



Couples' experiences with continuous positive airway pressure treatment: a dyadic perspective



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ABSTRACT

Objective: The majority of adults sleep with a partner, making sleep a dyadic experience. However, interventions to improve sleep have primarily focused on individuals. This qualitative analysis used a dyadic approach to identify facilitators and barriers to successful treatment of one of the most common sleep disorders, obstructive sleep apnea, with continuous positive airway pressure (CPAP).

Methods: Twenty joint qualitative interviews were conducted with couples, one couple at a time, with a sample of 20 patients with obstructive sleep apnea and their partners to develop an understanding of couples' experiences with CPAP use. Interviews were audio recorded and transcribed. Conventional qualitative content analysis was used to analyze the interview data.

Results: Facilitators of CPAP use were the following: the partner aiding diagnosis and treatment, couples working together using CPAP, the perceived benefits of CPAP for both partners, the patient being motivated to use CPAP for the benefit of the partner, and various types of support provided by the partner to encourage CPAP use. Major barriers to CPAP use were the following: anxiety related to CPAP use particularly in the beginning of therapy, bothersome equipment causing disruptions in sleep and bedtime routine, interruptions to intimacy, and concern about image change while wearing CPAP.

Conclusions: Findings from this study suggest that couple-directed interventions that advocate for a mutually engaging perspective and promote supportive relationships and positive dyadic coping may be targets for improving CPAP adherence. Further research evaluating the potential of couple-focused interventions to improve sleep health is warranted.

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Introduction

According to the 2005 National Sleep Foundation poll, 61% of adults sleep with a partner, and one-quarter to one-third of married or cohabitating couples report that their intimate relationships are adversely affected by their own or their partner's sleep problems.¹ Therefore, conceptualizing sleep from a dyadic perspective is likely to be more effective in developing strategies to improve sleep than focusing on the individual. This is particularly obvious in the setting

of obstructive sleep apnea (OSA) where one of the most frequent presentations is loud snoring bothersome to the bed partner. The most common treatment for OSA is continuous positive airway pressure (CPAP), but success of this treatment relies on treatment adherence, which is frequently suboptimal.² Strategies to engage patients in increasing CPAP adherence serve as an exemplar for enacting change in sleep behaviors. Results from studies examining co-sleeping,^{3,4} relationship quality,⁵ and facilitators and barriers of CPAP use perceived by patients⁶ have suggested the important role spouses play in CPAP adherence. Unfortunately, previous investigations of CPAP adherence have focused primarily on the diagnosed individual and resulted in limited success.⁷ The goal of the current study was to obtain a comprehensive qualitative description of couples' experiences with

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CPAP treatment, with a particular interest in determining facilitators and barriers to incorporating CPAP use into daily life. Because of the “collateral damage” of OSA to partners (eg, snoring-induced sleep disruption,⁸ increased distress,⁹ and marital dissatisfaction^{8,10}) and demonstrated positive effects of CPAP for both patients and their partners,^{11–13} improving CPAP adherence would have major benefits for both partners.

Methods

Study design and participants

Using an exploratory qualitative descriptive design, face-to-face semi-structured in-depth open-ended interviews were conducted with a sample of 20 couples, including OSA patients and their partners. The interviews were conducted with one couple at a time. The study received approval from the local institutional review boards. Informed consent was obtained from both OSA patients and their partners.

The 20 couples were selected from participants enrolled in a larger federally-funded research project examining partner involvement in CPAP adherence during the initial 3 months of therapy. Patients were recruited from the patient population seeking medical attention for OSA at 2 large participating urban hospitals in the northeastern region of the United States. To be eligible, patients needed to be age ≥ 18 years, newly diagnosed with OSA, candidate for CPAP therapy, and married or cohabitating for at least 1 year. Patients were excluded if they previously received treatment for OSA other than CPAP in recent years, had a partner using CPAP, or were pregnant. Partners of eligible patients with OSA were eligible if they were without known OSA and not using CPAP. In addition, couples were excluded if they did not live together in the same home, either partner worked regular overnight shifts, or either partner was unable to speak or write in English. At the time of recruitment, couples were informed that they might be contacted at a later time for an interview to share their experiences with CPAP treatment. For those couples that were invited to participate in an interview, they had completed the first 90 days of CPAP or had just stopped the treatment. To obtain a wide range of perspectives, a cohort was selected to maximize variation in demographics and CPAP adherence (the objective average hours of nightly CPAP use). Couples were continued to be selected and interviewed until data saturation was obtained, as evidenced by informational redundancy. Among the 136 couples who participated in the larger study, invitation for the interview was sent out to 38 couples. Among them, 20 couples were successfully interviewed (53%), 5 (13%) couples were interested but did not have time for the interview, 8 (21%) couples had at least 1 partner showing no interest, and 5 (13%) couples did not respond to the invitation.

Table 1 describes the major demographics and clinical characteristics of the participants. Among the 20 couples interviewed, 16 were heterosexual and 4 were same-sex couples. The majority of the participants were non-Hispanic white with college education, with 75% of the couples being White, 5% being Black, and the rest (20%) being interracial or with unreported race. For both partners, the average age was approximately 50 years. These couples had been together for an average of 16 years with a range of 2 to 49 years. The majority of the couples (65%) reported to sleep in the same bed all the time, 10% co-slept frequently, and 25% did not or seldom shared a bed during the past 3 months. The mean apnea-hypopnea index (AHI) for the 20 patient participants was 24.1 ± 18.5 events per hour of sleep, with 30% diagnosed with severe OSA (AHI ≥ 30 /h). The average use of CPAP, monitored objectively over the first 90 days, was 4.8 ± 2.0 hours per night with a range from 1.1 to 8.5 hours. Nine patients (45%) used CPAP on average less than 4 hours per night.

Table 1
Characteristics of the study participants

Characteristics	20 Couples
Gender, n (%)	
• Heterosexual, 16 (80%)	11 Male patients with female partners 5 Female patients with male partners
• Same sex, 4 (20%)	1 Female patient with female partner 3 Male patients with male partners
Age, y	
• Patient	49.6 \pm 9.6
• Partner	50.1 \pm 10.1
Ethnicity, n (%)	
• Patient	Hispanic: 2 (10%), non-Hispanic: 18 (90%)
• Partner	Hispanic: 2 (10%), non-Hispanic: 18 (90%)
Race, n (%)	
• Patient	White: 16 (80%), Black: 2 (10%), Asian: 1 (5%), Pacific Islander: 1 (5%)
• Partner	White: 18 (90%), Black: 1 (5%), not reported: 1 (5%)
With college education, n (%)	
• Patient	17 (85%)
• Partner	15 (75%)
Living together, y	15.9 \pm 12.8
Patient AHI, events h ⁻¹	24.1 \pm 18.5
Patient objective CPAP use over the first 90 d, h per night	4.8 \pm 2.0

Data collection

A semi-structured interview guide developed by the principal investigator (LY) focused the interviews and facilitated exploration of both facilitators and barriers to CPAP use (Table 2). Interviews were conducted by 1 of 2 interviewers at the couple's home during 2014 and 2015. Both of the interviewers were masters-prepared advanced practice registered nurses experienced in interviewing patients and familiar with methods of qualitative inquiry. Furthermore, the interviewers received specific training in qualitative research interviewing from the principal investigator (LY) and the qualitative research expert (DW). All interviews were audio recorded for transcription. The interviewers maintained field notes in which they described the environment of the interview setting, observations of the couple at the time of the interview, and any deviations from the planned interview guide. The interviews, lasting approximately 40–60 minutes, ended when the participants believed that they had fully completed their descriptions.

The interviews focused on learning about *the couples' experiences of managing CPAP treatment together*. Each partner was allowed to respond freely to open-ended interview questions. Couples were prompted to share challenges they had experienced in using CPAP in their daily life, as well as strategies they had used to address or overcome these challenges or what could potentially be done to improve the situation. For example, at the end of the question

Table 2
Guide for the semi-structured interview

- 1) What have been your experiences as a couple with CPAP treatment?
- 2) What are the consequences (eg, outcomes, changes) of CPAP treatment for the period of time that you have used it? (Encourage the patient and the partner to talk about the changes they have noticed.)
- 3) As a couple, what was the biggest challenge to using CPAP? (Probe for what they have done or what can be done to overcome those challenges.)
- 4) What was helpful to you in using the CPAP treatment? (Probe for what the spouse did that was helpful.)
- 5) What was not helpful to you in using CPAP treatment? (Probe for what the spouse did that was not helpful.)
- 6) Is there something that you didn't know about CPAP and wish you had known before starting the treatment?
- 7) What advice would you give to other couples that will be using CPAP?

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