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COMMENTARY

CPAP setup by mail: we're not there yet

Commentary on Stanchina M, Lincoln J, Prenda S, et al. The impact of different CPAP delivery approaches on nightly adherence and discontinuation rate in patients with obstructive sleep apnea. *J Clin Sleep Med*. 2022;18(8):2023–2027. doi: 10.5664/jcsm.10038

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The Centers for Medicare and Medicaid Services (CMS) and many other insurers have imposed an arbitrary 90-day cut-point on becoming adherent to continuous positive airway pressure (CPAP) therapy, requiring at least 1 month with an average use ≥ 4 hours on 70% of nights. Patients not meeting these criteria must return their device or be charged even if they are still actively trying to be adherent. In this issue of the *Journal of Clinical Sleep Medicine*, Stanchina et al[1] evaluated one factor that can influence a patient's ability to become adherent, the method of setup. The authors compared adherence in patients who were offered the choice of virtual (self-selected mail) vs in-person group setup and a third virtual group during the coronavirus disease 2019 (COVID-19) pandemic (mandatory mail).

They had a couple of key findings. There was a lower discontinuation rate after in-person setup (2.6%) than after self-selected mail (11.2%) or mandatory mail (9.5%). There was improved CPAP adherence, defined as median percentage of nights with > 4 hours of use, in the in-person (77%) compared with self-selected mail (60%) and mandatory mail (63%) groups. Similarly, there were differences in the average percentage of nights with > 4 hours' use (65.3%, 54.2%, and 55.9%, respectively). They included data that allowed for calculation of the percentage of patients who met CMS criteria: in-person, 56.4% (127/224); self-selected mail, 44.5% (103/231); and mandatory mail, 42.1% (97/210). Thus, fewer patients were likely able to meet insurance criteria than their reported percentage of adherent patients.

So how do these CPAP adherence rates compare to other studies? The CMS adherence in the mandatory-mail group was nearly identical to that of 41.3% found in another study of a fully remote pathway during COVID-19.[2] However, this is much lower than other studies utilizing telemonitoring after usual setup with 70–87% adherence rates.[3,4] Other factors, such as obstructive sleep apnea severity, presence of daytime symptoms, and response to treatment, have been shown to affect adherence.[5] Although there were no overall differences between groups, these were not tested to see if they affected adherence.

The higher discontinuation rate in the first 90 days in the mail groups can either be explained by treatment failure or lack of desire to utilize treatment in the first place. To have an in-person setup, a person has to show up, which would eliminate those patients who lack the desire to use therapy. It would be interesting to know the zero-usage rates as well as the no-show rate to in-person setups to further evaluate these reasons.

Randomization is needed to really determine the true effect of mailing since self-selected people may be more adherent if they are more savvy users or may be less adherent if their choice was due to reduced effort. The COVID-19 pandemic likely also affected the mandatory mail group. Many people increased sleep duration during the pandemic,[6] which may facilitate meeting adherence requirements. Several studies found that CPAP usage increased during the pandemic.[7,8] Patients getting sleep evaluations and treatment during COVID-19 may also be more committed to pursuing therapy than those who decided to wait. On the other hand, it is possible that during COVID-19, patients with studies suggestive of obesity hypoventilation or periodic breathing may have been ordered auto-titrating CPAP (autoCPAP) who normally would have been sent for in-laboratory titration. Thus, device choice or improper setting may have made them less likely to meet adherence,[9,10] although the average post–CPAP therapy apnea-hypopnea index was low. Overall, it would be interesting to evaluate the characteristics and selection reasons of those who chose mail in non–COVID-19 times.

Despite the slightly higher adherence rates in the mandatory mail group over the self-selected group, this study clearly showed that mailing of devices was suboptimal compared with in-person group setups. So, what is lost in a fully virtual setup?

Educational and behavioral interventions have consistently been shown to improve adherence.[11] In this study, the patients were all provided with the same educational materials including an 11-minute video, but it is possible that virtual patients did not review the materials. Were all of their patients English speaking or have devices to watch the video? If not, the educational material would be less effective. It would be interesting to know whether participation in phone interactions (scheduled for 2 weeks and 1, 2, and 3 months) had an effect on adherence. If future interactions improved adherence, then a longer period to become adherent

may be all that is needed. Given that the in-person visits were done in groups, could there be additional benefits of setting up live patients in a group setting rather than as individuals? One likely difference between in-person and virtual setup is the ability to improve mask fit, which is critical for adherence. Was there a difference in leak or number of mask replacements between the groups? Could newer mask-fit applications with 3D facial imaging help improve this aspect of virtual setup?[12]

In trials with standardized education and set-up procedures, autoCPAP after home sleep apnea testing has not been found to worsen adherence compared with titration study.[13,14] With the growth of home sleep apnea testing, many more patients are getting CPAP devices without ever having tried them before. They are no longer spending a night with a technician helping to determine what mask may fit best or helping them acclimate to the device. Especially in real-life settings with more variable support, this lack of personalized touch may affect adherence or cause it to take longer to meet adherence, especially if more mask changes are needed. While adherence in the first week of CPAP is highly predictive of ongoing adherence,[15–17] many patients who struggle can achieve adherence with adequate education and follow-up if time and appropriate supplies are provided.

The benefits of mail setup, including speeding up setup, preventing lost workdays, reducing costs of travel, and reducing exposure to infections, as well as cost and time savings for durable medical equipment companies, make it an important option for some patients, but this study shows that it should not be the standard of care. More flexibility in time to become adherent, increased mask resupply coverage, and enhanced mask-fitting technologies should be further evaluated to see if this method can be optimized.

CITATION

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