

Feasibility of a Community-Based Yoga Intervention for Adolescents with Asthma and Obesity



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BACKGROUND

Physical Activity

- 20% of U.S. children meet physical activity recommendations (60 minutes daily)¹
- Disparities exist: 16% of Hispanic youth, 20% of Black youth, and 24% of White youth engage in adequate physical activity²
- Low physical activity contributes to obesity and other health conditions (cardiovascular disease, metabolic disorders, mental health issues)³

Obesity

- 25% of U.S. adolescents aged 12 to 19 have obesity⁴
- Disparities exist: 26% of Hispanic youth 25% of Black youth, and 17% of White youth have obesity⁵
- Children with health conditions such as obesity and asthma are less likely to be physically active⁶
- Barriers include low self-efficacy, lack of social support, limited resources, and stigma⁷
- Key facilitators in Hispanic adolescents include enjoyment of activity, having active friends and family, and access to safe, inviting spaces⁸

Yoga-Based Physical Activity

- Yoga is an inclusive type of physical activity suitable for all ages, body types, and ability levels⁹
- Yoga can promote health and help manage body weight, but research in adolescents is scarce¹⁰
- A community survey of CHOC teens revealed that 46% were interested in yoga to improve health¹¹

PURPOSE

- To evaluate the feasibility of a community-based yoga intervention for adolescents with asthma and obesity



METHODS

Design: Community-based participatory research study

- Formative phase: interviews, focus groups, design thinking sessions
- Pilot feasibility study: single-arm, pre/post intervention

Sample: Adolescents aged 13 to 18 with overweight, obesity, and/or low levels of activity

Setting: Primary care providers referred eligible patients from a mobile asthma clinic

Intervention: 12 weeks of group yoga classes

- 60-minute sessions twice weekly + 2 private sessions at baseline and midpoint
- 26 total sessions delivered in a hybrid format
 - Friends and family invited to participate

Theoretical Framework: Social cognitive theory

- Mediators: self-efficacy, social support, goals, outcome expectations, barriers, benefits

Outcomes and Measures

- Feasibility: recruitment, retention, attendance rates
- Behavioral mediators, quality of life, body mass index: surveys, health records review

Data Analysis: Wilcoxon Rank Sum test

RESULTS

Feasibility

N=10 teens recruited over 6 weeks (90% female)

Recruitment rate: 5% (10 enrolled/200 eligible)

Retention rate: 100% (10/10 completed study)

Attendance rate: 43% (10/24 classes attended)
75% online vs. 25% in studio

Social Cognitive Mediators

Self-efficacy: 7 teens improved

Social support: 8 teens increased

Family encouragement increased ($p=.04$)

Outcome expectations: 5 teens increased

Goals: 7 teens improved

Barriers: 7 teens reduced

Lack of time reduced ($p=.04$)

Benefits: 5 teens increased

Health Outcomes

Health-related quality of life: 6 teens improved

- 6 teens had better physical functioning
 - 6 found it easier to run
 - 4 found it easier to do other activities
 - 3 could walk longer distances
 - 3 could lift heavier objects
- 4 teens improved mental functioning
 - 4 felt less sad or down
 - 3 felt less afraid, scared, or angry
- 5 teens improved school functioning
 - 5 were less forgetful and more focused
 - 4 found it easier to keep up

Body mass index: 3 teens shifted from being classified as obese (BMI ≥ 30) to overweight (25-30)

CONCLUSIONS

- A 12-week yoga intervention was feasible for a diverse group of adolescents with asthma and obesity.
- A yoga intervention guided by social cognitive theory can increase social support, reduce barriers to physical activity, and improve body composition.
- A hybrid class format is likely to enhance recruitment, retention, and attendance.
- Including family and friends can foster social support.
- Future research should include a randomized controlled design with a larger sample size and adequate power to detect intervention effects.
- Exploring the impact of yoga across different populations and settings will increase generalizability of findings.

REFERENCES

- Available upon request

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