Review

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Enhancing Obstructive Sleep Apnea Management: A Collaborative Care Model Incorporating Cognitive Behavioral Strategies

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Abstract: Obstructive sleep apnea (OSA) remains largely underdiagnosed although highly prevalent, partly attributable to fragmented care delivery across disconnected primary, pulmonary, dental, and psychological providers. Recognizing the need for more integrated approaches, this paper reviews existing literature and proposes a Collaborative Care Model (CoCM) as an innovative solution to promote coordinated OSA screening, definitive diagnosis, therapy initiation, motivational support, and longitudinal engagement. The model integrates a diverse group of professionals from various fields. Primary clinicians are responsible for evaluating the risk of obstructive sleep apnea (OSA) and making referrals for sleep testing. Sleep specialists validate diagnoses and devise individualized treatment strategies that may include positive airway pressure devices, oral appliances, or surgery. Respiratory therapists assist with mask fittings and titration support. Durable medical equipment vendors provide the necessary devices. Mental health professionals offer targeted cognitive rehabilitation. This comprehensive approach necessitates a robust system of care coordination to effectively integrate these diverse professional roles, as care coordination binds the team; however, realizing enhanced access, patient-centered education, combination therapy, and proactive self-management support requires resolving some obstacles. These systemic obstacles relate to financial disincentives, infrastructural deficits, and basic adult OSA knowledge gaps. This knowledge gap exists among frontline clinicians who are expected to coordinate screening and integrated care planning. Strategic efforts should fill in the gaps. Some methods to achieve this are as follows. Implementing interprofessional OSA education is one approach. Another is investing in care management resources by placing support staff into primary care teams. Enabling data sharing across specialists through health technologies is also important. Finally, consistent use of evidence-based protocols for OSA screening, diagnosis, treatment selection and patient follow up must occur.

Keywords: obstructive sleep apnea; collaborative care models; cognitive behavioral therapy; healthcare management; patient-centered care

1. Introduction

The OSA is a common sleep disorder characterized by repeated collapse of the upper airway during sleep, leading to oxygen desaturations, arousals from sleep, and disruption of normal sleep architecture [1,2]. Research suggests that OSA affects approximately 15-30% of the general adult population [3,4]. Left untreated, OSA is associated with increased cardiovascular morbidity and mortality, neurocognitive deficits, impaired quality of life, and motor vehicle crashes [5]. The gold standard treatment for OSA is continuous positive airway pressure (CPAP) therapy, which pneumatically splints the airway open during sleep. Thus, there is a critical need to develop improved management strategies to enhance outcomes in OSA.

In recent years, various adjuvant therapy approaches have been proposed to augment standard CPAP treatment, including positional therapy, oral appliances, and pharmacologic agents [6,7]. Additionally, behavioral strategies targeting sleep habits, cognitive processes, and lifestyle factors represent a promising avenue to improve CPAP adherence and OSA self-management [8]. In particular, cognitive behavioral therapy for insomnia (CBT-I) has demonstrated efficacy for

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improving CPAP use when provided as an adjuvant treatment [9,10]. CBT-I targets maladaptive beliefs and behaviors that propagate sleep difficulties through interventions like sleep restriction, stimulus control, cognitive restructuring, and relaxation training [11,12].

Applying CBT-I strategies may similarly improve CPAP adherence and outcomes in OSA by addressing problematic sleep behaviors, altering dysfunctional beliefs about sleep and CPAP, and teaching coping techniques to manage symptoms [12]. Integrating these behavioral principles into OSA care aligns with calls for more personalized, patient-centered care models emphasizing self-management and healthy lifestyle changes [13,14].

The CoCM represents an evidence-based approach for delivering integrated physical and mental healthcare through a team-based structure, typically consisting of a primary provider, care manager, and psychiatric consultant [15,16]. By linking medical care with targeted psychological services, CoCMs allow for enhanced personalization, access, communication, and continuity of care. CoCMs have demonstrated effectiveness across diverse health conditions like depression and anxiety [17]. Adapting the collaborative care paradigm to OSA management may similarly improve outcomes by offering patients more comprehensive support. Central to this integrated approach is equipping patients with sustainable self-management skills through applied cognitive behavioral principles.

Moreover, psychotherapy expertise would complement standard medical management from the primary provider. Together, the team would collaboratively develop and monitor personalized treatment plans emphasizing both PAP therapy and behavioral change. The psychiatric consultant would provide regular consultation and decision support around the applied psychological components.

This proposed integrated model aligns with evidence underscoring the importance of behavior change and self-efficacy in supporting PAP adherence and OSA self-management [18,19]. By adopting principles from evidence-based modalities like CBT-I and motivational interviewing, care managers could help patients modify maladaptive beliefs hampering treatment acceptance, learn concrete strategies for overcoming practical barriers to adherence, and foster intrinsic motivation to prioritize healthy sleep behaviors in support of therapy. Equipped with these psychological tools through collaborative medical and behavioral sleep care, patients may feel more confident, capable, and engaged in effectively managing their OSA.

In addition to enhancing frontline treatment, this collaborative care approach could also increase access and continuity of care for traditionally underserved OSA patients through innovative delivery formats like telehealth and group visits [20]. The integrated structure likewise promotes interdisciplinary communication and coordinated decision-making regarding therapy recommendations and troubleshooting. While high-quality research on the proposed model is still needed, the complementary expertise and patient-centered principles underlying collaborative medical and behavioral sleep care hold considerable promise for strengthening OSA management. By consolidating medical and psychological support, patients' capacity for long-term self-efficacy and treatment adherence may be bolstered.

However, OSA remains a highly prevalent condition with suboptimal adherence to the first-line CPAP treatment. Integrating evidence-based cognitive behavioral strategies within a collaborative care framework could empower patients with the skills and support needed to effectively self-manage this pervasive sleep disorder. Therefore, the main aim of this study is to review existing research and propose an integrated collaborative care model for obstructive sleep apnea management that incorporates evidence-based cognitive behavioral strategies to improve continuous positive airway pressure therapy adherence and self-efficacy.

1.1. Preferred Approaches for Managing Obstructive Sleep Apnea

The gold standard treatment for OSA is CPAP therapy, which pneumatically stabilizes the airway through a bedside device that delivers pressurized air via a mask interface [18,21]. When used consistently on a nightly basis, CPAP can effectively eliminate respiratory events, restore restorative sleep, and improve both nocturnal and daytime symptoms associated with OSA [21]. However,

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despite proven efficacy, long-term adherence to CPAP therapy remains suboptimal, with adherence typically defined as use for at least 4 hours per night on 70% of nights [22]. Estimated adherence rates hover around 50% after one year of treatment initiation [23,24]. Thus, there has been increasing emphasis on personalized, patient-centered approaches that address motivational and behavioral factors influencing CPAP acceptance and sustained use [14].

Adjuvant therapies like automated positive airway pressure (APAP) devices, oral appliances, and positional therapy can help expand treatment options for OSA patients struggling with standard CPAP. But behavioral interventions targeting knowledge gaps, faulty beliefs, poor sleep habits, and self-efficacy issues offer perhaps the greatest potential to enhance outcomes when used alongside primary medical management [25,26]. Educational, motivational, and cognitive-behavioral strategies can empower patients to become actively engaged in making sustainable lifestyle changes that reinforce therapy adherence and overall health behaviors.

In particular, guideline documents highlight the integration of cognitive behavioral therapy for insomnia (CBT-I) principles as a promising avenue for improving PAP usage and sleep outcomes in OSA patients [27–29]. CBT-I aims to alter dysfunctional beliefs, thoughts, and behaviors that propagate insomnia through techniques like sleep restriction, stimulus control, cognitive restructuring, relaxation strategies, and sleep hygiene education [30–32]. Adapting these evidence-based psychological tools to address maladaptive sleep behaviors and cognitions in OSA patients may similarly bolster acceptance of and adherence to CPAP treatment.

Furthermore, delivering personalized behavioral sleep medicine through an integrated, collaborative care framework can ensure OSA patients receive comprehensive support addressing both medical and psychological aspects of managing this multifaceted disorder. Central to this integrated care approach is equipping patients with sustainable self-management skills grounded in cognitive-behavioral theory.

While medical teams clearly play an invaluable role in diagnosing OSA and providing initial treatment recommendations, long-term behavioral change and self-efficacy are ultimately what drive successful therapy adherence over time [33]. Thus, care models for OSA should shift from just delivering a device to fostering motivation and capabilities for sustaining use. This requires a patient-empowerment approach promoting sustainable lifestyle adjustments, a process which may be enabled through principles adopted from CBT-I and motivational interviewing techniques.

For example, within a collaborative care model, a behavioral sleep specialist could employ motivational strategies to strengthen intrinsic desire for treatment while using CBT-I methods like sleep restriction and stimulus control to modify maladaptive behaviors which may sabotage CPAP use. Similarly, cognitive restructuring could help patients modify dysfunctional assumptions about sleep, CPAP, or their self-efficacy that undermine adherence. Equipped with both the psychological tools to support behavioral change and the medical equipment to manage the physical symptoms of apnea, patients can feel empowered to effectively self-manage this challenging yet highly treatable sleep disorder.

To sum up with, while CPAP remains the gold standard physical treatment for OSA, integrated medical and psychological support grounded in evidence-based cognitive-behavioral approaches offers the greatest potential to improve patient self-efficacy, treatment adherence, and ultimately long-term outcomes. Collaborative care pathways incorporating behavior change principles warrant further research but represent preferred future directions for sleep apnea management.

2. The Collaborative Care Model for Obstructive Sleep Apnea

The CoCM represents an evidence-based framework for delivering integrated physical and mental health services through a coordinated team-based approach [15,34]. Traditional CoCMs are typically comprised of a primary care provider, case manager, and psychiatric consultant working together to develop and enact personalized treatment plans emphasizing both medical and psychological aspects of care [17,35].

This structured team-based approach has demonstrated effectiveness across diverse health conditions from depression to diabetes, allowing for enhanced assessment, communication, care

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coordination, and continuity through staged treatment [15,17]. Adapting the collaborative care paradigm to OSA management holds similar promise for consolidating medical and behavioral support to improve patient outcomes. Central to this proposed model is the incorporation of a behavioral sleep medicine specialist as the case manager role, offering psychotherapy guidance around evidence-based cognitive and motivational strategies for reinforcing adherence and self-efficacy.

Equipped with skills in motivational interviewing and cognitive behavioral therapy for insomnia (CBT-I), the behavioral sleep specialist would complement traditional PAP-focused medical management from the primary care provider. Together, the team would work closely with patients to promote acceptance of and sustained engagement with therapy through concrete behavior change strategies targeting dysfunctional beliefs, maladaptive behaviors, and practical barriers that commonly undermine adherence [8,36,37]. For example, the sleep specialist could employ CBT-I methods like stimulus control and sleep restriction to establish optimal sleep habits in support of therapy while using cognitive restructuring techniques to help modify faulty assumptions about treatment efficacy.

Moreover, regular consultation with the psychiatric consultant would facilitate ongoing decision-making regarding the appropriateness and implementation of the behavioral principles. Overall, this collaborative structure allows for interdisciplinary synergy, coordinated care transitions, and consolidation of both medical and psychological services to address the multifaceted challenges of effectively managing OSA long-term. It empowers patients with layered support and enhances continuity through integrated assessment, treatment planning, and follow-up centered on enabling self-efficacy and positive health behaviors that reinforce therapy adherence and overall wellbeing. This comprehensive approach not only addresses the immediate concerns associated with OSA but also sets the stage for addressing the broader challenges in treatment adherence, particularly in the context of PAP therapy

Building on this foundation of comprehensive care, it's important to acknowledge that while the gold standard treatment for OSA remains PAP therapy to physically manage respiratory events during sleep, suboptimal adherence persists, underscoring the vital role of behavioral and self-management factors in long-term outcomes. The proposed collaborative care model aligns with calls for multifaceted, patient-empowerment approaches that interweave traditional medical management with targeted psychological strategies fostering motivation and capabilities for sustaining use [14,19]. Central to this integrated paradigm is consolidating resources from multidisciplinary team members to address both the medical and behavioral facets of OSA through evidence-based modalities like CBT-I and motivational interviewing. While additional research on adapted Collaborative Care for OSA is still needed, the model holds considerable promise for improving patient-centered support, treatment adherence, and ultimately real-world effectiveness.

2.1. Challenges for the Collaborative Care Model

The CoCM offers an innovative framework for improving OSA detection and treatment through enhanced coordination between diverse healthcare professionals involved across the disorder's continuum of care [38,39]. This interdisciplinary model has shown efficacy in managing various chronic conditions by facilitating integrated behavioral, pharmacological, and medical interventions tailored to each patient's needs [40]. However, substantial barriers must first be addressed before the CoCM can transform real-world management of OSA.

A primary roadblock is lack of OSA-specific training among frontline primary care teams expected to screen and triage suspected cases under collaborative protocols [41,42]. Over 85% of OSA patients remain undiagnosed, partly attributable to deficient risk assessment and use of screening tools during routine office visits. Lack of awareness regarding evidence-based treatment options beyond CPAP also hamstrings population management approaches [43]. Rigorous interprofessional education surrounding OSA's multifactorial risks, diverse therapy choices, and appropriate specialist referral criteria will be fundamental to effective collaborative care deployment. Additionally, the current reimbursement environment poses challenges by inadequately covering care coordination

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services and non-CPAP treatments including oral appliances and cognitive behavioral therapy for insomnia [44]. Incentivizing team-based integrated care through funding reform will be essential. Beyond educational and financial barriers, the decentralized nature of OSA care itself poses inherent organizational challenges. Patients often feel like "hot potatoes" passed between primary care, pulmonology sleep labs, ENT surgeons, dentists, and durable medical equipment vendors [45]. Yet these specialists usually work in siloed settings with little infrastructure enabling seamless cross-communication, data sharing, and care transparency. Patients fall through the cracks, unsure who retains central responsibility for longitudinally managing such a pervasive condition.

Modernized health IT ecosystems and care coordination protocols are acutely lacking, though essential to interdisciplinary collaboration under a genuine CoCM [39]. For example, automated referral processes could streamline linkage from primary clinics to certified sleep centers upon clinically suspected OSA. Likewise, populated treatment summaries in electronic health records could improve transmission of sleep study recommendations to other specialists crafting integrated management plans for complex patients. Embedded care managers within primary care teams may also help continuity through critical OSA education and CPAP adherence support. However, despite the CoCM's conceptual appeal, transforming such a fragmented system demands substantial investment in unifying infrastructure if we hope to bridge disciplinary divides in how multi-factorial OSA care is delivered.

Furthermore, the collaborative care framework has the potential to improve OSA management, but it requires addressing systemic barriers in financial, educational, operational, and technological domains. Knowledge gaps regarding OSA's pathophysiology, screening tools, and therapeutic options should be addressed through interprofessional education initiatives. Reimbursement reform and funding incentives should cover staffing, infrastructure, and care coordination elements. Health IT enhancements should enable seamless health information exchange between providers, enabling e-consultations, data integration, and treatment decision support.

Standardization of best-practice protocols surrounding OSA screening, diagnosis confirmation, evidence-based therapy selection, and care transitions should help actualize consistent model implementation. In order to do so, the following questions will be explored in the following sections:

- Which interventions should be included into the CoCM?
- Which interventions should be excluded from the CoCM?
- Which healthcare professionals should participate in the CoCM?

A summary of the considerations discussed below is provided in Figure 1.

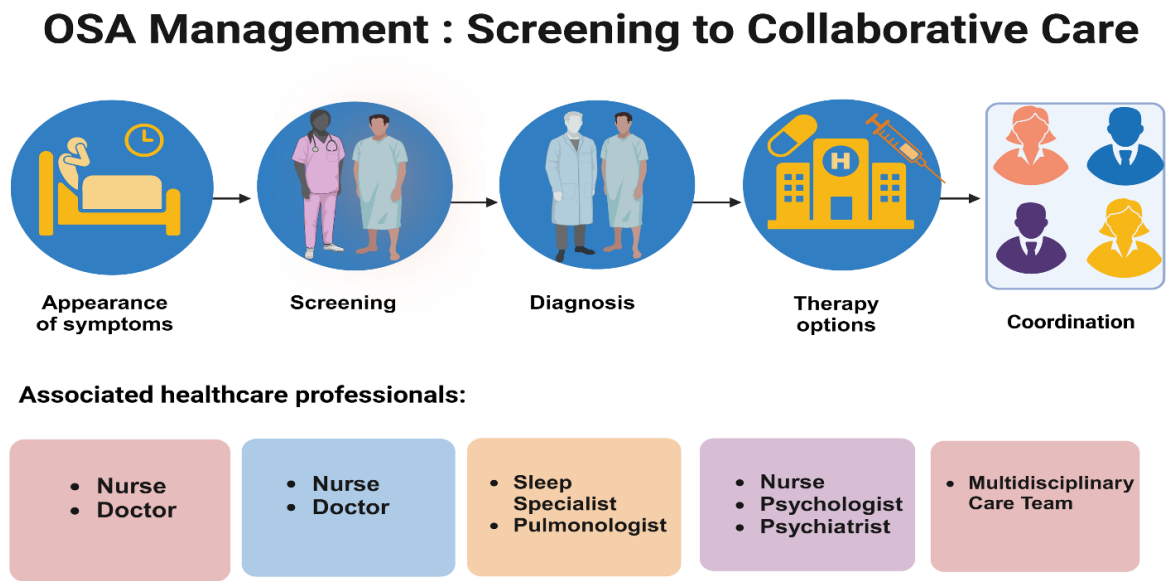

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Figure 1. An illustrative overview of the Obstructive Sleep Apnea (OSA) management pathway, from initial symptom presentation to coordinated care. The diagram details the roles of healthcare professionals at each stage, including screening by nurses and doctors, diagnosis by sleep specialists, therapeutic guidance by psychologists, and ongoing management by a multidisciplinary care team. Created with BioRender.com.

2.2. Which Interventions Should Be Included into the CoCM?

The CoCM for OSA aims to provide an integrated system of screening, diagnosis, treatment, and ongoing management support. Within the CoCM, interventions from a range of providers work synergistically to enhance outcomes [46]. The model is based on the concept that better coordination care and collaboration of providers can result in greater improvement in outcomes by combining expertise from multiple disciplines, supporting self-management skills, and improving adherence to treatment [47]. Research has shown that the CoCM can increase CPAP usage rates, reduce apnea-hypopnea index scores, and decrease daytime sleepiness to a greater extent than usual care [48].

The first step would involve initial screening and risk assessment conducted by the primary health care provider, looking for key symptoms of OSA such as loud snoring, observed apneas, and excessive daytime sleepiness [49]. If OSA is suspected based on this initial assessment and a score above a set threshold on a screening tool like the STOP-BANG questionnaire, referral for definitive diagnostic testing with overnight polysomnography would follow [50]. Polysomnography, requiring an overnight stay in a sleep lab or the use of at-home portable monitors, is the gold standard for confirming an OSA diagnosis by providing a measurement called the apnea-hypopnea index that indicates OSA severity [51].

Confirmation of diagnosis and initial recommendations would then be provided by a sleep specialist, such as a sleep physician, sleep psychologist, or health professionals with expertise in sleep disorders [52]. The sleep specialist would review the results of the polysomnography, provide the definitive OSA diagnosis, recommend treatment options tailored to the severity level, discuss prognostic implications, and provide education about the nature of the disorder to the patient [50,53].

A critical component of the CoCM is the care coordinator, who facilitates patient education about OSA, explains treatment options like CPAP in depth, and provides encouragement and troubleshooting support to improve adherence [54]. Education and support around CPAP, the frontline treatment for OSA, is vital for increasing acceptance and usage [8]. The care coordinator also organizes appointments with other needed specialists, serving as a bridge across the care continuum to promote care integration [55].

One key specialist that can be integrated into the CoCM is a psychologist, able to deliver targeted cognitive behavioral therapy for insomnia (CBT-I) [56]. This can directly improve some OSA symptoms like excessive sleepiness while also addressing maladaptive thoughts or behaviors that may be interfering with CPAP use [57]. CBT-I helps regulate sleep schedules, counter non-helpful beliefs about sleep, and promote healthy sleep habits that lessen OSA impact [58].

The primary care provider and sleep specialist continue to collaborate with the rest of the care team to adjust the management plan over time, providing coordinated support (Garvey et al., 2015). By working together across the care process with regular communication and role clarity, the sleep care team can personalize treatment plans to optimize outcomes for each patient over the long-term [51,59].

The CoCM approach is a valuable tool for integrating multiple evidence-based interventions and maintaining strong care coordination across specialties. It allows providers to operate at their highest level of training, enhancing outcomes synergistically. Psychological interventions at the Cognitive Behavioral Therapy (CBT) stage can include motivational enhancement strategies, behavioral sleep medicine techniques, and addressing dysfunctional beliefs about sleep and maladaptive attitudes towards CPAP. CBT for OSA should be multi-component, addressing both behavioral and cognitive factors influencing CPAP use. The care coordinator plays a crucial role in tracking progress through the CoCM, ensuring patient connections with all necessary providers and guiding the overall case formulation and management plan. Their oversight and coordination allow the model to provide

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integrated care. The ultimate goal is to integrate medical and psychological approaches to treat OSA and encourage lifelong adherence to effective management like PAP therapy.

2.3. Which Interventions Should Be Excluded from the CoCM?

While the CoCM serves to integrate the efforts of various providers to optimize OSA management, there are some adjunct interventions that should be excluded due to lack of empiric support or potential to interfere with core treatment components.

Pharmacotherapy is one element that requires careful consideration regarding its place within the CoCM framework. Although various medications like sedative hypnotics may provide symptomatic relief for issues like insomnia which commonly co-occur with OSA, they generally lack adequate evidence showing efficacy in treating OSA itself or improving primary outcomes like CPAP adherence [60]. Additionally, the frequent side effects of many sleep medications, including residual daytime sedation, may actually undermine adherence to CPAP or utilization of cognitive-behavioral strategies intended to regulate sleep drive or counter maladaptive beliefs about sleep. Any hypnotic use also runs the risk of physiological dependency which could negatively impact natural sleep architecture [61].

Given these concerns, pharmacotherapy should be considered an adjunctive option only after behavioral approaches have been thoroughly exhausted and shown to be insufficient as monotherapy. If pursued, medication should be carefully time-limited and coordinated around ongoing non-pharmacological interventions [62]. Formal substance use disorder assessment may also be warranted in some cases where hypnotic dependence develops. Within a Collaborative Care framework, the ideal provider to oversee pharmacological management would be the patient's primary care physician, collaborating closely with the sleep specialist and other team members to mitigate risks and ensure alignment with rest of treatment plan [63].

While polysomnography is critical for initially diagnosing OSA and guiding patients into CoCM-based treatment, repetitive or ongoing diagnostic testing largely sits outside the CoCM after the initial confirmed diagnosis. The model's extensive coordination, communication, and reassessment mechanisms between the primary care provider and sleep specialist serve to detect changes in status and rebalance the treatment regimen on an individualized basis in lieu of multiple repeat sleep studies. For example, the Care Coordinator facilitates regular CPAP data downloads to monitor adherence and efficacy. However, in some cases, a second sleep study may become necessary after substantial weight loss, medication changes, or other major clinical shifts to ensure the treatment plan remains properly calibrated. Still, these repeat evaluations are the exception rather than norm once the collaborative team has oversight of managing a patient's established OSA (Epstein et al., 2016). Relying on the ample support and expertise within the CoCM team allows for ongoing assessment and plan modifications in response to fluctuations in symptoms or risk factors over time, rather than routinely re-entering additional costly and time-consuming polysomnography testing after baseline diagnosis.

Additionally, while public health efforts to promote sleep health literacy and counter societal dismissiveness regarding sleep problems is vital, large-scale educational interventions are better considered prevention rather than active treatment of existing OSA. Once patients present with suspected or confirmed OSA, they require the personalized, intensive support the CoCM provides across the process from confirmation of diagnosis through long-term disease management [64].

However, lower-intensity options like group OSA education sessions or individualized sleep hygiene counseling could potentially augment CoCM care coordination and troubleshooting for some patients needing supplemental reinforcement. So, while keeping the formal Collaborative Care Team tightly focused on evidence-based components like CBT-I integration and CPAP optimization, supplementary services may serve as an adjunct depending on resources available in a given care setting and the needs presenting in an individual case. The Care Manager helps link patients to these supportive resources if they facilitate agreed-upon health goals. As part of the multidisciplinary team, the Care Manager also aids in consistent communication about all supplementary interventions to ensure they align with the comprehensive treatment plan [65].

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2.3.1. Addressing Obstructive Sleep Apnea in Educational and Preventive Programs

The OSA has emerged as a highly prevalent condition with serious health consequences if left untreated. This reinforces the vital role of public awareness and preventive efforts to promote early recognition and intervention. Expanding education represents a key opportunity within a broader framework also incorporating screening, accessible diagnosis, and integrated treatment through models like the CoCM.

Comprehensive OSA education involves addressing the multidimensional aspects of sleep health, including the interplay between the physiological components of sleep and the thought patterns, behaviors, and environmental factors affecting them. Core curricular elements would cover topics like sleep architecture, the characteristics and risk factors for OSA, the signs and symptoms that should prompt clinical evaluation, and the medical, psychological, and lifestyle approaches to managing the disorder. Outreach should target both patient-facing and provider-based education to enhance recognition across the care continuum [66].

Multidisciplinary teams featuring nursing, sleep medicine, primary care, and community health expertise can collaborate to develop evidence-based community education programs on OSA delivered through diverse platforms like group presentations, webinars, print materials, social media campaigns, and web-based resources. The key objectives should focus on fostering self-efficacy for seeking indicated screening and treatment while also promoting healthy sleep habits more broadly. Preventive messaging should underscore the intersection between overall wellness and sleep quality, emphasizing behavioral approaches like sleep hygiene and cognitive restructuring techniques to mitigate insomnia risk. While not yet validated through controlled trials, studies suggest OSA education programs may support increased CPAP acceptance and adherence as well as reduced symptom burden for those with or at risk for OSA [67].

Tailoring messaging and materials to address diverse cultural beliefs and attitudes around sleep and CPAP therapy can aid engagement and receptiveness [68]. Community or employer wellness events can efficiently disseminate materials and measure impact through validated sleep and sleep disorder questionnaires. Care coordination is a key opportunity emerging from large-scale efforts to shift cultural mindsets regarding sleep health. Education campaigns should prompt more individuals to proactively discuss sleep concerns with their doctors, improving models to facilitate linkages to definitive diagnostic testing and evidence-based treatment for suspected sleep disorders. Supplemental avenues to access sleep-focused CBT-I or sleep hygiene counseling align with a stepped care approach to reinforce prevention. Large-scale OSA awareness programs should be viewed as complementary rather than equivalent to active screening and clinical treatment through frameworks like the CoCM. Community, worksite, or digital education campaigns can prompt patients to seek indicated care sooner while providing reinforcement regarding lifestyle factors influencing OSA severity and treatment efficacy. Multilayered efforts spanning the prevention-diagnosis-treatment continuum will likely maximize population impact on this prevalent yet under-addressed chronic health condition.

2.4. Which Healthcare Professionals Should Participate in the CoCM?

A CoCM for OSA management should incorporate a multidisciplinary team of healthcare professionals with complementary expertise. This team-based approach can provide comprehensive assessment and integrated treatment planning tailored to the patient's needs and preferences [69,70]. At the core of the team should be the health care provider, who has an established relationship with the patient and provides continuous care coordination. The health care provider plays a key role in initial OSA screening, referral for diagnostic testing, delivering education about OSA, monitoring adherence and response to treatment, and follow-up care. Also central is a sleep specialist, typically a sleep physician, nurse practitioner, or physician assistant with expertise in sleep medicine. The sleep specialist assists with confirming the OSA diagnosis, providing detail on treatment options like PAP therapy and oral appliances, and titrating and troubleshooting treatments. Next, a mental health professional trained in cognitive behavioral therapy (CBT) strategies should be involved. The CBT clinician can educate patients about the cognitive and behavioral factors that influence OSA, provide

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techniques to improve PAP acceptance and adherence, and offer non-PAP behavior therapies for mild OSA [71].

The multidisciplinary CoCM team, including respiratory therapists, durable medical equipment providers, nutrition professionals, dentists, orthodontists, and nurses, is crucial for providing comprehensive sleep apnea management plans. Respiratory therapists have specialized knowledge in PAP therapy, while durable medical equipment staff supply PAP equipment and replacements. Nutrition professionals can advise patients on diet and weight loss approaches to manage OSA severity. Nurses assist with care coordination, patient education, and follow-up.

The involvement of specialists should be tailored to each patient's needs, with dentists being more appropriate for patients interested in oral appliances and respiratory therapists for those needing encouragement and problem-solving for PAP device use. Care coordination by the primary provider is essential for a unified care plan and effective communication. The key to providing whole-person, patient-centered OSA care is involving the right mix of professionals, trained in collaborative care and patient engagement, and cultural competence. Effective communication modalities, such as shared electronic medical records, regular conferences, and coordinated care protocols, should be established.

By taking a biopsychosocial approach that addresses medical, behavioral, and lifestyle factors, the multidisciplinary CoCM team can develop comprehensive obstructive sleep apnea management plans. With skilled professionals collaborating and coordinating roles based on their scope of practice, patients can get the full spectrum of therapeutic and self-management support matched to their values and needs. This has the potential to improve adherence, reduce residual OSA symptoms, and enhance quality of life for people living with this chronic condition.

3. Conclusion:

In conclusion, a Collaborative Care Model shows immense potential for transforming the traditionally fragmented landscape of obstructive sleep apnea detection and management. By surrounding patients with a coordinated team of providers spanning primary care, sleep medicine, psychology, respiratory therapy, durable medical equipment, and other disciplines, OSA treatment can become more holistic, patient-centered, and effective. Moreover, this multimodal approach recognizes the physiological, psychological, social, and environmental dimensions of this pervasive sleep-related breathing disorder. It aims to integrate medical and behavioral interventions tailored to each individual's needs and preferences to optimize outcomes like CPAP acceptance and long-term adherence. When patients feel heard, understood, and supported by a unified group of compassionate providers who communicate seamlessly, they become empowered to take an active role in self-managing a lifelong condition. However, realizing the Collaborative Care vision requires resolutely addressing systemic barriers related to financial incentives, care coordination infrastructure, and basic OSA knowledge among frontline clinicians expected to coordinate screening and panel management. Team roles should be defined, responsibilities delineated, leveraging sleep specialists, respiratory therapists, CBT experts and care managers embedded in primary clinics. Standardization of screening, diagnosis, therapy selection and follow-up protocols should optimize model fidelity. Quality sleep apnea care requires integrated, cohesive delivery systems for evidence-based interventions like CPAP and CBT-I, with a whole person focus. If implemented thoughtfully, Collaborative Care could enable synergistic combining of diverse providers' talents under a shared vision of sleep health. This has the potential to overcome current care fragmentation while responding to the very real physical, emotional, cognitive and social burden that untreated OSA imposes for millions living with this prevalent condition.

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