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## Couples' Experiences with CPAP 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 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: 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.

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**Conclusions**—Findings from this study suggest 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.

### Keywords

sleep; couple; obstructive sleep apnea; continuous positive airway pressure; adherence; qualitative content analysis

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## 1. 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.<sup>1</sup> 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.<sup>2</sup> Strategies to engage patients in increasing CPAP adherence serve as an exemplar for enacting change in sleep behaviors. Results from studies examining co-sleeping,<sup>3,4</sup> relationship quality,<sup>5</sup> and facilitators and barriers of CPAP use perceived by patients<sup>6</sup> 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.<sup>7</sup> The goal of the current study was to obtain a comprehensive qualitative description of couples' experiences with CPAP treatment, with a particular interest in determining facilitators and barriers to incorporating CPAP use into daily life. Due to the "collateral damage" of OSA to partners (e.g., snoring-induced sleep disruption,<sup>8</sup> increased distress,<sup>9</sup> and marital dissatisfaction,<sup>8,10</sup>) and demonstrated positive effects of CPAP for both patients and their partners,<sup>11-13</sup> improving CPAP adherence would have major benefits for both partners.

## 2. Methods

### 2.1. 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 three months of therapy. Patients were recruited from the patient population seeking medical attention for OSA at two 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 one 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. In order 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 with at least one 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 inter-racial 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  $24.1 \pm 18.5$  events per hour of sleep, with 30% diagnosed with severe OSA (AHI  $\geq 30$ /h). The average use of CPAP, monitored objectively over the first 90 days, was  $4.8 \pm 2.0$  h per night with a range from 1.1 to 8.5 h. Nine patients (45%) used CPAP on average less than 4 h per night.

## 2.2. 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 one of two 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. Further, 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 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 “*what was helpful to you in using the CPAP treatment?*” the interviewer would probe for “*what the spouse did that was helpful*” if the respondents did not bring it up. Informal prompts were also used by the interviewers to ask for clarifications and to repeat the key point of the respondent’s last remark. At the end of the interview, participants were asked to share what they wished they would have known prior to treatment, as well as any advice they would give to other couples.

### 2.3. Data analysis

The principal investigator (LY) and the PhD research fellow (MA) served as the primary data analysts. Conventional content analysis was used to identify topical codes, generate clusters of codes, and develop categories.<sup>14</sup> Training in qualitative analysis and periodic meetings with the expert team members in qualitative methods (DW) and couple-based dyadic research (KK) facilitated the data analysis process. Consistent with the purpose to obtain an in-depth description of couples’ experiences with OSA and CPAP treatment, information-rich dialogue between the patient and the partner that represented joint expressions and responses were coded.

A codebook was developed and refined throughout the process. The codebook included working definitions of codes. We used QRS International’s NVivo 10 qualitative data analysis software to facilitate data management.<sup>15</sup> Codes were assigned to segments of the interview data reviewed, and refined. Through an iterative process, codes were grouped together into categories based on similarities.<sup>16</sup> Categories were generated using a two-person consensus approach (MA and LY). As categories and their constitutive codes were refined, they were validated in team meetings with the experts (DW and KK). Validity and credibility were further ensured by debriefings on coding approaches, internal audits of coding by research team members, and sufficient time devoted to checking fit or referential adequacy (e.g., checking preliminary findings against raw data).<sup>17</sup>

## 3. Results

### 3.1. Facilitators of CPAP use

**3.1.1. The CPAP patient’s partner aiding diagnosis and treatment**—Participants emphasized the positive role that the partner played in aiding the diagnosis and treatment process. The couples agreed that if it were not for their partners, the patients “*would have never known*” they had a problem or that the problem “*was that bad.*” One partner stated, “*I don’t think he would’ve done it if I hadn’t told him.*” Couples reported that it took repetitive discussions by the partner regarding the sleep issue and, in some cases, years before an actual appointment was made with a health care provider. Partners expressed that the motivations underlying their encouragement for the patient’s treatment-seeking was two-fold: interruption of their own sleep, and concern for the health of the patient. For example,

one partner stated, *“Love is blind at first; then, over time, you get tired, and you have kids. So every moment I can sleep is extremely important.”* Another partner commented, *“I brought it [treatment] up off and on for two years because I was worried about his health and seeing the positive results has been most helpful... it’s a peace of mind knowing that he’s healthier, getting better sleep.”*

**3.1.2. Couples working together using CPAP – joint coping**—Working together, with a focus on “we” (as a couple), was evident as a key facilitator of CPAP use. This sense of “we” or joint coping was reflected in comments such as *“we gotta fix this”* or *“we can get to the bottom of this.”* Joint advocacy was demonstrated in a variety of ways from *“standing up for each other in medical situations,”* learning together to gain understanding about the condition and treatment, to working together *“dealing with challenges.”* As an exemplar, one patient shared, *“if you can work together as a couple and you realize that somebody has an issue that they need assistance with and you can help them, then you shouldn’t have an issue with it.”*

**3.1.3. Perceived benefits of CPAP for both partners**—The major benefit of CPAP for the couple was described as *“getting that really nice deep sleep.”* Other perceived benefits included both the partner and the patient expressing health advantages resulting from better sleep, described as being *“less tired,” “less worried,”* and having *“more energy”* resulting in a *“better quality of life.”* The couples also voiced that CPAP use improved their overall relationship through better communication and greater intimacy. For example, some couples commented on improved relationship dynamics as the result of CPAP use. This was reflected in statements such as *“we’re not yelling as much,”* or *“we’re less irritable,”* and overall talking more to each other. Some couples perceived a better marital relationship. For example, participants mentioned, *“we are back in the same bedroom”* and *“our marriage is a little further along.”*

**3.1.4. The patient being motivated to use CPAP for the partner**—A number of patients reported that they would not be using CPAP if it were not for the concern for their partner, focused on not wanting to *“disturb”* the partner while sleeping. One patient commented: *“I wouldn’t do it if I was just on my own...even though I know there are health benefits that’s not enough for me to put it on. What makes me put it on is, I know I am going to disturb her if I don’t put it on.”* While some partners acknowledged being aware of the fact that the patient used CPAP *“essentially”* for them, the partners also expressed feelings of *“burden”*, being *“uncomfortable”* for being the reason for the patient choosing to use CPAP, or trying to distance themselves from the patient’s CPAP use. For example, one partner shared her frustration when she discussed how she would help her partner with adjusting the CPAP mask, *“Well, if I adjust it [the mask] and make it tighter... I have heard him [the patient] say ‘I am doing it for you to begin with!’”* Another partner mentioned that *“It’s uncomfortable in the sense that I’m feeling responsibility to try and make him use this [machine],”*

**3.1.5. Support provided by the partner for CPAP use**—Couples described a broad range of examples of partners supporting the patients while they were using CPAP. Support

came in the form of completing online perusal of information to develop a better understanding of sleep apnea, going to clinic appointments with the patient, or equipment technical support, such as setting up the machine and helping with maintenance. For example, a female patient mentioned that her husband reminded her to clean up the mask and water tank, and made sure the machine was ready to use every evening. She commented, *“I feel happy to use the machine and I know that he is like my backup to use the machine.”* Partner support also came in the form of verbal encouragement, such as reminders and compliments on the use of CPAP, and open acceptance of the patient’s appearance while using CPAP. Patients expressed the support they received from their partners, *“I know that he backs me up when I use the machine ... He has complimented me about it, like you see you are sleeping better, you feel better, you are more active.”* Partners strongly expressed acceptance of CPAP: *“I have no cons about it [CPAP], because if it [is] helpful for him to get sleep then it’s something that needs to be done... so I have been supportive... I show interest in it,”* and *“I think it’s sexy it’s like I’m sleeping right next to a jet fighter... It’s absolutely cool.”*

### 3.2. Barriers to CPAP use

**3.2.1. Anxiety related to CPAP treatment particularly in the beginning of therapy**—Couples emphasized that in the beginning of treatment they experienced anxiety with the patient wearing the mask and management of the equipment, resulting in inconsistent use or delay in the use of CPAP. Patients expressed needing encouragement from their partners as a mechanism to alleviate anxiety. When encouragement did not occur, this was a barrier to CPAP use. As one patient stated, *“There was very little encouragement [from the partner]...I think had there been encouragement, maybe I would have used it a little bit more in the early goings.”*

**3.2.2. Bothersome equipment causing disruptions in sleep and bedtime routine**—As another barrier, the couples reported the use of CPAP equipment as bothersome, causing disruptions in sleep and bedtime routine for both partners. Complaints included the noise from the machine, the dislocation of the mask creating *“bursts of air blowing”* toward the partner, and concerns about tubing and body positioning. Additionally, couples voiced how they missed the casual conversations in bed that were interrupted by CPAP use. As an example, one patient commented, *“I don’t like putting it [the mask] on too early...because once I put it on, I cannot talk to her.”* Similarly a partner stated, *“When we go to bed, I always like to have a 10–15 minute chat. But, of course, he couldn’t talk because he had the chin strap on.”*

**3.2.3. Interruptions to intimacy**—Interruptions to intimacy were described as annoying. One participant reflected, *“We’ll snuggle. Then, he will put his mask on or he will have already gone to bed and put his mask on. So, I guess it is a little awkward. I would prefer to snuggle without it there.”* Another participant stated, *“I cannot hug him... it’s less intimate because that machine is on my face.”* Another participant echoed similarly, *“I can’t even hold her because the air blows on her neck and it’s uncomfortable and I’m tethered to this hose.”*

**3.2.4. Concern about image change while wearing CPAP**—Patients reported “*embarrassment*” and concerns about being “*unattractive*” when wearing the mask in front of the partner or other family members. One partner reported that the patient stated to her, “*you must hate looking at me [with the mask on].*” The following dialogue from another couple illustrated the concern about image:

Patient: It must be frightening for you to look over at me...

Partner: That was hard but I have gotten used to that....

Patient: Makes you think I am sicker, in the ER or a nursing home.

Partner: But that I adjusted to...

Patient: I'll admit I'm a little embarrassed of using it when she walks into the room. At night, I take it off so she won't see me because it's dark when I generally put it on.

### 3.3. What we wish we would have known

**3.3.1. The wish to start CPAP treatment sooner**—Couples described that the diagnosis and treatment of their sleep problems were delayed. The delay was attributed to couples' lack of understanding about the physiological connection between sleep and symptoms. Typically the patient resisted addressing the health problem until there was a deeper understanding about the condition or until the pressure from the partner to seek treatment became too great. To illustrate, one patient expressed: “... *just trust what your partner is saying. If he says it's bad, you should get a check-up... just keep your mind open and talk about it and definitely take it seriously.*”

**3.3.2. The need for reciprocity toward each other**—Couples expressed a strong need for reciprocity toward each other. That is, they expressed a need for being supportive of each other and accepting the responsibility for the wellbeing of the other. The couples often mentioned the demonstration of appreciation for the other during CPAP use. When asked about what advice should be offered to other couples, one partner commented: “... *just being helpful and thankful that they are doing it because I wouldn't want to sleep with a mask on my face every night. And he is doing it essentially for me.*” Similarly the motivation for using CPAP was expressed by a patient stating, “*If you love her [the partner], use it.*”

“*Having patience with each other*” was necessary because many couples viewed CPAP as a long-term treatment that required adjustment. Couples expressed that managing OSA within a relationship requires negotiation, understanding of new information, and an openness to try new routines and options. Open, frequent and supportive communication was emphasized to ease the adjustment process and provide a better experience overall. Learning about sleep and CPAP was suggested as an important component of the adjustment process. One partner, in discussing the couple's adjustment to CPAP treatment, stated: “*So there was definitely a learning curve with his CPAP... kind of thrust us into constantly communicating about sleep.*”

## 4. Discussion

The findings of this study provide new knowledge and a heightened awareness about how couples appraise the challenges of CPAP adherence and how they cope together to address them. The dyadic perspective with joint interviews leads to an expanded understanding of partner involvement and the couples' dynamics regarding CPAP treatment. Other investigators emphasized that both individuals' perspectives are required to understand comprehensively the experiences of couples managing OSA and CPAP treatment.<sup>18</sup> To capture both patient and partner perspectives, Luyster et al.<sup>18</sup> utilized focus groups with patients and focus groups with partners interviewed separately. Although Luyster et al.<sup>18</sup> provided rich findings regarding the OSA and CPAP experience, the relational dynamics within the couple were not captured, which limited the understanding of the experience of the dyad.<sup>19</sup> Instead, the current study used a dyadic interview format with one couple at a time, which allowed the couple to guide the dialogue and to describe their experiences within the context of their unique relationship. This interview style also stimulated responses that may not have been remembered or perceived without the other being present, and provided a comfortable environment for expression and more control for participants to construct their experience.<sup>20</sup> With the emphasis of *the couples' experiences of managing CPAP treatment together* and the couples' interactions, findings of this study can better inform a couple-based intervention to improve CPAP adherence.

Findings from this study emphasize the important role the partner plays in aiding OSA diagnosis and treatment. Patient participants frequently expressed regret for postponing diagnosis and treatment, as they wished they had started CPAP sooner and they advised others to "*just trust what your partner is saying.*" The reported average duration of the lag time between the initial OSA symptom presentations and OSA diagnosis is approximately 10 years.<sup>21</sup> One objective of Healthy People 2020 is to increase the proportion of individuals with symptoms of OSA who seek medical evaluation.<sup>22,23</sup> As suggested by the findings, for individuals living with partners, the partner can play a crucial role in identifying abnormal sleep and advocating for evaluation and treatment. Leveraging the important role of the partner needs to be an important component in public health strategies aimed at improving sleep health. It is interesting to note that the nature of spousal involvement may be complicated in the health care seeking process. For example, patients who reported seeking treatment due to their partners, rather than being self-referred, demonstrated lower CPAP adherence over the first 3 months of therapy.<sup>24</sup> Thus, while partners can provide a strong incentive to initiate treatment, partners can also negatively influence patient's CPAP use, as partner initiation of evaluation may be a marker of reduced patient motivation.<sup>24,25</sup>

Based on social support and social control theories,<sup>26,27</sup> Ye and colleagues hypothesized that partners could have both positive and negative impacts on CPAP adherence.<sup>7</sup> Findings from the interviews directly support this hypothesis. A partner's interactions with the patient were either positively or negatively associated with the adherence behavior, identified as facilitators or barriers. For example, support provided by the partner, such as machine maintenance, accompanying the patient to doctor's appointment, and verbal encouragement and acceptance of the patient's appearance while using CPAP, were identified to be major facilitators of CPAP adherence. In contrast, when patients reported limited encouragement



from the partner to relieve the anxiety related to CPAP use particularly in the beginning of therapy it was a major barrier to CPAP adherence. Consistent with the previous finding,<sup>28</sup> perceived interruption to intimacy was identified as another barrier to CPAP use. On the other hand, both the patient and their partner perceived a shared closeness, along with better communication that improved their relationship, as benefits of CPAP use, constituting a major facilitator of CPAP adherence. Both the positive and negative aspects of the experience require consideration when developing strategies for couples to improve CPAP use.

Couples working together was identified as a major facilitator to CPAP adherence. This finding adds to a growing body of literature suggesting that adjustment to an illness or condition is improved when both partners are mutually responsive to each other's stress and view challenges as "our" problem.<sup>29-31</sup> Kayser and colleagues found when cancer couples were aware of the effects of the disease on their relationship, they approached their coping together in a mutually engaging way.<sup>32</sup> This relational coping could facilitate communication between individuals about their experiences and support the development of an agreeable plan for managing stresses. Three characteristics of this communication were identified as relational qualities, including relationship awareness, authenticity, and mutuality.<sup>32</sup> As identified in the interviews, the couples appraised OSA as a challenge that affected each other and their relationship; that is, there was an established relationship awareness. The couples highlighted open and genuine communication, which demonstrated authenticity, and emphasized reciprocity through empathic dialogues, which is a form of mutuality. All of the relational qualities are essential for dyadic coping to develop over time.

Going beyond the specific disease and treatment, findings from this study contribute to a broader understanding of partner involvement in health behaviors by demonstrating the couple's interactions. For example, although patients being motivated to use CPAP for the partner was identified as a major facilitator to CPAP adherence, the partner's responses to this motivation were divided. While some partners' positively responded to this motivation, others voiced frustration, additional strain and burden, and distanced themselves from the health issue. Partners can resist the caregiving role as perceived by the patients or partners themselves. Chronic conditions can add complexity to the couple's relational dynamics, especially if there is a conflict or incongruence about the decisions being made.<sup>33</sup> These interactions between partners may not have been captured using traditional interview techniques such as individual interviews or focus groups. Dyadic interviews have been used in various medical conditions, particularly within the field of family research.<sup>20</sup> Investigations with a dyadic perspective may be especially useful in studying sleep and sleep-related behavior. As suggested in a heuristic framework by Troxel, sleep and relationship functioning are reciprocally related via shared chronobiological, behavioral, psychological, and neurobiological mechanisms.<sup>34</sup> This interaction of sleep and relationship functioning can have a significant effect on physical and mental health.<sup>34,35</sup> Understanding the couple's relational dynamics has significant implications for health promotion. Statements from the American Thoracic Society and American Heart Association emphasize sleep as an important lifestyle contributor to health, and interventions to improve sleep are critically needed.<sup>23,36</sup> Shifting from the traditional view of sleep as an individual phenomenon to a dyadic perspective may allow for the development of sleep behavioral

interventions that are more effective and sustainable. For example, sleep hygiene recommendations that account for both partner's circadian preferences and work schedules as well as desire for quality time together may result in more effective interventions for improving sleep health.

This study does have limitations. By requiring consent from both the patient and the partner, this study may have selected couples in more positive relationships. While joint interviews produce couple-level data, the responses can be influenced by the couple's decision-making style and their relationship. To address this issue, the interviewers checked with each partner separately at the end of the joint interview, to determine if there was anything that he/she would like to add and offered the opportunity of individual follow-up conversation. Nevertheless, the partner's presence might exert some constraint and the joint interview may produce less candid data for some couples. In this study we tried to obtain a diverse sample in terms of demographics and CPAP adherence. The majority of patients in the sample were suboptimal in their CPAP use. On average, patient participants in this study had moderate to severe OSA according to the average AHI. CPAP is more effective for severe OSA and those patients with severe OSA tend to be more adherent to treatment.<sup>37</sup> The more severe OSA may also impact on the patients and partners discourses. Future quantitative investigation with larger sample size should investigate how factors such as disease severity and co-sleeping may influence couples' experience with CPAP treatment.

## 5. Conclusions

Data for the interviews have confirmed the important role partners play in patient adherence to CPAP treatment. For patients living with partners, health care providers should not view the partners as "outsiders", but instead need to involve partners in the diagnostic and treatment process. The partner will likely be an integral component to any successful strategies improving CPAP use. Furthermore, it is important to recognize that partners can have both positive and negative impact on patient CPAP adherence. Simple recommendations, such as asking partner to "be present" at clinical visit or merely adding partners to health education, may not be sufficient. The barriers and facilitators to CPAP adherence discovered in this study have important implications to inform the development of innovative strategies engaging partners to improve CPAP adherence. Strategies that reduce psychosocial barriers to CPAP adherence by promoting supportive relationships and positive dyadic coping, advocating for a mutually engaging couples' perspective, addressing anxiety related to CPAP in the beginning of treatment, and providing an adequate amount of information about the treatment may improve the success of CPAP adherence. Future research is needed to quantitatively examine and isolate the types of partner involvement that are beneficial compared to types that are detrimental to CPAP adherence, and to obtain a better understanding of how the couple's dyadic coping and relationship dynamics may influence the adherence behavior. This study is an exemplar for investigating sleep health within a family context, which may represent an important approach to improve sleep health and promote sleep-related behavioral change.

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**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, years	
• Patient	49.6 ± 9.6
• Partner	50.1 ± 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, years	15.9 ± 12.8
Patient apnea-hypopnea index, events h <sup>-1</sup>	24.1 ± 18.5
Patient objective CPAP use over the first 90 days, hours per night	4.8 ± 2.0

**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 (e.g. 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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