

Physical Inactivity Among Rhode Island Adults

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BACKGROUND

Regular physical activity or exercise is an important component of overall health and wellness. According to the current *Physical Activity Guidelines for Americans*, adults need 150 minutes of moderate-intensity physical activity a week and require at least two days of muscle-strengthening activity each week.¹ In the United States, only one in four adults fully meet the physical activity guidelines for aerobic and muscle-strengthening activity.²

There are immediate and long-term benefits of physical activity including better mental health, improved sleep quality, lower risk of functional limitations (i.e., climbing stairs, cleaning, cooking), and increased life expectancy.³ Individuals who do not partake in physical activity are at increased risk for a myriad of health conditions such as obesity, diabetes, cardiovascular disease, and some cancers.³ Participating in regular physical activity can help individuals manage existing chronic conditions and support independence for people with disabilities.³ For older adults, regular physical activity and muscle strengthening decreases the risk of reduced muscle mass, falls, and other injuries.³ This paper measures the prevalence of physical inactivity in Rhode Island adults and examines the relationship between physical inactivity and health indicators.

METHODS

Data were obtained from the 2023 Rhode Island Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS is a state-based telephone survey of adults ≥ 18 years old and is used to measure risk behaviors and health. The survey was completed by 5,781 Rhode Island adults in 2023. Survey data are weighted to obtain state population estimates.

Physical inactivity was measured with the core section exercise question: "During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?" Respondents who answered "No" were considered as being physically inactive.

Analyses were conducted to measure: 1) the burden of physical inactivity, 2) prevalence of physical inactivity among adults by selected demographics, 3) prevalence of health indicators among adults who are physically inactive compared to physically active. Chi-square tests were

conducted to test for significant differences between demographic characteristics and health indicators, using a p-value < 0.05 . Demographics assessed included gender, race/ethnicity, age, education level, marital status, and federal poverty level. Health indicators analyzed included fair or poor overall health (measured from the question "Would you say that in general your health is excellent, very good, good, fair, poor?"), frequent physical distress (≥ 14 days in last 30 where physical health was not good), frequent mental distress (≥ 14 days in last 30 where mental health was not good), depression, loneliness (measured as always, usually, or sometimes from the question "How often do you feel lonely?"), food insecurity (measured as always, usually, or sometimes from the question "How often in the past 12 months would you say you were worried or stressed about having enough money to buy nutritious meals?"), obesity (Body Mass Index ≥ 30), diabetes, hypertension, high cholesterol, cardiovascular disease, at least one chronic condition, two or more chronic conditions, and subjective cognitive decline (measured from the question "During the past 12 months, have you experienced confusion or memory loss that is happening more often or is getting worse?"). All analyses were conducted using SAS Version 9.4. Weighted percentages were used for all data figures.

RESULTS

In 2023, 26.4% of Rhode Island adults were physically inactive and did not participate in any physical activities or exercises outside of their job [Table 1]. There were 61.0% of Rhode Island adults who did not follow recommended guidance for strength training and did physical activities or exercises to strengthen muscles less than two times a week. Physical inactivity was more common among respondents that were female, Hispanic, 65 years and older, had less than a high school education, were divorced, separated, or widowed, and lived below 400% of the federal poverty level [Table 2].

Physical inactivity was significantly associated with increased prevalence of health indicators including fair or poor health, frequent mental distress, depression, and food insecurity when compared to physically active adults [Table 3]. Adults who were physically inactive reported frequent physical distress (25.4%) at a significantly higher

Table 1. Prevalence of Rhode Island adults reporting physical inactivity

	%	95% CI
Participated in any physical activities or exercises, other than your regular job, in the past month.		
Yes	73.6	71.9–75.3
No	26.4	24.7–28.1
Did physical activities or exercises to strengthen muscles in the past month.		
Less than 2 times a week	61.0	58.9–63.1
2 or more times a week	39.0	36.9–41.1

CI = confidence interval

Table 2. Demographics of Rhode Island adults reporting physical inactivity

	%	95% CI
Gender*		
Male	22.2	19.9–24.5
Female	30.3	27.8–32.8
Race, ethnicity*		
NH White	22.1	20.2–23.9
NH Black	31.4	22.5–40.2
NH Other or Multiracial	29.8	21.5–38.0
Hispanic	39.8	34.9–44.7
Age*		
18-29 years	20.0	15.7–24.3
30-44 years	23.7	20.2–27.2
45-64 years	23.9	21.2–26.7
65 years and older	37.2	33.8–40.7
Education*		
Less than high school	47.1	40.1–54.1
High school diploma or GED	32.8	29.2–36.4
Some college	27.1	23.6–30.7
Graduated college	13.1	11.5–14.8
Marital status*		
Married	23.6	21.1–26.0
Divorced, separated, widowed	38.6	34.6–42.6
Never married or member of unmarried couple	22.6	19.5–25.7
Federal poverty level*		
At or above 400% FPL	13.3	11.4–15.2
Below 400% FPL	34.5	31.6–37.3

*Results of the chi-squared test were statistically significant ($p < 0.05$)**Table 3.** Prevalence of health indicators among Rhode Island adults by physical activity status

	Physically Inactive		Physically Active	
	%	95% CI	%	95% CI
Fair or poor health	34.5	30.7–38.3	11.9	10.4–13.4
Frequent physical distress	25.4	21.9–28.9	8.7	7.4–10.0
Frequent mental distress	22.2	18.6–25.8	14.1	12.4–15.8
Depression	26.0	22.4–29.6	20.2	18.4–22.0
Loneliness	39.8	35.5–44.0	32.7	30.3–35.1
Food insecurity	27.1	23.1–31.0	14.1	12.3–15.9
Obesity	40.0	35.9–44.0	28.7	26.6–30.8
Diabetes	19.7	16.8–22.6	8.8	7.7–10.0
Hypertension	44.9	41.1–48.8	30.1	28.2–32.0
High cholesterol	40.9	36.7–45.0	32.8	30.7–34.8
Cardiovascular disease ^a	13.2	10.8–15.6	7.2	6.2–8.3
At least one chronic condition ^b	57.3	53.5–61.2	45.9	43.7–48.1
Two or more chronic conditions	33.7	30.1–37.3	19.6	17.9–21.3
Subjective cognitive decline	21.5	17.4–25.7	13.7	11.8–15.6

^a includes angina or heart disease, heart attack, and stroke^b includes asthma, arthritis, cancer, cardiovascular disease, copd, depression, diabetes, or kidney disease.Bolded values are statistically significant ($p < 0.05$)

percent than those who were physically active (8.7%). Additionally, adults who did not participate in physical activity were more likely to have obesity, diabetes, hypertension, high cholesterol, and cardiovascular disease. Over half (57.3%) of those reporting physical inactivity had at least one chronic condition and nearly one-third (33.7%) had two or more chronic conditions, compared to 45.9% and 19.6% of physically active adults, respectively. Adults who were physically inactive also had a higher prevalence of experiencing more often or worsening confusion or memory loss at 21.5%.

DISCUSSION

Physical inactivity in the United States is a significant public health concern. Many Americans are not making physical activity an everyday priority and in result are not meeting physical activity guidelines. In Rhode Island, nearly one in four adults do not participate in any physical activity or exercise beyond that of daily living. Physical inactivity needs to be addressed to ensure Rhode Island adults experience the benefits of regular physical activity – improved health outcomes, improved quality of life, and reduced healthcare costs.

To address physical inactivity, it is important to identify and understand the barriers adult's encounter. It would be beneficial to include a state-added question on Rhode

Island BRFSS asking individuals who report physical inactivity what barriers are preventing them from being physically active. The survey question could be used to develop resources and supports to address barriers and inform public health interventions to promote physical activity. The data could also be helpful to other entities such as municipalities and community-based organizations who prioritize access to physical activity. Additionally, it would be helpful to gather data on occupational physical activity to examine whether adults who are considered physically inactive work physically demanding jobs.

Built environment projects and policies that address community design could help address physical inactivity rates. Built environment projects such as separated bike lanes, connected urban trails, and intersection “daylighting” are all examples of making the built environment safer, accessible, and more conducive to walking, biking, and rolling. Policies are also an effective tool to address physical inactivity in communities. Complete Streets is a well-known policy that specifies how a community will design streets, so they are safe for users of all ages and abilities. Complete Streets are designed to accommodate motorized vehicles, pedestrians, bicyclists, and public transit.⁴ Community design elements such as separated bike lanes or curb bump outs may require coordination between municipal planners, community-based organizations, and advocates. Partnerships between interest holders from different sectors are instrumental when reshaping community design to encourage safe and accessible physical activity.

Public health education is critical to educate adults on the benefits of physical activity and muscle strengthening. Community-wide campaigns, including media and community events, that highlight different types of exercises or activities adults could participate in to achieve recommended physical activity guidelines could increase knowledge and access. Physical activity and strength training education tailored to populations, such as adults with chronic conditions or older adults, could result in effective management or improvement of conditions and improved quality of life. In addition, providing education to healthcare professionals is important to address physical inactivity because they play a crucial role among their patients and community. Healthcare professionals can promote physical activity by educating patients about its health benefits, providing guidance on safe participation, connecting individuals to appropriate resources, and recommending it as a component of their health management plan.

The findings from the study are subject to a few limitations. First, data are self-reported and subject to recall and social desirability bias. Second, there may have been differences in how individuals perceived the terms physical activity and leisure time, and what they considered to be physical activity or exercises. Third, the study cannot

determine causality, and any observed associations between physical inactivity and health indicators may be affected by unmeasured or uncontrolled factors.

Despite the limitations, the data provide valuable insight on the burden of physical inactivity among Rhode Island adults. The data can inform the identification of strategic partnerships, the development of programs and initiatives, the implementation of built environment projects and policies, and the delivery of public health education. The high rates of physical inactivity among Rhode Island adults highlight the need for further research to better understand the underlying factors contributing to this behavior and to support the development of effective public health strategies.

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