

Health Status of Adolescent and Young Adult Cancer Survivors

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Adolescent and Young Adult (AYA) Cancer Survivors

- At risk for late effects
- Lifelong follow-up care recommended
- Have not been well characterized



Research Aim

Describe demographic characteristics, risk behaviors, chronic conditions, quality of life, and health care access among AYA cancer survivors



Behavioral Risk Factor Surveillance System (BRFSS)

- Established by CDC in 1984
- Largest continuously conducted telephone health survey in the world
- Over 400,000 interviews every year
- 50 states, the District of Columbia, Puerto Rico, the Virgin Islands, and Guam



Behavioral Risk Factor Surveillance System (BRFSS)

- Collects information from adults ≥ 18 years
- Random-digit dialing for landlines and cell phones
- Monitor risk behaviors related to
 - chronic diseases, injuries, and death
 - use of preventive services
- Effective tool in preventing disease and promoting health



BRFSS Questions

- Core
 - Set of questions asked by all states every year
- Rotating Core
 - Set of questions asked by all states in alternating years
- Optional Modules
 - Optional questions on specific topics which states can choose to ask any year

BRFSS Core Topics

- **Cancer Diagnosis**
- Health Care Access
- Healthy Days / Health-related quality of life
- Disability
- Tobacco Use
- Sleep
- Immunization
- HIV/AIDS
- Diabetes
- Asthma
- Cardiovascular Disease
- Alcohol consumption
- Exercise

BRFSS Rotating Core Topics

Even Years

- **Cancer Screening**
 - Breast
 - Cervical
 - Colorectal
 - Prostate
- Oral health
- Falls
- Seatbelt use
- Drinking & driving

Odd Years

- Fruits & vegetables
- Arthritis burden
- Physical activity

BRFSS Optional Modules

- Asthma
- **Cancer survivorship**
 - Type of doctor
 - Type of treatment
 - Treatment summaries
 - Follow-up care
 - Chronic pain
 - Clinical trial
- Cardiovascular health
- Child immunization
- Diabetes
- Indoor air quality
- Influenza
- Intimate partner violence
- Osteoporosis
- Secondhand smoke
- Sexual violence
- Smoking cessation
- Visual impairment
- Weight control

Methods: Population

- 2009 BRFSS data
- AYA cancer survivors: Cancer survivors whose age at first cancer diagnosis between 15 and 29 years
 - “Have you ever been told by a doctor, nurse, or health professional that you had cancer?”
 - “At what age were you told that you had cancer?”
- Comparison group: Respondents without a history of cancer



Methods: Analysis

- Weighted prevalence estimates with 95% confidence intervals
- Non-overlapping 95% confidence intervals used as measure of significance

Results: Sample

	AYA cancer survivors	Persons without cancer
N, unweighted	4,054	345,592
N, weighted	1,934,779	194,913,730

Results: Age

	AYA cancer survivors		Persons without cancer	
		95% CI		95% CI
Median Age (years)	40.2	(38.7-41.4)	42.9	(42.8-43.1)
Time since diagnosis (years)				
0-9 years	28.5	(25.5, 31.8)	-	-
10-19 years	26.7	(24-29.6)	-	-
≥20 years	44.8	(41.9-47.7)	-	-



Results: Race/Ethnicity

	AYA cancer survivors		Persons without cancer	
	Prevalence	95% CI	Prevalence	95% CI
White, Non Hispanic	78.5	(75.0, 81.6)	67.5	(67.2, 67.9)
Black, Non Hispanic	6.1	(4.7, 7.9)	10.3	(10.1, 10.5)
Hispanic	7.9	(5.8, 10.6)	14.7	(14.4, 15.0)

Results: Risk Behaviors

	AYA cancer survivors		Persons without cancer	
	Prevalence	95% CI	Prevalence	95% CI
Current Smoker	25.9	(23.0, 28.9)	17.9	(17.6, 18.1)
Obese (BMI> 30)	30.8	(27.2, 34.7)	26.7	(26.4, 27.0)
No leisure time physical activity in past month	30.5	(27.2, 33.9)	24.3	(24.0, 24.6)

Results: Chronic Conditions

	AYA cancer survivors		Persons without cancer	
	Prevalence	95% CI	Prevalence	95% CI
Cardiovascular Disease	14.2	(11.7, 17.2)	7.4	(7.3, 7.5)
Hypertension	35.1	(31.6-38.7)	29.1	(28.9-29.4)
Diabetes	11.8	(10.0, 14.0)	9.0	(8.9, 9.2)
Current Asthma	15.2	(12.7, 18.1)	8.3	(8.1, 8.4)
Disability	36.3	(32.4, 40.3)	18.1	(17.9, 18.3)



Results: Self-reported Quality of Life

	AYA cancer survivors		Persons without cancer	
	Prevalence	95% CI	Prevalence	95% CI
≥ 14 days of poor mental health in past month	19.5	(16.7, 22.6)	10.2	(10.0, 10.4)
≥ 14 days of poor physical health in past month	23.9	(20.3, 28.1)	10.1	(9.9, 10.3)

Results: Health Care Access

	AYA cancer survivors		Persons without cancer	
	Prevalence	95% CI	Prevalence	95% CI
No health insurance access	15.0	(12.2, 18.4)	15.2	(14.9, 15.5)
Could not see doctor because of cost	23.9	(20.5, 27.6)	14.7	(14.4, 15.0)

Results: Employment

	AYA cancer survivors		Persons without cancer	
	Prevalence	95% CI	Prevalence	95% CI
Employed for wages	49.4	(45.4, 53.5)	57.5	(57.2, 57.8)
Out of work/Unable to work	23.5	(19.9, 27.5)	13.7	(13.5, 14)

Conclusions

AYA cancer survivors commonly reported adverse behavioral, medical, and health care access characteristics which may lead to poor long-term medical and psychosocial outcomes



Addressing Adverse Behaviors and Conditions

- Implementing evidence-based interventions for specific risk behaviors (e.g. smoking, physical activity)
- Increasing adherence to established follow-up guidelines
 - COG Long Term Follow-up guidelines
 - ASCO Focus Under Forty Program



Strengths and Limitations

- Strengths
 - Population-based data
 - Large sample size
- Limitations
 - BRFSS data self-reported
 - BRFSS not administered to individuals less than 18 years

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Tai E, Buchanan N, Townsend J, Fairley T, Moore A, Richardson LR.
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Questions

