

The Association of Sociodemographic Factors and Perceived Barriers to Exercise as a Cessation Strategy among Pregnant Smokers



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BACKGROUND

- Smoking during pregnancy is a leading cause of adverse pregnancy outcomes.¹
- Physical activity is positively associated with quit attempts and smoking abstinence.²⁻⁴
- Smoking cessation programs that incorporate exercise show promise with²:
 - controlling weight
 - moderating symptoms and cravings
 - increasing self-esteem and coping ability
- ACOG and the CDC recommend all pregnant women get at least 150 minutes of moderate-vigorous intensity exercise per week.⁶
- Few pregnant women meet these guidelines due to barriers⁷:
 - pregnancy related symptoms
 - time constraints
 - lack of advice
 - lack of social support and resources
 - lack of motivation
 - safety concerns
- Limited data exist examining the association of sociodemographic factors and perceived barriers to exercise in pregnant smokers.

PURPOSE

The purpose of this study was to evaluate the association of sociodemographic factors and perceived barriers to exercise among a sample of pregnant smokers.

METHODOLOGY

Design

This was a midpoint analysis (first trimester) of a longitudinal study of pregnant smokers recruited from local prenatal clinics.

METHODOLOGY

Design

- Participant eligibility:
 - pregnant women
 - aged 18-44
 - current use of e-cigarettes, conventional cigarettes, or both (dual users)

Measures

- Tobacco use was confirmed using Nymox NicAlert® urine strips with preset cotinine limits.
- Participants completed an online survey to assess:
 - Demographics
 - Barriers to physical activity (9-item scale)
 - Psychosocial health

Data Analysis

- Differences in mean exercise frequency across demographic groups were explored using T-tests.
- Associations between demographic factors and barriers to exercise were examined using chi square statistics.
- All analyses were conducted using SAS v9.4 with an alpha level of .05.

RESULTS

Sample

Pregnant women (n=208) in their first trimester

- Women reported doing moderate exercise an average of 2.7 days per week; vigorous exercise 1.8 days per week.
- Participants with partners reported more barriers to exercise (p=0.04), with a higher percentage indicating agreement with being 'too tired/not enough energy' and 'too many time restraints' to exercise compared to non-partnered participants (p=0.01 and 0.05 respectively).
- Compared to participants with at least a high school degree, those with less education indicate exercise is not important (p=0.01).

RESULTS

- Employed pregnant smokers more frequently reported the following barriers (p=.01):
 - more barriers to exercise (being 'too tired/not having enough energy')
 - having 'too many time restraints'
 - 'lacking of gym membership/exercise equipment'
 - A higher proportion of working women also reported feeling self conscious about exercising (p=.03).
- Seventy-seven percent (n=144) of women reported being interested in receiving a personal exercise plan to help them stop smoking/using tobacco.

Table 1. Demographic characteristics

Demographic characteristic	% (N)
Age (mean, SD)	28.3 (5.5)
Race	
White	84.0 (173)
Other	16.0 (33)
Partner Status	
Not partnered	49.5 (99)
Partnered	50.5 (101)
Education	
Less than high school grad	14.9 (30)
High school grad/GED	39.1 (79)
Some college/college grad	46.0 (93)
Household income	
Less than \$20,000	60.2 (106)
\$20,000 - \$49,999	24.4 (149)
\$50,000 or more	15.4 (27)
Employment status	
Unemployed	49.8 (100)
Employed	50.2 (101)



RESULTS

Table 2. Perceived barriers to exercise

Barrier to exercise (N=180)	Agree % (n)
1. Feel too tired/I don't have enough energy	51.6 (94)
2. Don't belong to a gym/have exercise equipment	47.3 (86)
3. Too many time restraints (work, family, childcare)	28.0 (51)
4. Feel physically uncomfortable when exercising	25.8 (47)
5. Don't have the time to exercise	28.0 (51)
6. Am self-conscious about exercising	21.4 (39)
7. Am not sure what to do	20.3 (37)
8. Medical condition prevents exercising	7.9 (14)
9. Don't feel exercise is important	5.0 (9)

CONCLUSIONS

- Implementing effective smoking cessation models in pregnant women is critical to the health of the mother, fetus, and child.
- Tobacco cessation interventions must consider variables such as partner status, education, and employment when addressing perceived barriers to exercise.
- This is one of the first large scale studies to examine the association between sociodemographic factors and perceived barriers to exercise among pregnant smokers.
- Future analysis will examine differences in perceived barriers by tobacco use group (e-cig only, conventional use only, and dual users).

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