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Improving remote support for patients on Continuous Positive Airway Pressure (CPAP) therapy using cloud-based telemonitoring system



Dr Soh Rui Ya, Sengkang General Hospital
Kathy Chan Sock Khim, Sengkang General Hospital
Dr Toh Ming Ren, Sengkang General Hospital

BACKGROUND

The introduction of Continuous Positive Airway Pressure (CPAP) therapy to a first-time user can be a challenging process. As early adherence is a known predictor of long-term adherence, it is important that CPAP therapy is initiated with optimized focus on patient support and comfort. Issues should be identified and addressed early. Currently, patients newly initiated on CPAP therapy are reviewed over the phone for any CPAP-related issues at 2-weeks post initiation. It has been challenging to identify and troubleshoot the issues over the phone, and often, patients are required to return to the clinic for physical troubleshooting which would add to the workload of sleep technologists.

Charts	Patient details	Prescription	Remote Assist	Notes
	Device AirSense 10 AutoSet	Serial number 22221168143	Added 10/08/2022	
	Mode AutoSet	Min Pressure (cmH2O) 8.0	Max Pressure (cmH2O) 15.0	
		Ramp enable On	Ramp time (min) 5	
	Remove	Edit device settings		
	Climate control Auto	Humidifier level Level 4	Tube temperature 27°C (81°F)	
	Edit climate settings			
	Data access Full Time Monitoring	Monitoring until No end date		
	Change			

OBJECTIVE

AirView system is a cloud-based online platform which provides remote access to objective data of the CPAP therapy, including patients' adherence and presence of mask leak. The cloud-based monitoring system also enables remote adjustment of the settings, including the pressure change, pressure relief and ramp.

We aim to evaluate how utility of this telemonitoring can impact on existing remote phone support service.

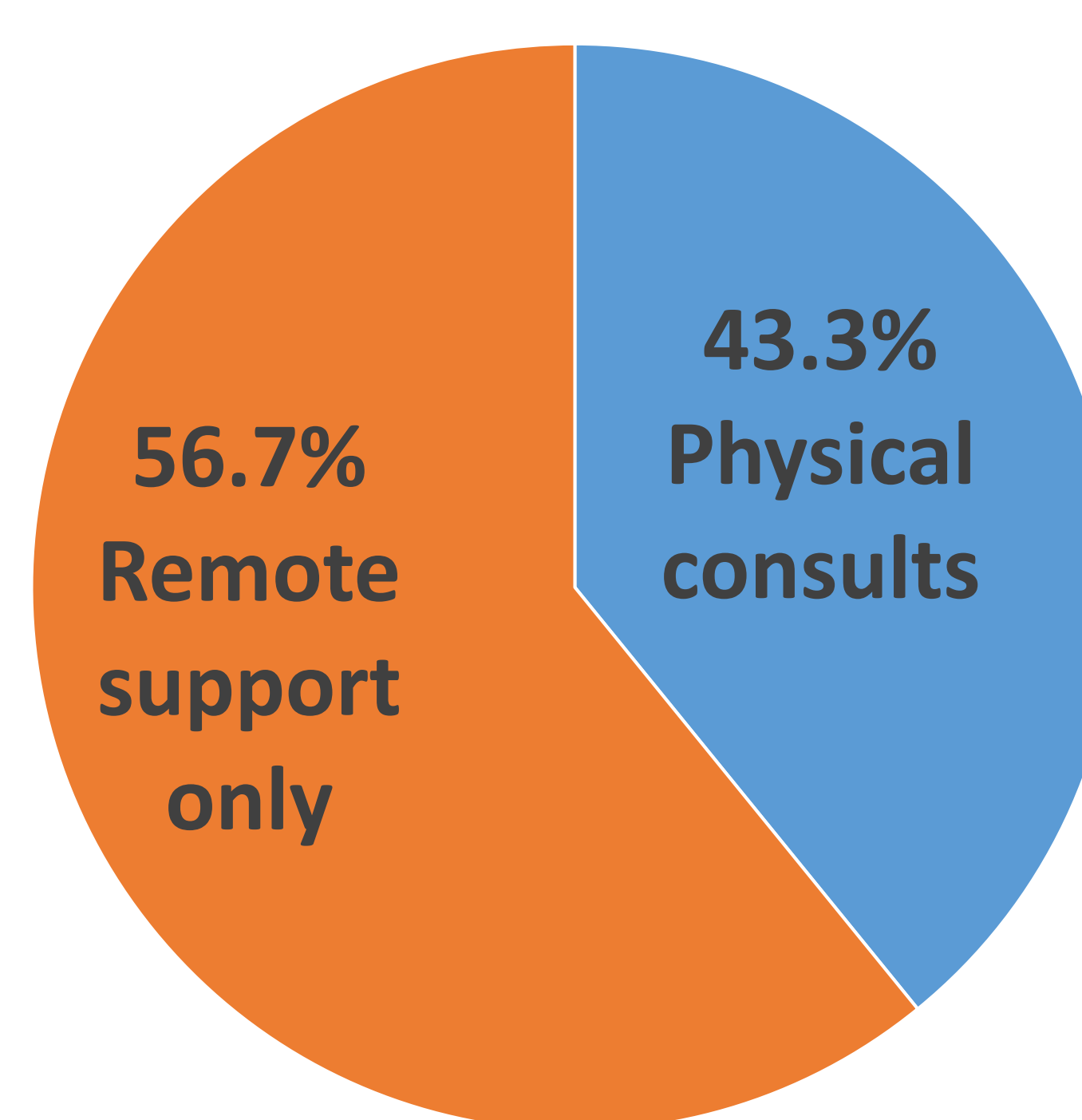
METHODOLOGY

We conducted a quality improvement study on 221 patients who were referred for CPAP initiation counselling for newly diagnosed OSA. All patients had in-person counselling sessions prior to initiation of CPAP therapy via the Resmed Airsense 10 device. All patients had remote phone support calls by sleep technologists at 2-weeks. Sleep technologists had remote access to objective CPAP therapy data and settings during the phone calls for patients in the cloud-based monitoring (Airview) intervention group. Primary outcome was proportion of patients who still required a physical support session. Secondary outcome was proportion of the remote support calls that could adequately identify and address issues.

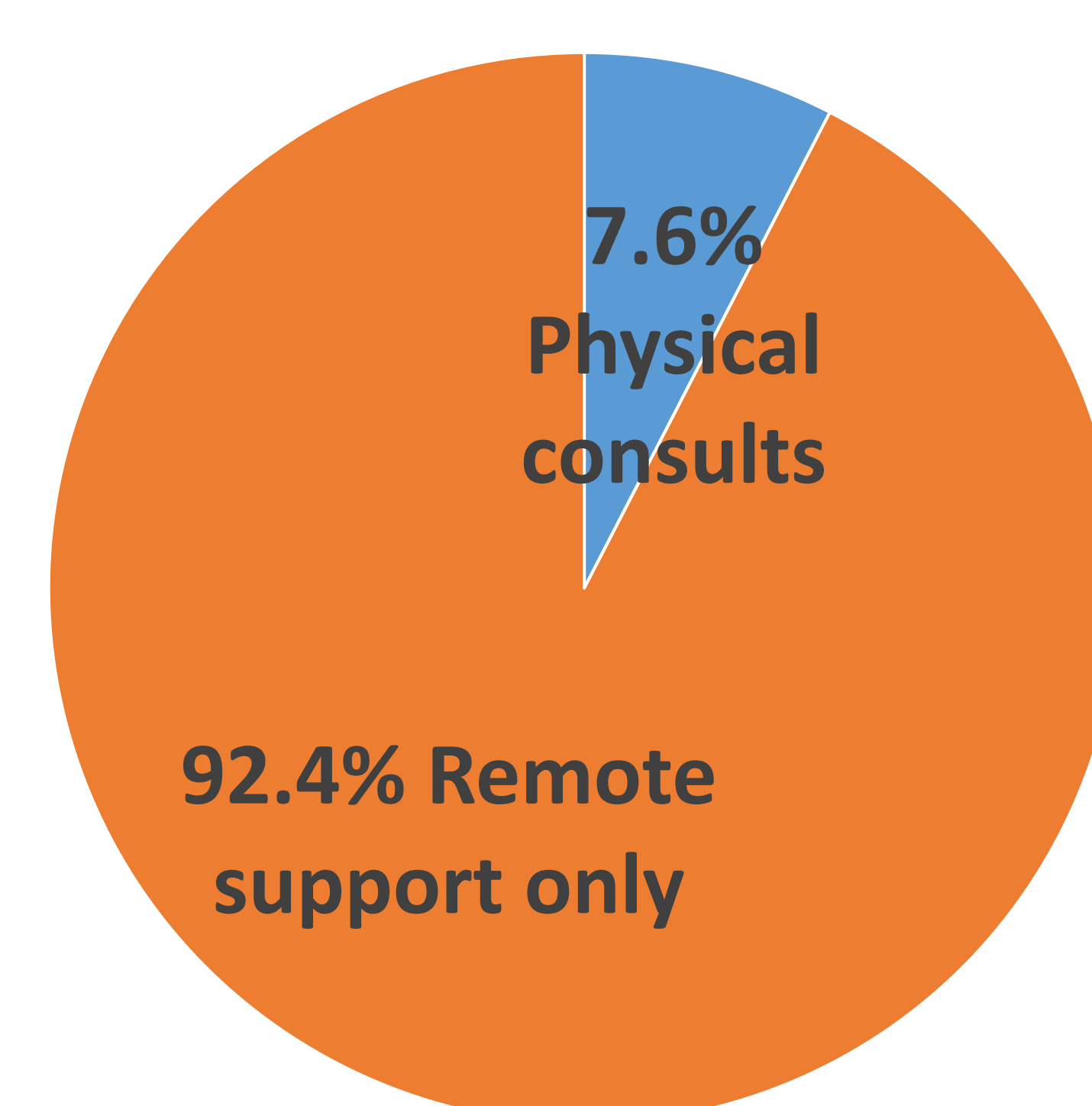
RESULTS

Patients in the cloud-based monitoring group had less physical support sessions (7.6% vs 43.4%, p=0.000).

Without AirView



With AirView



Almost all patients in the cloud-based monitoring group had their issues adequately identified and addressed via the remote support phone calls alone (97.2% vs 59.2%, p=0.000).

CONCLUSION

The introduction of the cloud-based monitoring system improved the quality and efficacy of remote support service for patients newly initiated on CPAP therapy. Most patients no longer need a physical visit to address their concerns. This saves time and expenses and enhances patient experience.