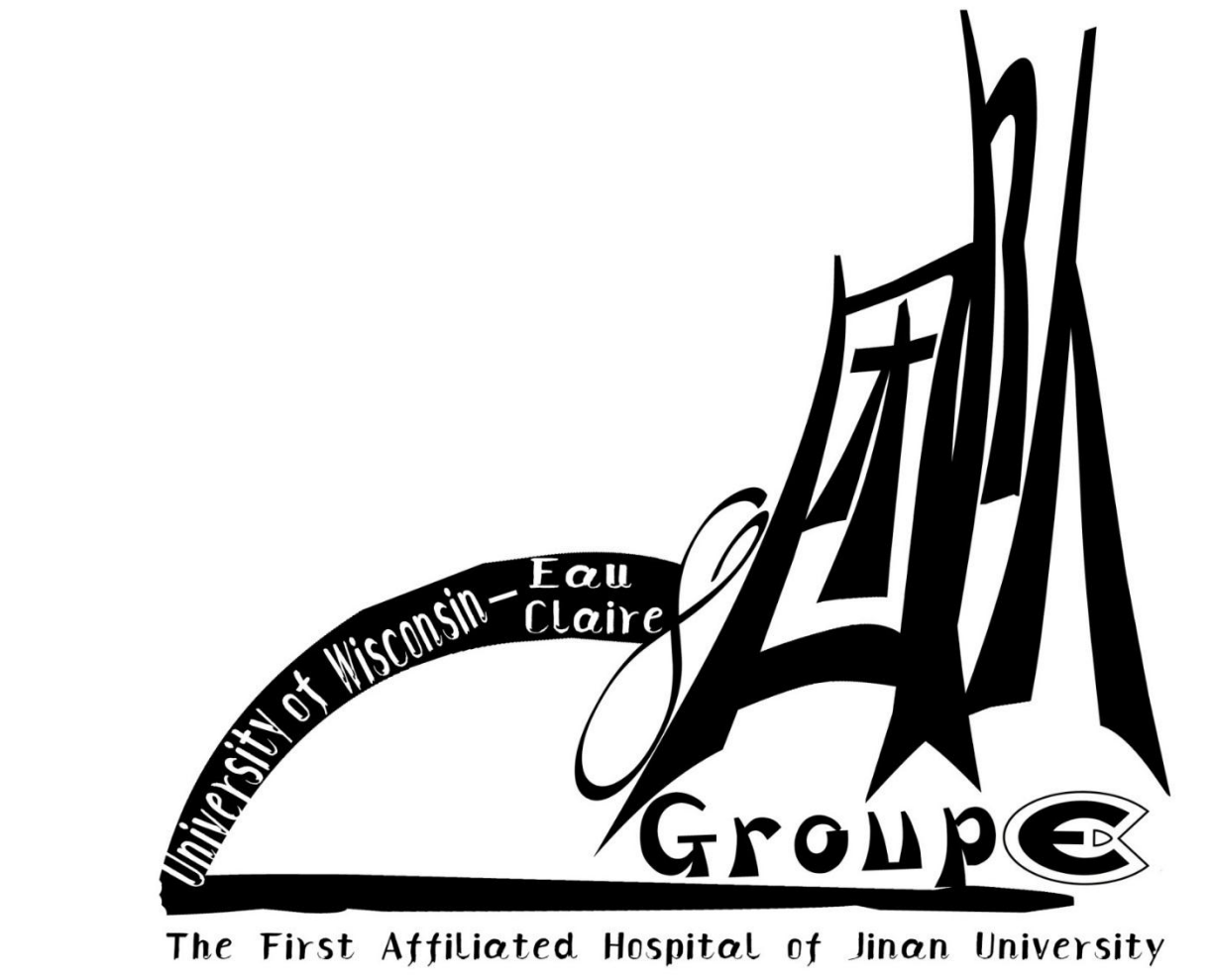
Action Research in Global Health Nursing



Action Research in Global Health Nursing

Lee-Ellen C. Kirkhorn, Ph.D., RN
Catherine M. Berry, MSN, RN,CNE, CCRN
Anja Meerwald, Nursing Student
Rachel Nerison, Nursing Student
Laurelyn Wieseman, Economics Student

University of Wisconsin-Eau Claire
College of Nursing and Health Sciences

University of Wisconsin Eau Claire

Chinese Nursing Research Team

Weiju Chen, RN
Director of Nursing

Peiru Zhou, RN
Diabetes Nurse Educator and
- Vice Director of Outpatient Services

- Chinese Nurse Translators

- First Affiliated Hospital of Jinan University

International Research Planning Team in China

Funding for the Study and Support for Presentation of the Findings

Foundation

Center for International Education

Office of Research and Sponsored Programs

College of Nursing and Health Sciences

Department of Nursing

Sigma Theta Tau, Delta Phi Chapter

Academic Staff Professional Development Program

Action Research in Global Health Nursing

In population health, ***action research*** [or participatory action research] has been variously defined as encompassing the ***systematic collection of information that is*** designed to ***bring about social change***. Historically and currently, its practitioners ***marshall evidence or data*** to expose unjust practices or environmental hazards and to ***recommend actions for change***.

References available upon request

Chinese Language Translators with American Research Team

Inter-Cultural Relationships: Middle School Administrators and Nursing Staff

Nursing Research Questions

Is there a statistically significant difference between risk factors for type 2 diabetes mellitus among students who attend middle schools of varied socioeconomic levels?

Is there a systematic difference between an “education only” intervention compared to “education combined with physical activity”?

Design

A quasi-experimental non-equivalent control group pre-test/post-test design was used to gather information about the impact of an *after school exercise intervention* upon the two groups of middle school aged youth.

Instrumentation

The bi-lingual data collection form (Cantonese Chinese and English) consisted of the following elements of self-reported data:

- perception of overall health
- electronic screen time (in minutes per day)
- structured physical activity (in minutes per day)
- frequency of fast food consumption (daily, weekly, monthly)
- perceived quality of diet
- family history of type 2 diabetes
- BMI before and after the intervention.

Inter-Cultural Data Collection Instrument

Health Education Program （健康教育项目）

Affiliated Middle School and College of Nursing and Health Sciences

University of Wisconsin- Eau Claire

The First Affiliated Hospital

Data Collection Record (Day 1) and at the End of the Intervention

第一天及最后一天数据收集之问卷

Id. Number(问卷编号):

School Name 姓名:　　Grade Level of Student 年级:

English Name（英文名）:　　Student's Age（年龄）:

Student's Gender（性别）:　　E-mail Address（邮箱）:

Student's Height and Weight（身高、体重）:

1、How do you feel about the quality of your diet? (Circle one)你如何看待自己日常饮食的质量？（只选一项）:

a) very good（非常好）　b) ok(还可以)　c) very bad（很糟糕）

2、How often do you eat American fast food (e.g. Mc Donalds, KFC, Pizza Hut)

你通常多过时间吃美国食品（如麦当劳、肯德基、比胜客）

a) never（从不吃）　b)occasionally (1/month) 偶尔吃（每月一次）

c)often(1/week)经常吃（每周一次）　d)all the time (every day)经常吃（每天）

3、How much structured physical activity do you get every day?

你每天花多少时间做运动?

_____Minutes(分钟)

4、How much time do you spend at the computer every day ?

你每天花多少时间在电脑上?

_____Minutes(分钟)

5、How do you feel about your body?

你对自己的身体状况感觉如何?

a)very healthy （非常健康）　b) ok(还可以)　c) very bad（很糟糕）

Health Education Delivered via Chinese Language Translators

Screen Time and Exercise

- Screen time includes video games, computer time, TV watching
- Recommended 1 hour or less screen time per day outside of school and homework
- Exercise at least 30 minutes per day according to your ability

Diabetes Mellitus Type 2

- Diabetes is a chronic disease
- Occurs when the pancreas does not produce enough insulin
- Or the body cannot effectively use the insulin it produces.
- Insulin is a hormone that regulates blood sugar
- Hyperglycemia (raised blood sugar)
  - Common effect of uncontrolled diabetes
  - Over time, leads to serious damage
    - Especially nerves and blood vessels

GROUP 8

University of Wisconsin-Eau Claire

Group 8

The First Affiliated Hospital of Jinan University

Diabetes Mellitus Type 2

- Results from ineffective use of insulin
- Comprises 90% of people with diabetes globally
- Largely the result of excessive body weight and physical inactivity.

Source: WHO Diabetes Fact Sheet #312, January 2011

Overweight and Obesity

- The World Health Organization (WHO) reports worldwide obesity has more than doubled since 1980.
- Overweight and obesity are defined as "abnormal or excessive fat accumulation that may impair health."
- Body Mass Index (BMI) is a simple index of weight-for-height that is commonly used to classify overweight and obesity in adults.
  - Source: WHO online access 5/30/2011
- BMI ≥ 24 is overweight (Chinese reference)
- BMI ≥ 28 is obesity (Chinese reference)

Sensible Eating

Sensible Eating

- Cautions:
  - Fast food (McDonald's, Kentucky Fried Chicken)
  - Fried Foods
  - Buffets
- Moderation and Portion Control
- Balance Intake with Exercise

University of Wisconsin-Eau Claire

Group

The First Affiliated Hospital of Jinan University

University of Wisconsin-Eau Claire
Group C
The First Affiliated Hospital of Jinan University

Classroom participants School B


学 会 生 活
Learning to live
学 会 健 体
Learning to exercise

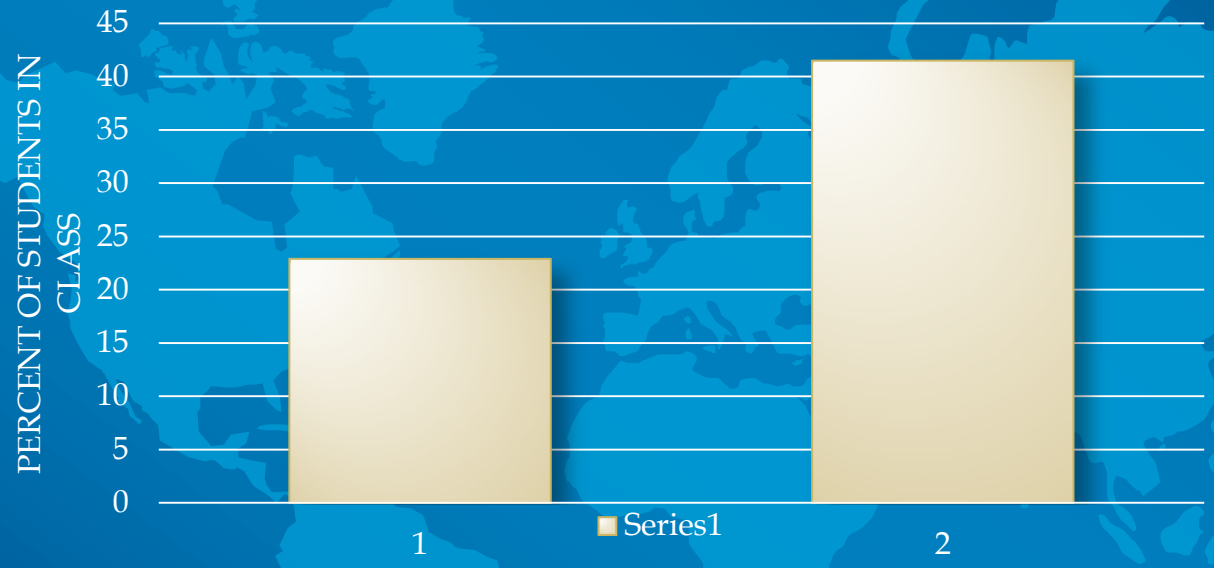
Nursing Research Questions

Is there a statistically significant difference between risk factors for type 2 diabetes mellitus among students who attend middle schools of varied socioeconomic levels?

Is there a statistically significant difference between students before and after a structured program of physical activity?

Is there a systematic difference between an “education only” intervention compared to “education combined with physical activity”?

Difference in self reported family history of type 2 diabetes between Middle School A and B



At middle school A, 23% reported a family history.

At middle school B, 42% reported a family history.

This is a significant difference and a weak effect, c^2 (1, N=172) = 5.42, p= .02, Cramer's V= .18.

Comparison between Pre and Post Test findings for Middle School A

Pre-Test to Post-Test Middle School A	Pre Mean (SD)	Post Mean (SD)	*p*
Self Perceived Health*	2.24 (0.50)	2.32 (0.50)	.049
Screen Time (min/day)***	61.73 (68.33)	43.90 (59.92)	<.001
Structured Physical Activity (min/day)	58.88 (43.92)	60.55 (43.10)	.636
Frequency of Fast Food Consumption*	2.08 (0.49)	1.98 (0.48)	.023
Perceived Quality of Diet	2.27 (0.49)	2.27 (0.45)	.863

*Statistically significant difference from pre to post for Middle School A

α= .05 * p< .05 ** p< .01 *** p≤ .001

Comparison of Pre and Post Test Findings for Middle School B

Pre-Test to Post-Test Middle School B	Pre Mean (SD)	Post Mean (SD)	*p*
Self Perceived Health***	2.10 (0.38)	2.35 (0.45)	.001
Screen Time (min/day)***	121.63 (79.76)	67.5 (60.25)	<.001
Structured Physical Activity (min/day)***	42.63 (25.70)	87.25 (58.80)	<.001
Frequency of Fast Food Consumption**	2.12 (0.40)	1.93 (0.35)	.003
Perceived Quality of Diet**	2.17 (0.38)	2.14 (0.50)	.006

*Statistically significant difference from pre to post for Middle School B

α= .05 * p< .05 ** p< .01 *** p≤ .001

Clinical Implications

Our ***after school exercise*** intervention ***was more effective than education alone*** for certain variables of self-perceived health and electronic screen time; interestingly, ***students in the lower socioeconomic school reported greater physical activity*** than the students attending School A.

Even with the benefit of our after school exercise program, greater amounts of walking and bike riding among students in School B may have accounted for this statistically significant difference in self-reported physical activity.

Concluding Comments

Although examples of secondary levels of prevention (for type 2 diabetes) are visible in Guangzhou and the role of the diabetes nurse educator is becoming increasingly important in China, clinical primary prevention nursing practice in schools and community settings is less commonplace.

To the best of our knowledge, Group 8 represents the first American-Chinese Nursing team effort to tackle the obesity problem in Guangzhou with a targeted *primary prevention* of obesity education and exercise program for middle school students.

Published Descriptions of Our Chinese Intercultural Immersion:

Kirkhorn, LE, Berry, CM, Wieseman, L, Nerison, R, Meerwald, A: Nín hǎo (Hello), China! (November/December, 2011). *Nurse Practitioner World News*, 15 (11/12) 10-12.

Blog address:
http://www.lekirkhorn.blogspot.com

More info: berrycm@uwec.edu

Grateful Recognition to University of Wisconsin-Eau Claire:

Linda Young, Ph.D., RN
Dean of College of Nursing and Health Sciences
Jefford Vahlbusch, Ph.D.
Director of University Honors Program
Karen Havholm, Ph.D., Assistant Vice Chancellor
Office of Research and Sponsored Programs
Don Bredle, Ph.D.
Institutional Review Board Director
Karl Markgraf, Ph.D.
Director of Center for International Studies
April Bleske-Rechek, Ph.D.
Statistical Analysis and SPSS