

Outreach Scholars Project Summary – Jesse Morrell June 2007

PROJECT TITLE: Assessing young adult health risk

PROJECT DESCRIPTION

This project will expand upon the existing investigation referred to as the Young Adult Health Risk Screening Initiative (YAHRSI). YAHRSI currently provides individualized health screening information and examines diet, lifestyle choices, and chronic disease risk prevalence among students at the University of New Hampshire (UNH). The proposed expansion of YAHRSI will target UNH employees between the ages of 18 – 24 who are *not* enrolled in a 4-year degree program. Surprisingly few studies have examined chronic health disease risk in young adults. The expansion of YAHRSI to include young adults not attending college will better characterize the health status of this age group in our state. As the transition to adulthood may or may not occur in proximity of institutional safety nets (i.e. universities or military service), the addition of individuals with differing social and economic needs as compared to college students will provide the evaluative data necessary for valid evidence-based recommendations and intervention programs for young adults in New Hampshire.

This project embraces multiple goals established in the 2007-2012 Strategic Plan for the College of Life Sciences & Agriculture (COLSA). By involving student investigators at the undergraduate and graduate levels in an active research endeavor, YAHRSI allows the Nutritional Sciences program to *offer outstanding educational programs that incorporate major trends and developments* and contributes to COLSA's ability to *attract high quality students and maximize their retention*. YAHRSI is currently a multi-investigator venture with interdisciplinary partners (i.e. Office of Sustainability, University Hospitality Services) and is a solid example of *strengthening research in COLSA* by *fostering collaboration*. Supplying personal health information and tailored wellness education to participants, YAHRSI provides *research based knowledge, communicates practical solutions* and has the potential *to improve the quality of life* to a wider group of young constituents in our state.

BACKGROUND INFORMATION/STATEMENT OF THE ISSUES/PROBLEM

Over the last three decades, the prevalence of overweight and obesity in the U.S. population has dramatically increased. According to the most recent National Health and Nutrition Examination Survey (NHANES), 65% of American adults is overweight or obese, while 30% is obese ¹. An estimated 300,000 deaths ² and \$117 billion each year ³ are

attributable to obesity, and it is thought that poor diet and physical inactivity will soon overtake tobacco as the leading cause of death in the U.S.⁴. This is primarily due to obesity's association with chronic diseases such as osteoarthritis, high blood pressure, gallstones, cancer, diabetes, heart disease, and strokes⁵⁻⁷. Although young adults in the U.S. have also experienced large increases in obesity prevalence⁸, they are often overlooked as compared to children and adolescences. One of the few studies exploring heart disease risk in college adults found that at least one in four had high cholesterol levels in a small group of young adults⁹. While others have documented high levels of sedentary behavior and low vegetable and fruit intake in young adults⁸, few groups have examined the relationship between weight status, dietary choices, and biomarkers of chronic disease risk in this unique age group.

YAHRSI has been examining chronic disease risk among college students at UNH since 2005. With the data collected to date, we have begun to characterize the health status of young people at UNH. Information gathered from YAHRSI suggests that young people between 18-24 years of age are at risk for obesity, dyslipidemia (i.e. high blood cholesterol), and a number of nutritional deficiencies. The data collected from this effort indicate a number of concerns and risky health behaviors for UNH students. For example, less than one-third of the young adults exercised at least 30 minutes a day, 80% consumed less than 5 servings of fruits or vegetables each day, and more than 40% skipped four or more meals a week¹⁰. Further, one in three students were overweight or obese¹¹ and most had at least one risk factor for the metabolic syndrome¹². The metabolic syndrome is a clustering of symptoms (large waist circumference, elevated triglycerides, low HDL-cholesterol, hypertension, or high fasting glucose) that strongly predicts the development of heart disease and diabetes^{13,14}.

To date, YAHRSI has recruited participants from an introductory nutrition course at UNH. Although YAHRSI recruits more than 800 participants each year and represents all colleges and majors offered, the non-college bound young adult may represent a distinct population with unique health risks. Expanding YAHRSI to other young adults who frequent the UNH campus will establish a unique, mutually-beneficial outreach opportunity.

PROJECT DETAILS

Goals and Objectives:

Goal #1 – To screen young adults (ages 18-24) for chronic disease risk factors.

Objective – Provide health information to young adults to promote wellness and risk awareness.

Objective – Contribute to the limited data on young adult population and chronic disease, including biochemical, anthropometric, dietary, activity, and lifestyle measurements.

Objective – Provide health statistics to UNH community to guide campus wellness initiatives.

Objective – Characterize health risk and lifestyle differences between young adults enrolled in a four year institution and young adults not enrolled

Goal #2 – To establish an effective screening protocol.

Objective – Adapt and develop screening activities appropriate for the target population.

Objective – Continue to develop methodologies for other colleges, universities, communities to utilize in order for comparisons to be made across campuses & regions.

Goal #3 – To establish novel and interdisciplinary research opportunities for students, staff, and faculty at UNH.

Objective – Establish new partnerships with faculty within and outside COLSA.

Objective – Expand current research opportunities for undergraduate and graduate students here at UNH.

Objective – Expand current partnerships with faculty in the Center for Health Enhancement.

Target Population: Young adults, 18 – 24 years old, enrolled as an undergraduate or employed at UNH

Methods: With the proposed expansion, YAHRSI will consist of a health & wellness screening for 18 – 24 year olds in two groups: 1) UNH students recruited from the introductory nutrition course, and 2) UNH employees who have not earned a four-year degree or are not currently enrolled in a degree program. The following components are included in YAHRSI:

YAHRSI Measurements

Measures of Obesity	Measures of Metabolic Syndrome	Dietary Quality	Other Measures
<ul style="list-style-type: none"> • Weight • Height • Waist circumference • Body mass index 	<ul style="list-style-type: none"> • Waist circumference • Glucose level • Triglyceride level • High density lipoprotein cholesterol • Blood pressure 	<ul style="list-style-type: none"> • Energy intake • Fat, protein, and carbohydrate intake • Calcium intake • Iron intake 	<ul style="list-style-type: none"> • Personal & family medical history • Supplementation intake • Total cholesterol, low density cholesterol

Evidence of External Collaboration and Partnership: Our external partners, young adults between the ages of 18 – 24, will be recruited from the greater UNH community. Current partnerships with the Office of Sustainability, University Hospitality Services, and the Office of Health Education and Promotion will be vital to the success of YAHRSI. Further, collaboration with Human Resources and the Office of Affirmative Action and Equity will be important in the recruitment of UNH employees.

Expected Impact: The primary expected outcomes of YAHRSI will include:

1. A large scale (n=800) health risk screening of college adults and a smaller (n=50) screening of young adult UNH employees who have/are not attended/attending college. These screening activities will provide valuable personal health information and related wellness education for participants.
2. Published findings related to the health risk prevalence and related lifestyle factors of young adults in New Hampshire.
3. The development of a publishable protocol for college/community health risk screening.
4. Novel interdisciplinary research opportunities for faculty, staff, and students.

Scholarly Connection: YAHRSI facilitates a unique opportunity to integrate teaching, research and outreach activities. The YAHRSI project examines dietary choices, lifestyle behaviors, and health outcomes. As an instructor in the Nutritional Sciences program, this investigation and the research findings are easily integrated into the classroom and raise student interest in course objectives. In addition, YAHRSI provides an opportunity for outreach scholarship with mutually beneficial outcomes of providing important health risk information and lifestyle education while investigating an understudied group.

EVALUATION PLAN

Evaluation will consist of both formative and summative components. Formative evaluation will be conducted throughout the project and include such things as the monitoring of participant recruitment and completion rates. YAHRSI faculty and staff will meet regularly to qualitatively appraise the project's progress, share findings, and mentor student researchers. The comparison of disease risk between college and non-college students in relation to lifestyle behaviors is novel and will be fundamental to the evaluation process. Summative evaluation will primarily be quantitative and reported in scholarly, peer-reviewed journal articles. Utilizing the collected data, prevalence of health risk parameters will be assessed in these populations. Specifically, prevalence of overweight, obesity, abnormal lipid values, and the metabolic syndrome will be determined and compared to available data from the Centers for Disease Control and Prevention. Lastly, the development of a screening protocol will summarize the success of YAHRSI for other colleges, universities, and communities to implement.

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