

Study Title: Complementary and Alternative Modality Use in Adult Survivors of Childhood Cancer

Working Group and Investigators: The study will be within the Psychosocial Working Group. Proposed investigators will be:

Amy Hays	ahays413@hotmail.com
Ann Mertens	mertens@epi.umn.edu
Lonnie Zeltzer	lzeltzer@pediatrics.medsch.ucla.edu
Christopher Recklitis	Christopher_recklitis@dfci.harvard.edu
Susan Sencer	susan.sencer@childrenshc.org
Nina Kadan-Lottick	kadan001@tc.umn.edu
John Whitton	jwhitton@fhcrc.org
Neysa Marina	neysa.marina@stanford.edu
Les Robison	Robison@epi.umn.edu

Background and Rationale: It has been estimated that there are approximately 9100 new cases of childhood cancers each year. With the increase in the overall five-year survival rate of childhood cancer, childhood cancer survivors are becoming more and more prevalent in the population (Ries, 1999).

Childhood cancer survivors face unique challenges as they survive. They have been shown to have higher death rates than the general population due to recurrence of the original cancer, or late effects of treatment such as a second malignancy, cardiac abnormalities, or pulmonary complications (Schwartz, 1999). It has been shown that survivors also think about their health differently than the general public, exhibited by lower rates of smoking and alcohol use in survivors (Emmons, 2002), (Mulhern, 1995). However, in some lifestyle areas, survivors are no different than the general population such as diet and seat belt use (Tyc, 2001). Often survivors must deal with long-term symptoms of treatment such as nausea and chronic fatigue. Since late effects may persist, survivors may turn to alternative therapies to decrease their risk of late effects or to treat late effects that have occurred.

Complementary and alternative modalities (CAMs) are not usually promoted as cures for cancers, but may be used to slow tumor progression. Individuals might also use CAMs to enhance well-being, increase quality of life, provide strength, reduce side effects, reduce pain, or reduce fear and anxiety. Often individuals believe that these types of therapies are safer than standard treatment. In a recent report on alternative medicine usage, researchers found that the percentage of individuals in the general population who used at least one alternative therapy in the past year was 34% in 1990, and increased to 42% in 1997 (Eisenberg, 1998). This study also reported that therapies were most frequently used for chronic conditions, and only 39% of CAM users disclosed this information to a physician. Patterns of usage varied by demographics, with women, non-blacks, individuals 35-49, higher education, and higher income being higher users. A recent volume of the American Journal of Public Health (Vol 92, October, 2002) has been dedicated to the use of complementary and alternative modalities. Even though we will not be able to do direct comparisons with our cohort, we will have some references

as to the usage patterns of different modalities for different groups of individuals in the US.

To date, no literature is available for CAM usage in long-term survivors of childhood cancer. CCSS offers a unique opportunity to describe CAM usage in a cohort of 5-year survivors of childhood cancer, as well as the ability to compare survivor usage to a sibling control group, which is similar in age. By determining if survivors use CAM differently than non-survivors, we can describe another piece of the health behaviors and outlook of survivors, and use that information to generate hypotheses for further study.

Specific Aims/Objectives/Research Hypotheses: This study is designed to compare the use of CAM between survivors and sibling controls and to identify the demographic and medical/treatment variables that may increase the likelihood of survivors' use of CAM.

Hypotheses:

1. Survivors of childhood cancers will utilize complementary and alternative modalities at a greater rate than do sibling controls or the general population.
2. The use of CAM will be increased in individuals who are: females, whites, higher income, higher education, difficulty in obtaining health insurance, childhood diagnosis of Hodgkin's disease or bone tumors (due to higher reports of pain).
3. Treatment factors will not increase the likelihood of CAM use (since we are not finding strong relationships between treatment and psychological outcomes, and anxiety and somatic distress are common reasons for seeking CAM).
4. The type of CAM used will differ by characteristics, such as education, income, and medical condition status.

Analysis Framework:

- a) Outcome of interest: From the Follow-up survey, CAM use (Y/N), type of CAM use for each participant in the cohort
 - b) Subject population: all member of the CCSS cohort (both cases and controls)
 - c) Explanatory variables:
 - Diagnosis
 - Age at diagnosis
 - Time since diagnosis
 - Treatment
 - Chemotherapy Y/N
 - Radiation Y/N
 - Surgery Y/N
 - Current age
 - Sex (M, F)
- Reported in Baseline:
- Race (White, Black, Hispanic, American Indian, Asian, other)
 - 3 subscales from BSI (anxiety, somatic distress, depression)
 - Pain due to cancer (J.36: none to small amount vs medium to very bad)

- Anxiety due to cancer(J.37: none to small amount vs medium to very extreme)
- Seen a physician in past 2 years (B.1)
- Confirmed subsequent cancer Y/N
- Cancer recurrence Y/N
- Major cardiac condition (congestive heart failure, myocardial infarction, coronary heart disease, coronary artery bypass surgery, angioplasty, or heart transplant) Y/N
- Major lung condition (supplemental oxygen use, recurrent pneumonia, lung fibrosis, or lung transplant) Y/N
- Presence of other major medical condition (previously created for psychosocial analysis) Y/N
- General health (N.15: excellent to good vs fair to poor)
- Education level
- Currently has health insurance Y/N
- Income

d) Types of analysis: Final analysis will be descriptive in nature, using case-sibling comparisons. Patterns of multiple types of CAM used will also be described.

Comparisons within groups (shown in Tables 1 and 2, below) using univariate and multivariate analysis of the explanatory variables described above will also be performed to predict those individuals with the highest usage.

e) Specific tables:

1. Cancer characteristics of survivors and any CAM use

Survivor Cohort N (%)		
	Yes	No
Total		
Age at diagnosis		
0-4		
5-9		
10-14		
15-20		
Treatment era		
1970-1975		
1976-1980		
1981-1986		
Years since diagnosis		
5-10		
11-15		
16-20		
21 +		
Diagnosis		
Leukemia		
CNS tumor		
Hodgkin's disease		
NHL		

Wilms tumor Neuroblastoma STS Bone tumor		
Type of treatment Chemotherapy Radiation Surgery		

2. Demographics of Survivor and Sibling Cohorts and any CAM use

Survivor Cohort N (%) Sibling cohort N (%)

	Yes	No	Yes	No
Total				
Sex				
Male				
Female				
Current Age				
<18				
18-29				
30-39				
40+				
Race				
White				
Black				
Hispanic				
American Indian				
Asian or Pac. Islander				
Other				
Marital Status				
Single				
Married				
Living as married				
Widowed				
Divorced				
Separated				
Education level completed				
1-8 yrs (grade school)				
9-12 yrs/didn't graduate				
Completed high school				
Training after HS				
Some college				
College graduate				
Post-graduate level				
Income				
<\$9999				
\$10-\$19,999				
\$20-\$39,999				
\$40-\$59,000				
Over \$60,000				
Smoker				
Yes				
No				
Alcohol				
Yes				
No				
Insurance				
Canadian resident				
Yes				
No				

3. Number (%) Usage of Specific CAM

	Cases		Siblings	
	Males	Females	Males	Females
Acupuncture				
Biofeedback				
Chiropractor				
Crystals/magnets				
Nutritional supplements				
Herbal remedies				
Homeopathic remedies				
Hypnosis/guided imagery				
Massage/body work				
Meditation/relaxation				
Modified diet				
Naturopathic treatments				
Spiritual healing/prayer				
Therapeutic touch				
Vitamins/minerals				
Yoga/tai chi/Qi gong/special exercise				
Other				

Special Consideration: Amy Hays will be doing the analysis for this project for her MPH project.

References:

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