



**Effectiveness of a tailored vs. general feedback
Web-based program as a tool to increase health
knowledge and improve health behaviors among Arab
college and university students in Israel**

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Computer Based Health Education

- **“New” vehicles of interactive media are being applied as health promotion tools**
 - computer-tailored programs
 - websites
 - modules
 - software
 - social media (blogs, facebook, twitter, etc)
- Computer program tailors information to the unique needs, interests, and concerns of participant

Tailored vs Non-Tailored



- Tailored shown more effective than generic information in helping adult populations:
 - quit smoking (Strecher et al. 1994; Dijkstra et al., 1998)
 - get mammograms/screenings (Skinner et al, 1994; Jibaja et al., 2000)
 - reduce dietary fat consumption and change nutrition habits (Brug et al, 1996)
 - increase physical activity (Vandelanotte and Bourdeaudhuij, 2003)
 - change inaccurate perceptions of cancer/stroke risks (Krueter and Strecher, 1995)

Internet Use in Israel



- Significant rise in Internet use and access by the Israeli population, both Arabs and Jews (CBS, 2012)

YEAR	Users	Population	% Pop.
2000	1,270,000	6,986,639	18.2 %
2012	5,313,530	7,590,758	70.0 %



Health of Arabs in Israel



- Smoking
 - Cigarettes:
 - 50% of males and 12% of female (MOH, 2012)
 - Nargilla:
 - 30.5% of Arabs have tried using Nargilla at least once
 - 9.3% use Nargilla regularly, daily, and once a week
- Nutrition
- Physical activity
 - 11.2% of Arab males and 8% of Arab women

Computer-tailored Health Interventions in Israel



- Lack studies on computer based programs as health promotion tools among Arabs
- Arabs attending colleges/universities in Israel has significantly increased in the past decade (CBS, 2012).
- Through colleges and universities, these Arab students have free and accessible computer and internet access.
- **THUS-** a computer-based health program may be a feasible and effective health promotion and data collecting tool

Research Study



Study Objectives



General:

- To test the hypothesis that a culturally appropriate computer based health education program that provides tailored feedback is an effective tool to collect data and improve the health knowledge, attitudes, and practices of Arab college/university students in Israel

Specific Objectives



- To determine if and to what extent tailored health educational material delivered via a computer program is more effective at increasing health knowledge and improving health attitudes and behaviors than non-tailored computer health education
- To determine if a tailored computer based program is an acceptable, preferable and useful health education tool

Data Collection



- Randomized controlled trial
- Quantitative and qualitative methodologies were used
 - Quantitatively: computer health program- interactive self administered questionnaire
 - Computer program was pilot tested
 - 25 Arab students sent program to test; feedback received; changes were in made in language, wording, etc.
 - Qualitative: focus group sessions

Computer Program



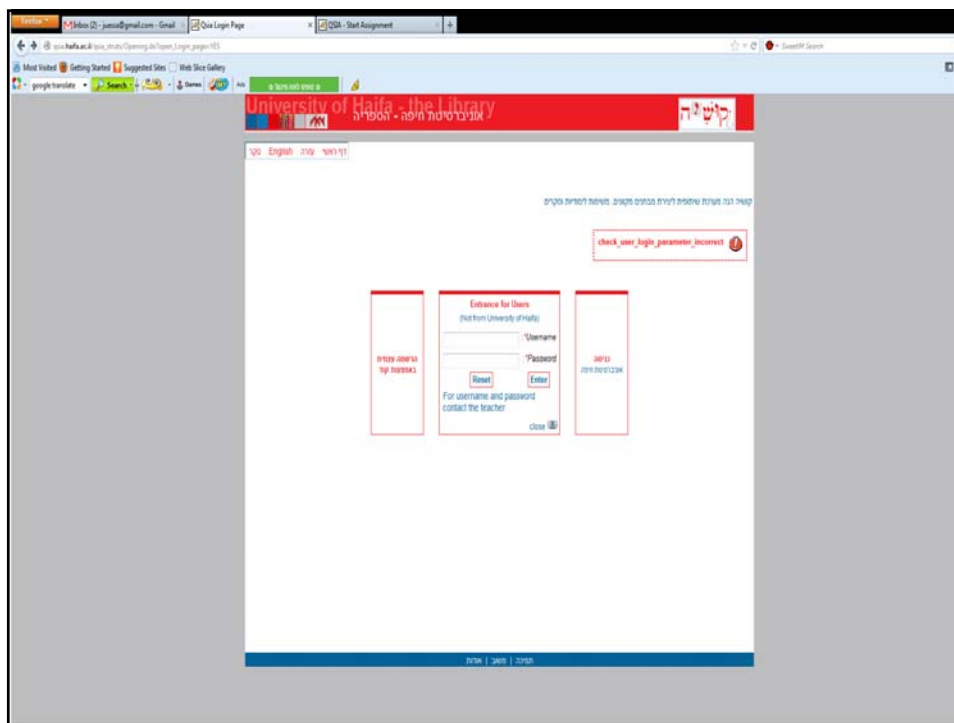
- Computer program consists of two parts:
 1. Interactive self administered online questionnaire (48 questions)
 - Four modules to examine health knowledge, attitudes, and practices regarding:
 - Smoking (12 questions)
 - Nutrition (13 questions)
 - Exercise (7 questions)
 - Seat Belt Use (7 questions)
 - Demographic Information (9 questions)
 2. Dissemination of health education- feedback

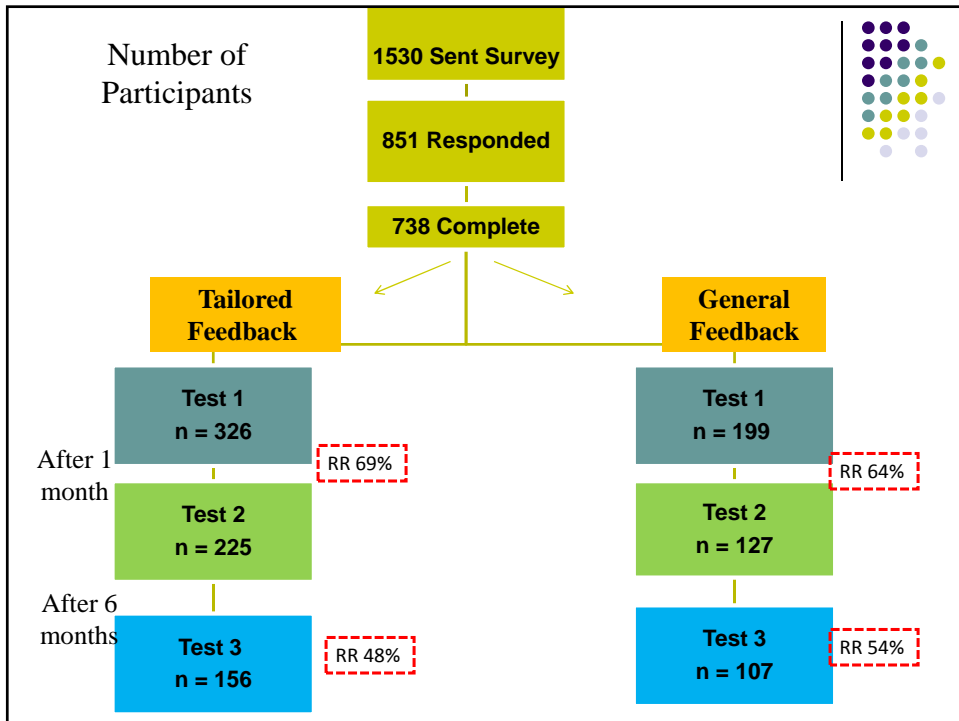
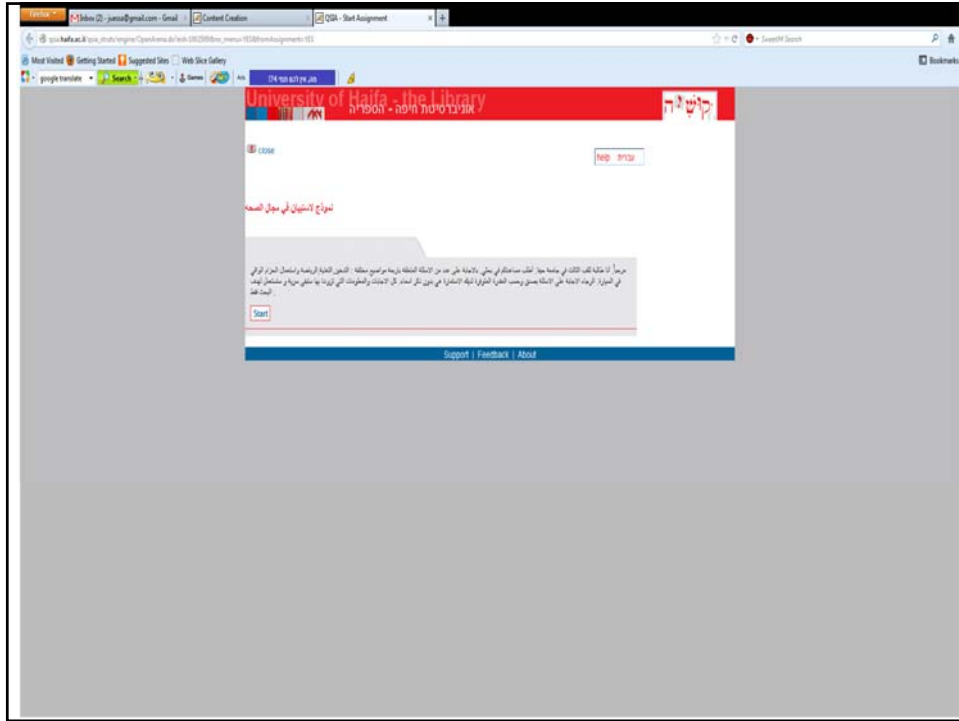
Data Collection



- Participants were randomly divided into two groups:
 1. Tailored feedback via computer
 2. General feedback via computer
- Sent an introductory email in Arabic with basic information regarding the questionnaire, the link to the program

http://qsia.haifa.ac.il/qsia_struts/Opening_1.do?notifications=Clear





Results: Demographic Characteristics



- Mean age- 25 years
- 66% female; 34% males
- 27% married; 70% single; 3% no reply
- 55% Muslim; 44% Christian; 1% other
- 81% undergrad; 16% graduate; 3% no reply

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Results: Smoking



	Tailored Feedback			General Feedback		
	Test 1	Test 2	Test 3	Test 1	Test 2	Test 3
Smoke Cigarettes Regularly	25%	21%	25%	13%	18%	18%
Smoke Nargilla at least once a week	65%	*22%	19%*	69%	16%*	16%*
Know that smoking is harmful to health	99%	100%	100%	99%	100%	100%
Believe Nargilla smoking does not have harmful health affects like cigarettes	96%	74%*	69%*	90%	52%*	41%*
Tried to quit smoking	57%	73%*	73%	66%	67%	66%

Results: Nutrition



	Tailored Feedback			General Feedback		
	Test 1	Test 2	Test 3	Test 1	Test 2	Test 3
Recommended Fruit and Vegetable	28%	41%*	53%*	36%	40%	41%
Recommended whole grains consumption	50%	57%	52%	34%	76%*	66%
High sat. fatty foods	44%	47%	39%	49%	48%	48%
Recommended dairy servings	36%	53%*	54%	38%	73%*	69%
Fast food consumption	81%	89%	87%	88%	89%	93%
Choose low fat food options	37%	48%*	45%	39%	39%	41%
Nutrition knowledge- Answered correctly	16%	40%*	56%	19%	62%*	79%*

Results: Exercise



	Tailored Feedback			General Feedback		
	Test 1	Test 2	Test 3	Test 1	Test 2	Test 3
Exercise at least 3 x per week	24%	31%*	25%	19%	21%	18%
Reasons for exercise						
To stay in good health	65%	69%	57%	64%	67%	65%
To lose weight	12%	22%	35%	16%	17%	17%
Fun/recreation	6%	3%	4%	8%	6%	8%
Relieve stress	1%	2%	3%	3%	3%	4%
Because others so it	4%	4%	1%	6%	8%	7%

Results: Seat Belt Use



	Tailored Feedback			General Feedback		
	Test 1	Test 2	Test 3	Test 1	Test 2	Test 3
Always wear seat belt	66%	72%	71%	65%	67%	73%
Believe seat belts save lives	81%	87%	88%	85%	87%	89%
Make sure passenger wears seat belt	51%	58%	56%	50%	56%	53%

Qualitative Data Collection



- **Qualitatively:**
 - Five focus group sessions, each with 8-14 participants from intervention group
 - Examine personal perceptions, opinions regarding acceptability, appeal, and effectiveness of computer program

Major Themes from Focus Group



Theme	Males	Females
Preferred as health education tool	✓	✓
Easily accessible	✓	
Especially liked interactive videos	✓	✓
Tailored information made it more interesting than general	✓	✓
Not time consuming	✓	
Comfortable- could answer personal questions		✓
Especially liked nutrition section		✓
Easy to complete	✓	✓
In Arabic		✓
Education very relevant- provided tools and info could use with families or apply in future		✓

Focus Group Themes



FGQ

Predominant Themes

How do you usually learn about health topics or problems that concern you

A. Doctor or nurse
B. Internet
c. Family or friends

I am a pretty shy person. I prefer to search the internet. I am not always comfortable to talk about some things, such as what I eat or that I smoke, in front of my family doctor or nurse, so I never ask them questions. I always feel like they will look negatively upon me. With this, it was just me and the computer, and there was no one to judge me on how I choose to live my life.
(Female, Intervention)

Focus Group Theme



What other health topics would you have liked to see in the program?

- A. Sexual Education (females)
- B. Breast cancer
- C. Healthy choices when eating out
- D. Vitamins and nutrition supplements
- E. Children's health and nutrition

“If a girl decides to have sex before marriage, it is not acceptable. She would never dare ask anyone for educational information she needs to protect her health. With the privacy that this computer program brings, I think adding sex education would be very effective and beneficial. Girls could learn the information they need privately, without having to ask a health professional and be ashamed.” (female, intervention)

Conclusions



- Both tailored and general feedback computer programs were effective health promotion tool among Arab college/university students in Israel.
- Both tailored and general increased health knowledge; however, the tailored feedback intervention was found more interesting and effective at changing health behaviors than the general
- Computer program are an acceptable and preferable health education tool
- Facebook/social media effective way to recruit participants for health related studies
 - (66% retention rate among those recruited by facebook)



THANK YOU



