (22.4%) compared with Hispanics (15.9%) and Asians (12.1%)
  - Those with less education
  - Inactive adults
  - Those who are unable to work or were disabled (29.0%) compared with those who were employed (20.9%)
  - Among those with fair or poor health (40.7%) compared with those reporting excellent/very good health (15.8%)
Other Findings
(AAAL Prevalence by Characteristics)

- AAAL prevalence among adults with arthritis was highest for:
  - Those who reported fair or poor health (71.8%)
  - Those who were unable to work or disabled (61.4%)
  - Physically inactive (56.5%) adults
  - Those with less than a high school diploma (55.4%)
  - Adults with heart disease (54.6%) or diabetes (54.4%)
Summary

- During 2010–2012, an estimated 52.5 million (22.7%) of adults in the U.S. reported arthritis, and 22.7 million (9.8%) reported AAAL (43.2% of those with arthritis).

- The arthritis estimate is consistent with our projections of 67 million by 2030. For AAAL, the estimate exceeds the earlier projection of 22 million adults with AAAL by 2020.

- About half of all adults with heart disease or diabetes had arthritis, and more than a quarter of adults with either condition and arthritis had AAAL.

- Almost one third of adults who were obese also had arthritis, and more than 15% of these adults had AAAL.
Limitations

- Doctor-diagnosed arthritis was self-reported and not confirmed by a health-care professional
  - Case definition shown to be sufficient for surveillance

- A causal relationship between risk factors (i.e., obesity) and arthritis and AAAL could not be established
  - Obesity shown to increases risk of osteoarthritis and gout

- Social desirability bias
  - Underreporting of weight and over reporting of physical activity

- Selection bias (response rates ranged from 60.8% - 66.3%)
  - Application of sampling weights is expected to considerably reduce nonresponse bias.
Conclusions

- Arthritis commonly occurs with obesity, heart disease and diabetes, and high prevalence of AAAL is found for adults with both arthritis and one of these chronic conditions.

- Evidence-based self-management education and physical activity interventions can reduce pain and improve function, mood, and confidence to manage health.

- Health-care providers and public health practitioners can address both arthritis and these other chronic conditions by prioritizing self-management education and physical activity as an effective way to improve health outcomes.
Questions?

Please go to the link below to learn more about this arthritis MMWR publication.

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6244a1.htm?s_cid=mm6244a1_w