



Asymptomatic At-Risk Population: Health Fair Screening in Diverse Underserved Population

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Background

- To promote healthy behaviors and provide health screenings to underserved residents in Los Angeles (LA), students at Charles R. Drew University participate in health fairs.
- Little is known about the cardiovascular disease (CVD) risk profile of health fairs participants in underserved communities.



Specific Aims

- ▶ To explored the cardiovascular risk factors among the participants of health fair in an underserved communities of Los Angeles.
- ▶ To developed the CVD risk profile of health fair' participants in underserved communities of Los Angeles.



Methods

Study Design: Cross-sectional survey

Data collection:

Self administered questionnaire

Included in the questionnaire:

- ▶ Demographics,
- ▶ Smoking status,
- ▶ Self-perceived health,
- ▶ Body mass index,
- ▶ Fruit/vegetable consumption
- ▶ Exercise.

Participants received screenings for:

- ▶ Blood Sugar, Blood pressure, and Total Cholesterol.

Participants with abnormal findings received counseling, education and referral to their providers.



Methods (Cont.)

Dependent Variable: Number of risk factors for CVD:

- ▶ Behavioral: smoking, obesity, fruit/vegetable consumption, and exercise.
- ▶ Morbidity: diabetes, hypertension (systolic, diastolic), high cholesterol .

Independent Variable: Demographics.

Statistical Analysis:

- Descriptive Statistics:
 - ▶ Population characteristics and cardiovascular disease risk factors
 - ▶ Bivariate analysis of cardiovascular disease risk factors by population demographics and self-perceived health.
 - ▶ Multivariate Logistic regression analysis for the association between the cardiovascular risk profile (dependent) and demographic characteristics.
- Data analysis: Use SPSS V22.



RESULTS



Table 1. Population characteristics - Demographics (N=638)

Variables	Percent
Age groups (Years)	
<=30 years	19.0
31-40 years	22.6
41-50 years	31.6
50 years and older	26.8
Gender	
Male	18.7
Female	81.3
Race/ethnicity	
African American	65.0
Hispanic	22.1
Others	12.9
Education level	
<=High School	57.4
Some College	18.7
College and higher	23.9
Have Source of Health Care	
Yes	69.4
No	30.6



Table 1. Population characteristics (Cont.)

Variables	Percent
General health status	
Excellent/ Very good	42.2
Good	36.8
Fair/ poor	20.0
Do you smoke?	
Yes	8.0
No	92.0
Body mass index group	
Normal	30.1
Overweight	31.0
Obese	38.8
Eat adequate fruit and vegetable	
Yes	91.0
No	9.0
Exercise 3 days or more/week for 30 minutes	
Yes	62.0
No	38.0



Table 1. Population characteristics (Cont.)

Variables	Percent
Have Diabetes	
Yes	8.8
No	91.2
Diabetes Status based on Blood Sugar Test	
Diabetic	9.9
Pre-diabetic	10.9
Normal	79.2
Systolic Hypertension	
Yes	17.5
No	82.5
Diastolic Hypertension	
Yes	13.1
No	86.9
Have either Systolic or Diastolic Hypertension	
Yes	22.4
No	77.6
Cholesterol	
Normal	82.9
Abnormal	17.1



**Table 2. Percent of the Number of Risk Factors for CVD
(N=638)**

Variables	Percent
Overall Assessment	
Normal	34.6
At High Risk (had at least one risk factor)	65.4
Had Any Risk Behavior	
Yes	58.0
No	42.0
Had Any Chronic Disease	
Yes	28.2
No	71.8
Number of CVD Risk Factors	
None	34.6
One	31.3
Two	21.0
Three or More	13.0



Table 3. Multiple Logistic Regression for the Predictors of Having Three or More CVD Risk Factors (N=638)

Variables	Odds Ratio	95% Confidence Interval
Age group		
<30 years	Reference	
41-50 years	5.0 *	1.4 - 17.4
50 years and older	6.7 *	1.8 - 24.9
Gender		
Female	Reference	
Male	2.2 *	1.1 - 4.3
Race/Ethnicity		
African American	1.2	0.5 - 2.8
Hispanic	0.5	0.2 - 1.6
Others	Reference	
Education level		
<=High School	2.0 *	1.1 - 3.9
Some College	1.9	0.9 - 4.0
College and higher	Reference	
General health status		
Excellent/Very Good	Reference	
Good	2.2 *	1.1 - 4.6
Fair/Poor	5.3 *	2.5 - 11.3
Have Source of Health Care		
Yes	Reference	
No	0.3	0.07 - 1.1

* = $p < 0.5$



Summary

Risk factors:

- ▶ Smoking: 8%
- ▶ Overweight/Obese: 70%
- ▶ Borderline/hypercholesterolemia: 17%
- ▶ Didn't consume five serving of fruit/vegetables: 9%
- ▶ Did not exercise =>30 minutes/day for three or more days/week: 38%
- ▶ Had diabetics: 10%
- ▶ Had pre-diabetes: 11%
- ▶ Had systolic hypertension: 25%
- ▶ Had diastolic hypertension: 19%
- ▶ Had systolic or diastolic hypertension: 22%

Profile for high risk of CVD (=>3 factors)

- ▶ Male
- ▶ 40 years and older
- ▶ Had less than high school education
- ▶ Fair/poor health status



Discussions

Lack of knowledge of the risk factors:

- ▶ Many individual exposed to the potential of CVD.

Unawareness of the symptom of CVD:

- ▶ Many participants mistakenly accepting signs and symptoms as being usual to their health status.

Unawareness of the importance of making healthy lifestyle choices:

- ▶ Contribute to the high prevalence of the CVD.



Limitations

- ▶ Study design: Cross-sectional
- ▶ Subjective nature of the study
- ▶ Can not make causal inference



Conclusions

- ▶ Health fair screening provide students exposure to underserved community issues.
- ▶ Through the health fair, participants of the underserved community were provided with valuable health related information.
- ▶ The screening identified that about two thirds of the participants were asymptomatic but had at least one risk factors for CVD.



Implications

Focus on primary prevention

- Health promotion and maintenance
- Wellness programs



Recommendations

Longitudinal follow-up of the health fair participants is imperative to improve health outcomes and knowledge about CVD.

Provide referral to primary care physicians and appropriate care agencies:

- ▶ Participants with elevated BP
- ▶ elevated Blood sugar
- ▶ High cholesterol level

Follow-up counseling:

- ▶ Discuss and set health goals
- ▶ Check progress
- ▶ Provide assistance
- ▶ Evaluate progress.

Provide resource information



Thank you

