

Capillary blood gas pH 7.44, pCO<sub>2</sub> 4.76 KPa, pO<sub>2</sub> 13.5 KPa, Hb 133, sO<sub>2</sub> 97.2%, FO<sub>2</sub>Hb 94%, FCOHb 1.6%, FMetHb 1.7%, sO<sub>2</sub> 96.7%, BE 0.3, HCO<sub>3</sub> 24.9. Simultaneous pulse oximeter: sO<sub>2</sub> 89%.

#### Case explanation

Oximeters compare absorption spectra of oxyhaemoglobin and deoxyhaemoglobin in red (660nm) and infra-red (940nm) light to estimate oxygen saturation (figure 2). HbKöln is an autosomal dominant haemoglobinopathy with absorption spectra shifted upwards in the range of 600–900nm,<sup>1</sup> resulting in reduced saturations measured by oximetry compared to the blood gas.

#### Key learning points

**Oximeters are imperfect** They can be inaccurate in carbon monoxide poisoning, dyshemoglobinemia, dark skinned patients, low saturation ranges, in patients with nail varnish and other situations.<sup>2</sup>

Clinical context, and family history, are key. Modern blood gas analysers use co-oximetry to measure absorption at >100 wavelengths to accurately distinguish 'normal' haemoglobin from other species.

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P43

#### AWAKENING THE TRUTH: UNVEILING THE PERCEPTION AND AWARENESS OF SLEEP DISORDERS AMONG DOCTORS AND PATIENTS AT A UNIVERSITY HOSPITAL IN INDIA

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**Introduction** Sleep disorders have a profound impact on individuals' well-being, yet there remains a critical lack of awareness regarding their prevalence and significance in India.

**Methods** An observational study conducted at Shree Krishna Hospital in India involved 150 doctors and 150 patients over 12 months. Validated questionnaires were used to assess their perception and awareness of sleep disorders, revealing insights into their understanding and knowledge.

**Results** Among doctors, 100% recognized significance of sleep, with varying levels of knowledge in specific areas. Functions of sleep were understood by 91.3%, while 80.7% were familiar with different types of sleep disorders. Common sleep disorders were recognized by 84.7%, but awareness of rare sleep disorders (36.7%) and associated risk factors (78%) was limited. Specific disorders such as OSA were recognized by 88.7% of doctors, while CSA garnered awareness from 57.3%. However, knowledge gaps were noted in the diagnosis of sleep disorders (61.3%), diagnostic tools like polysomnography (60%), and assessment scales (49.3%).

Among patients, awareness levels were alarmingly low, with only 48% acknowledging the importance of sleep. Knowledge regarding sleep disorders (16.7%), symptoms (10%), and risk factors (9.3%) remained notably limited. Specific symptoms such as snoring (20%), drowsy driving (39.3%), waking up unrefreshed (24.7%), sleepwalking and sleeptalking (48%),

excessive daytime sleepiness (11.3%), and obesity as a risk factor (15.3%) were poorly recognized.

**Discussion and Conclusion** This study highlights a significant disparity in the perception and awareness of sleep disorders between doctors and patients in India. Although doctors demonstrated an overall understanding, improvements are needed in knowledge pertaining to rare sleep disorders, diagnosis, and treatment options. Patients require enhanced education on the importance of sleep, recognizing symptoms, and available treatments. Bridging this knowledge gap is crucial to promote better sleep health outcomes for all individuals.

P44

#### SLEEP PROBLEMS AND GAMBLING DISORDER: FINDINGS IN NON-TREATMENT SEEKING YOUNG ADULTS

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**Introduction** Gambling disorder is a behavioural addiction featuring persistent, recurrent gambling that results in distress and impairment of function. Sleep problems are recognised as an important risk factor for developing some mental illnesses including depression, anxiety and substance misuse; however research into gambling disorder and sleep problems is limited.

We aimed to investigate the potential association between gambling disorder and symptoms of insomnia and excessive daytime sleepiness. It was hypothesised that, compared to controls, individuals with gambling disorder would have significantly greater disturbance of sleep, as indicated by increased scores in: 1) specific sleep items within and 2) total scores on the Hamilton Anxiety Rating Scale (HAMA) and Hamilton Rating Scale for Depression (HAM-D) and 3) increased total score on the Epworth Sleepiness Scale (ESS).

**Methods** A secondary analysis of a subset of previously published data by Grant and Chamberlain (2018). A total of 152 adults, not currently seeking treatment, aged 18–29 years were recruited. Three groups were determined by DSM-5 criteria – controls, at risk of gambling disorder and gambling disorder. One-way ANOVAs with post-hoc tests were conducted.

**Results** There were significant differences between groups in sleep disturbance as assessed by the HAMA scale and HAM-D scale sleep disturbance items. These differences were more marked in middle and late insomnia. Total scores on the HAMA and HAM-D scales were significantly higher in the disorder group, reaching the thresholds for clinical significance for anxiety and depression. ESS scores, measuring excessive daytime sleepiness, were not significantly different between groups.

**Discussion** Symptoms of sleep problems, especially late- and middle-insomnia, as well as symptoms of anxiety and depression were found to be significantly higher in the gambling disorder group compared to controls. Further research could have implications for the identification and treatment of sleep disorders and psychiatric comorbidities in gambling disorder.

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**P45** A SYSTEMATIC REVIEW OF THE EFFECTS OF SLEEP MEDICINE TEACHING ON THE KNOWLEDGE OF DOCTORS AND MEDICAL STUDENTS

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**Introduction** Sleep Medicine is a rapidly growing field gaining increased awareness amongst the general public. However, educational exposure received by aspiring clinicians has only

marginally improved in the last two decades (Romiszewskiet al., 2020).<sup>1</sup> This review identifies research in which clinicians or clinical students' Sleep Medicine knowledge was measured at baseline and retested following specific Sleep teaching. The extent of knowledge increase, alongside correlation between improvements and duration of teaching time were evaluated.

**Methods** Studies were screened to ensure they contained a relevant population, aged >18yr, exposed to an educational intervention focusing on sleep, with required assessments of clinical knowledge. Those focusing on non-clinical populations and non-English Language studies were excluded. Searches were performed using the Ovid platform alongside hand-searches in 'Search Oxford Libraries Online' and reference lists from review articles. Quality appraisal was conducted using published tools. For each study change in knowledge was converted to percentage, and statistical analyses performed to calculate the mean, participant number weighted mean, standard deviation and Spearman's rank of correlation coefficient.

**Results** See table 1 and table 2. Seven studies were identified including five cross-sectional, one cohort study and one RCT. All showed a significant effect of Sleep Medicine Education. In total 445 who experienced interventions were included for

Abstract P45 Table 1

Study	Mean Pre-test Score / %	Mean Post Test Score / %	Change / %
(Saetia, Reed and Jernstedt, 2005)	39.8	78.5	+38.7
Schillinger et al 2003	51	2 weeks; 68	+17
		6 months : 67	+16
Bandla et al., 2007	56	85	+29
Salas et al., 2013	55.0	69.9	+14.8
Ersu et al. , 2017	55	Immediately after: 93	+38
		At 3 months : 77	+22
Mazer et al., 2021	39.6	49.5	+9.93
Wappel et al., 2021	67.1	77.5	+10.4
	71.3	81	+9.67
			Mean +10.0

Abstract P45 Table 2

Population	All Medical Practitioners and Students	Undergraduates Only
Mean increase in Sleep Medicine Knowledge (95% Confidence)	+20.0%	+21.7%
Participant number weighted Mean	+18.5%	+19.8 %
Standard Deviation	10.6 %	11.8 %
Spearman's Rank Correlation Coefficient	0.679	0.9