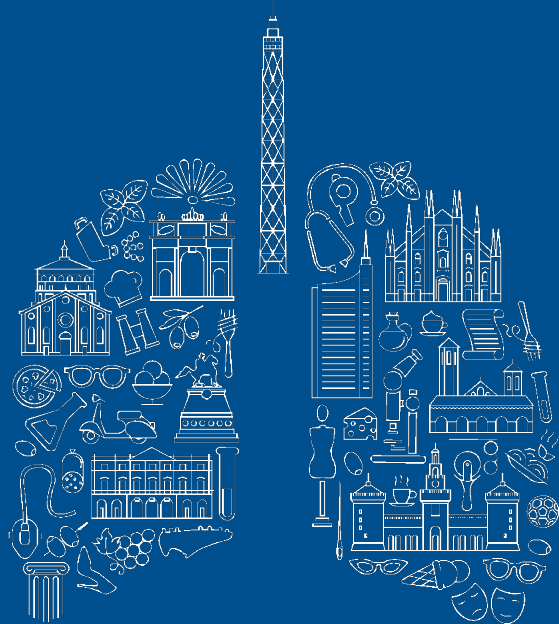




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Conditions we are just dealing with the tip of the iceberg in Primary care

Cláudia A Vicente

USF Araceti – PORTUGAL

GRES P/APMGF

Conflict of interest disclosure



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☐ I have the following real or perceived conflicts of interest that relate to this presentation:

Affiliation / Financial interest	Commercial company
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GOAL

- To discuss possible actions to improve management of frequently forbidden conditions in primary health care;
- To provide general practitioners and primary care professionals with easy tools and strategies to diagnose and manage sleep apnoea



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SUSPICION AND DIAGNOSE OF OSA IN PC



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ARE WE

1- ASKING THE PATIENTS ABOUT THE QUALITY OF THEIR SLEEP?

- a) YES**
- b) YES, but not enough**
- c) NO**



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ARE WE

1- ASKING THE PATIENTS ABOUT THE QUALITY OF THEIR SLEEP?

WHY?



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Is Sleep Apnoea relevant to Family Doctor?

Sistema Clínico - Dr(a) Claudia A Vicente - Urf Aracati

Ref. Ext. Ref. Int. Equipas Notific. Pro. Fam. Proc. Ut.

Soap. Artec. Alergias Marcac. Notas Not. Clin. Vigil. Proc. Cl. RSE AP. Info. 3.5... Ajuda Unid. Trab. Sair

Perfil MEDICO

AGENDA Consultas do Dia Consultas Urgentes Consultas Domicilio

☐ Não Efectivadas ☒ Efectivadas ☐ Para Outros Médico CLAUDIA A VICENTE

Horário - Períodos Todos os Períodos

Admitir Utente

23-06-2023

<< < Junho 2023 > >>

Dom Seg Ter Qua Qui Sex Sab

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

NOTAS/TAREFAS DIA

Notas e Tarefas do Dia

MENSAGENS INTERNAS

Data Assunto

Nova Mensagem < 0/0 >

Médico Família: Claudia A Vicente Enf. Família: Jose Agostinho Enf. Contacto: H.Início: H.Termo:

N	H. Agd.	H. Adm.	Estado	Processo	Nome do Utente	Idade	Consulta	Inic.	MR	H. Efect.	Agendado por	Data/Hora Fim	P54/21	E
1	08:15	08:03	Efectivada	2	[REDACTED]	67 anos	Ca	U		08:29	Ofelia Canteiro	22-06-2023 08:29		☒
2	08:30	08:03	Efectivada	2	[REDACTED]	51 anos	Ca	U		08:29	Ofelia Canteiro	22-06-2023 08:29		☒
3	08:45	08:11	Efectivada	2	[REDACTED]	56 anos	Ca	U		08:36	Ofelia Canteiro	22-06-2023 08:36		☒
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2	09:20	09:15	Efectivada	4	[REDACTED]	58 anos	Mgf	M		09:17	Claudia A Vicer	22-06-2023 09:17		☒
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6	10:40	09:55	Efectivada	1	[REDACTED]	66 anos	Hipertensao	M		10:54	Claudia A Vicer	22-06-2023 10:54		☒
7	11:00	10:48	Efectivada	3	[REDACTED]	19 anos	Mgf	U		10:59	Filomena Prior	22-06-2023 10:59		☒
8	11:20	11:06	Efectivada	2	[REDACTED]	30 anos	Mgf	U		11:38	Maria Ferreira	22-06-2023 11:38		☒
9	11:40	11:22	Efectivada	2	[REDACTED]	28 anos	Mgf	U		11:50	Dulce Louros	22-06-2023 11:50		☒
10	11:50	11:32	Efectivada	4	[REDACTED]	67 anos	Hipertensao	M		12:05	Claudia A Vicer	22-06-2023 12:05		☒
1	12:00	10:05	Efectivada	2	[REDACTED]	53 anos	Relatorios	U	T	17:43	Maria Ferreira	22-06-2023 17:43		☒
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6	12:15	10:05	Efectivada	3	[REDACTED]	44 anos	Relatorios	U	T	17:43	Maria Ferreira	22-06-2023 17:43		☒

CONSULTAS AGENDADAS

Data	Hora	Consulta	Profissional

ÚLTIMAS CONSULTAS

Data	Hora	Consulta	Profissional
22-06-2023	08:15	Ca	Claudia A Vicente
09-01-2023	11:34	P.N. Saúde das Pessoas Idosas	Catarina Jeronimo
03-01-2023	12:00	Mgf	Isabel R Fragoso
03-01-2023	11:42	P.N. Saúde das Pessoas Idosas	Catarina Gomes

Challenges in clinical practice



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Registo Clínico da Consulta - Dr(a) Cláudia A Vicente - Usf Araceti

Nome: [Redacted] Idade: 66 anos N° [Redacted]

Episódio corrente: NEOPLASIA MALIGNA DO CÓLON / RECTO

S MANUTENÇÃO DE SAÚDE / MEDICINA PREVENTIVA
EXAME MÉDICO / AVALIAÇÃO DE SAÚDE-PARCIAL
Vem para consulta de HTA
esta a lidar bem com a sua situação oncologica. Com colostomia e esta a fazer QT quinzenalmente
esta a fazer meio cp de telmisartan não tem ranhura
MH
10 mg+ 25 mg
Bisoprolol + Hidroclorotiazida, [Concor 10 Plus], 10 mg + 25 mg
Amlodipina, 10 mg
Telmisartan, 80 mg

O Tosse com expectoração presenciada
Peso(kg)=73,5 TAs=130 TAd=74 IMC=27 Notas=AC: rítmica e sem sopros
AP: N FC=66 Álcool=0 RCV=2% Tabaco=0 Carga Tabágica=0

A HIPERTENSÃO SEM COMPLICAÇÕES
TOSSE
NEOPLASIA MALIGNA DO CÓLON / RECTO

P OBSERVAÇÃO / EDUCAÇÃO PARA A SAÚDE / CONSELHO / DIETA
PROCEDIMENTO ADMINISTRATIVO
ANÁLISE DE SANGUE
OUTROS PROCEDIMENTOS DIAGNÓSTICOS
ANÁLISE DE URINA
TRAÇADO ELÉCTRICO
plano: peço PFR e análises para PC HTA
suspende amlodipina e mantém telmisartan mas faz 1 cp sem cortar. Vgia TA
Telmisartan, 80 mg

Individual data [Redacted] 07-2018

PROGRAMAS DE SAÚDE

☐ Women health

☐ Maternal health

☐ Diabetes Program

☒ Hypertension Program [Redacted] 2023

☒ Oncologic screening [Redacted] 2022

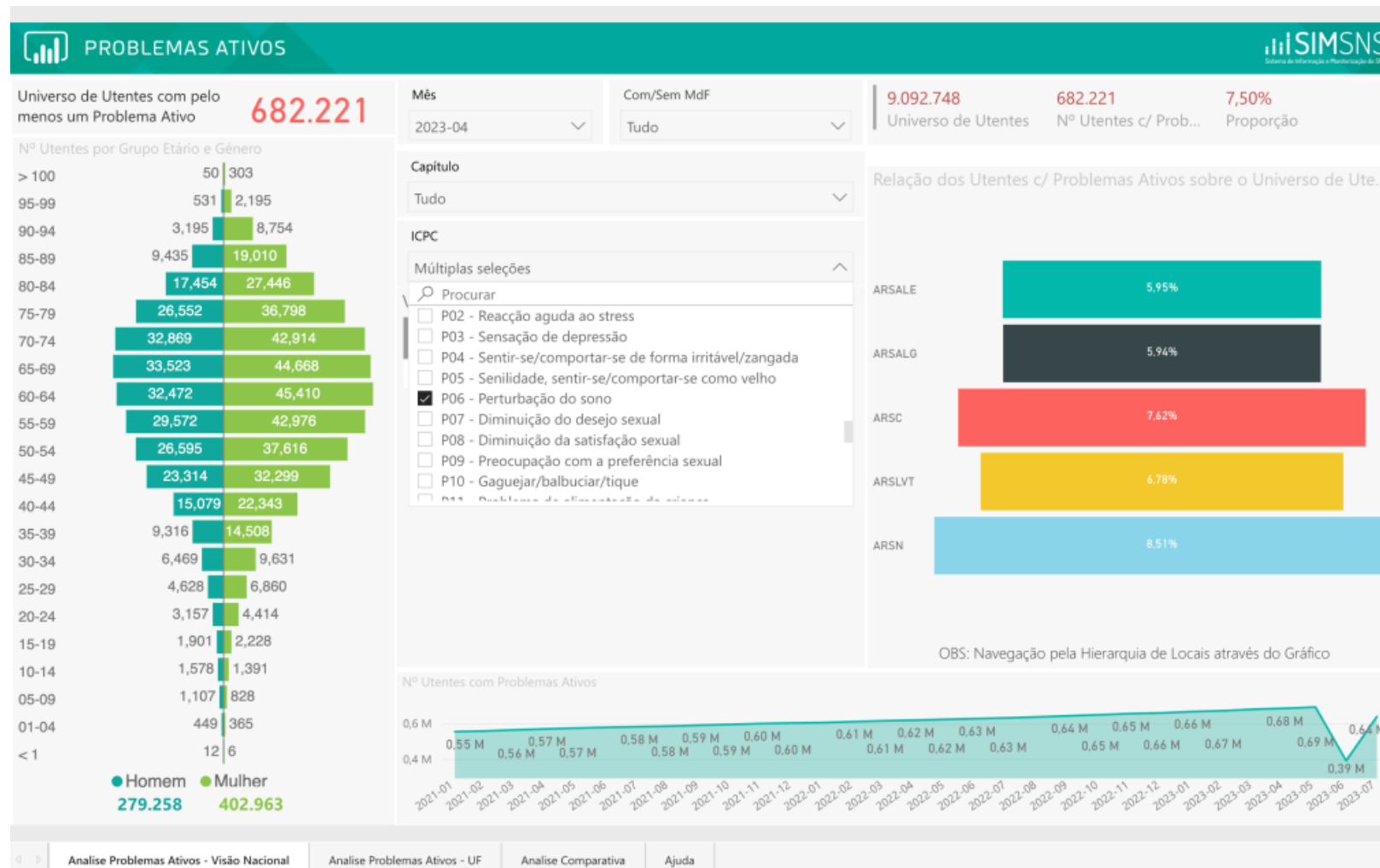
☐ Child and youth health

P06 – sleep disorders



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P06
INCLUDES: insomnia;
nightmares; **sleep**
apnoea; sleepwalking

EXCLUDES: sleepiness
A29; tiredness caused
by travelling and time
zone differences ("jet
lag") A88



**Underdiagnosis
Underestimated risk**

no mortality directly attributed



SUSPICION AND DIAGNOSE OF OSA IN PC



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SO WE,

2- SHOULD ASK THE PATIENTS ABOUT THE QUALITY OF THEIR SLEEP WHEN?

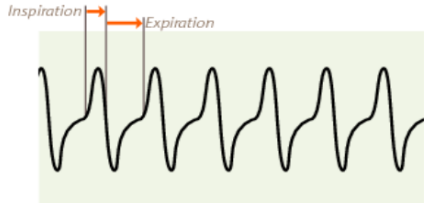
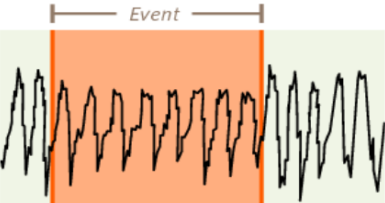
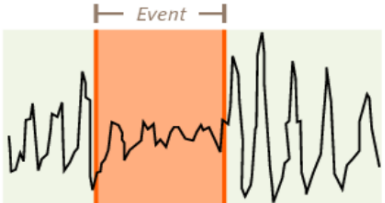
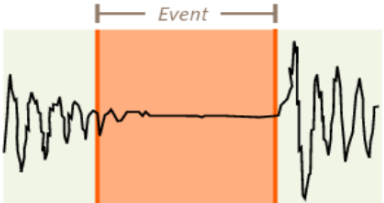


- a) a patients snores
- b) a patients is obese
- c) a patients has excessive day sleepiness
- d) All of this and more

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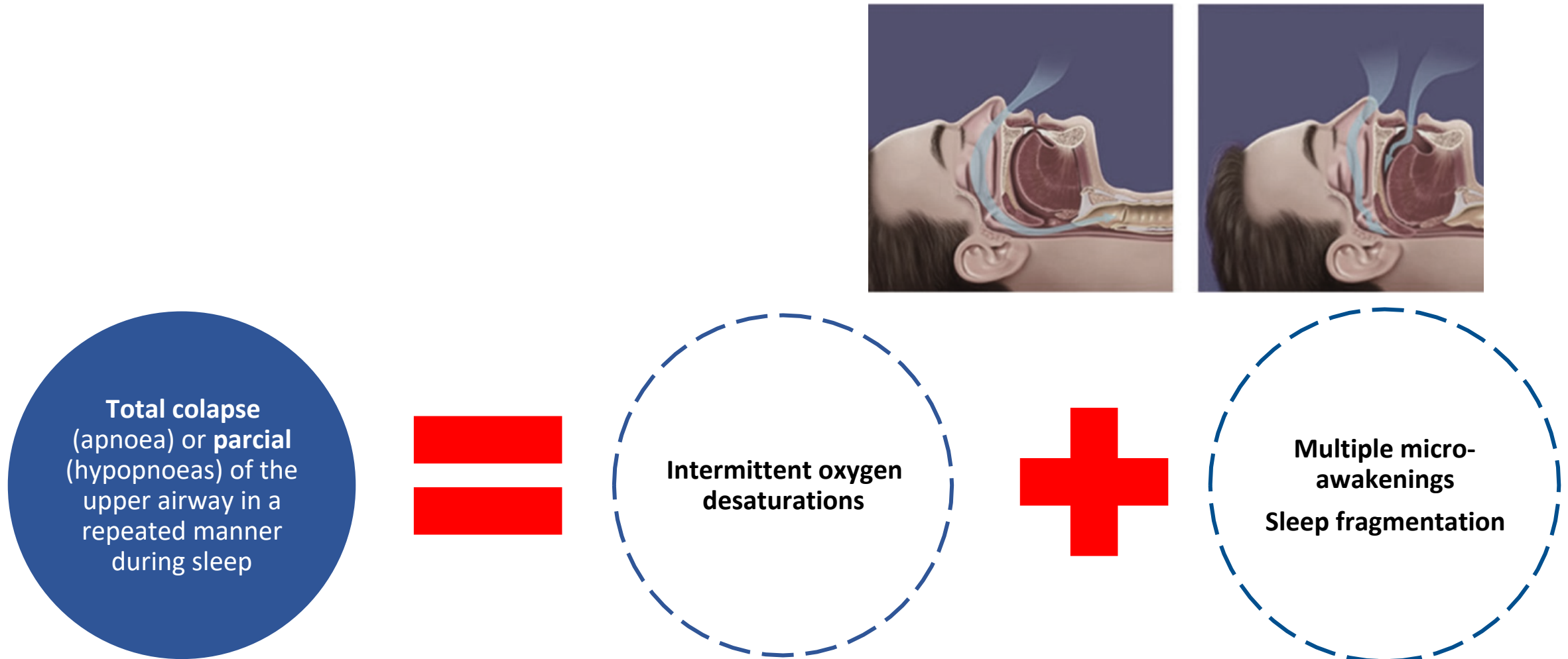
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The Fundamentals of Sleep and Obstructive Sleep Apnea

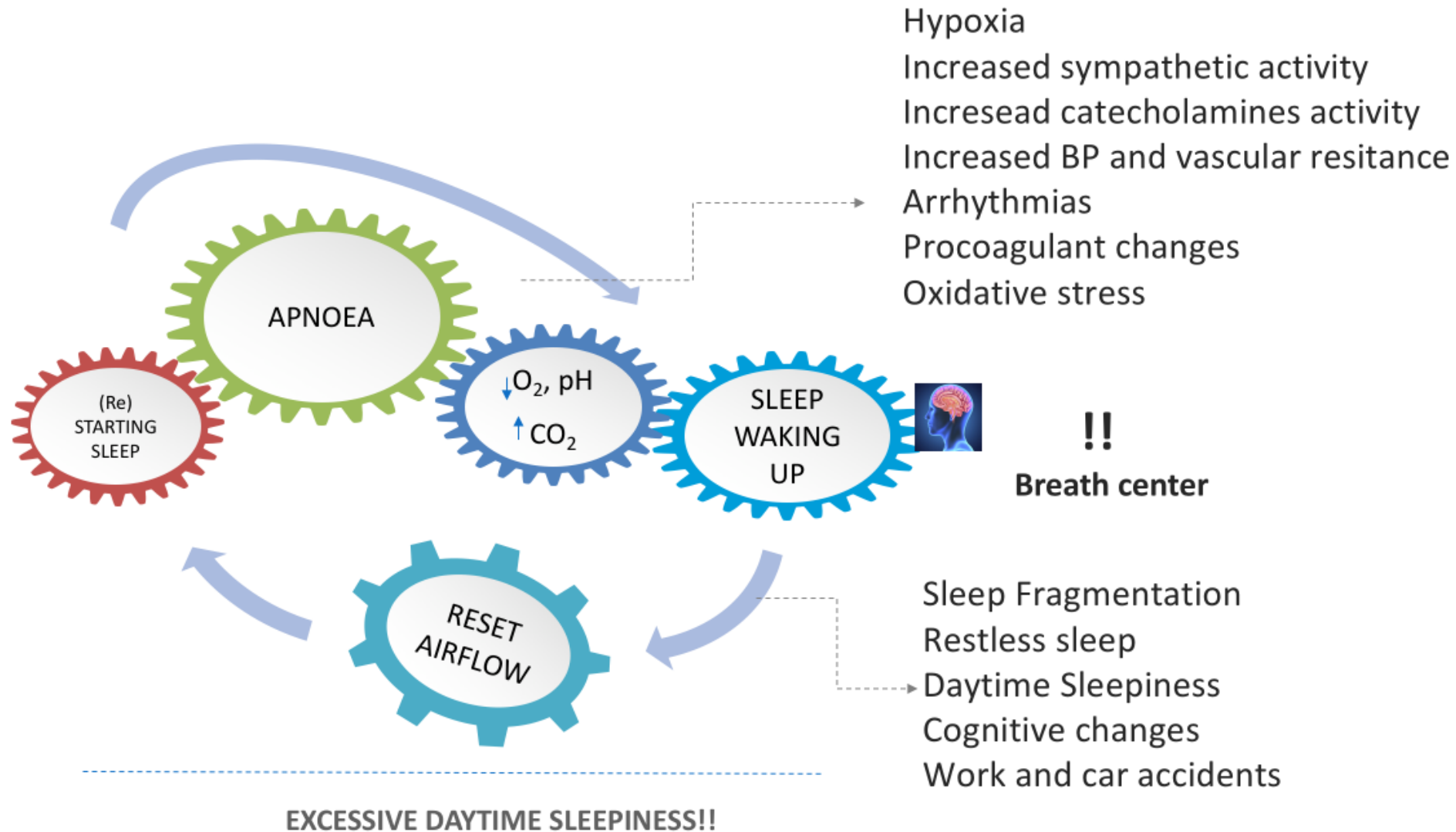
Event Type	Normal Breathing	Flow Limitation	Obstructive Hypopnea	Obstructive Apnea
	Breaths are characterized by a semi-sinusoidal wave-like pattern. Transitions from inspiration to expiration, and vice versa, are rounded and smooth.	The rounded inspiratory portion of the breath starts to flatten.	A reduction in airflow of $\geq 50\%$ of baseline with a 3% desaturation OR a reduction in airflow of $\geq 30\%$ with a 4% desaturation AND lasting for at least 10 seconds.*	A reduction in airflow of $\geq 90\%$ of baseline lasting for at least 10 seconds.*
Airway Cross-section				
Flow Through Airway	No obstruction	Partially obstructed airway	Increasingly obstructed airway	Completely obstructed airway
				
Inspiratory Flow Shape	Semi-sinusoidal – unobstructed flow	Flattening & reduced flow	Flattening & further reduced flow	Flat – minimal or zero flow
				
Flow Tracing				

* Iber et al., The AASM Manual for the scoring of sleep and associated events: Rules, Terminology and Technical Specifications, 1st ed.: Westchester, Illinois: American Academy of Sleep Medicine, 2007.

OSAS Physiopathology



Sleep Apnoea – How does it work?



Risk factors – structural and nonstructural



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Structural factors: Craniofacial and/or upper airway anomalies



Obesity (+ central fat distribution)



Older people



Smoking



Drinking



Supine position



Male sex
Genetic factors (postmenopausal women)



OSAS Family history



Comorbidities (?!)



Sedative use

Sleep Apnoea – Symptoms



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Night Symptoms

- Snore
- Interrupted sleep
- Observed apnoeas
- Abnormal motor activity
- Night sweats
- Nocturia



Day Symptoms

- Daytime sleepiness
- Morning headache
- Irritability, mood swings
- Difficulty concentrating
- Tiredness
- Loss of memory
- Sexual dysfunction





SUSPICION AND DIAGNOSE OF OSA IN PC



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3- CAN'T EVALUATE OSAS IN PC?

- a) That's true because we need a sleep study
- b) That's true because that's not a GP function/problem
- c) That's false because we should ask and evaluate the patient to make a proper referral
- d) That's false because we can prescribe non invasive ventilation (CPAP) in PC

OSAS Patient's profile



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- Age (40-60 years)
- Gender – MALE (Postmenopausal women!)
- Habits: smoking and alcohol consumption (and times)
- Risk occupations:
 - Machine Operators
 - Drivers
 - Height workers
 - Shift workers
- Symptoms
- Usual medication:
 - Sedatives and hypnotics
 - Antidepressive drugs
- Sleep hygiene/habits
- Associated diseases: hypothyroidism, acromegaly, amyloidosis, S. Cushing, S. Down,

OSAS Physical examination

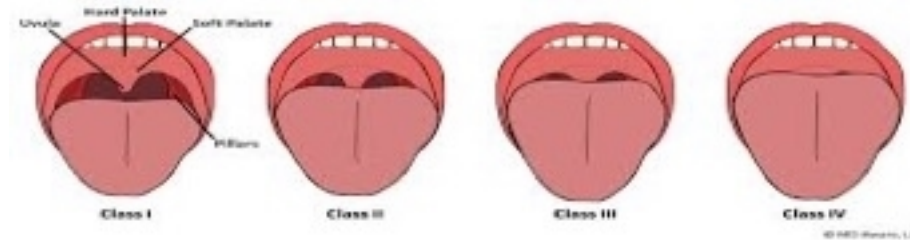


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- BMI ≥ 30 kg / m
- Neck Circumference
 - ≥ 42 cm in men
 - ≥ 40 cm in women

- Mallampati score
- Face abnormalities
- Nasal problems
- Pharyngeal problems:



hypertrophy of the adenoids / tonsils / uvula / base of the tongue, vocal cord

edema ...

Some helpful questionnaires



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CONTEMPORARY REVIEW



Obstructive Sleep Apnea in Cardiovascular Disease: A Review of the Literature and Proposed Multidisciplinary Clinical Management Strategy

Jeremy R. Tietjens, MD; David Claman, MD; Eric J. Kezirian, MD, MPH; Teresa De Marco, MD; Armen Mirzayan, DDS; Bijan Sadroonri, MD; Andrew N. Goldberg, MD; Carlin Long, MD; Edward P. Gerstenfeld, MD; Yerem Yeghiazarians, MD

Questionnaire	Summary of Questionnaire Contents	Diagnostic Accuracy Compared With AHI (>15 events/h) ¹⁶
Berlin Questionnaire	10 questions pertaining to the following 3 symptoms/signs: • Snoring • Daytime sleepiness • Hypertension Patients classified by score as having low risk or high risk of OSA	• <i>Sensitivity:</i> 0.77 (0.73–0.81) • <i>Specificity:</i> 0.44 (0.38–0.51)
STOP Questionnaire	4 questions regarding the following signs/symptoms: • Snoring • Sleepiness • Observed apneas or choking • Hypertension	• <i>Sensitivity:</i> 0.89 (0.81–0.94) • <i>Specificity:</i> 0.32 (0.19–0.48)
STOP-BANG Questionnaire	4 questions regarding signs/symptoms plus 4 clinical attributes: • Snoring • Sleepiness • Observed apneas or choking • Hypertension • Obesity (BMI >35 kg/m²) • Age (>50 y) • Neck size • Sex Patients classified as low, intermediate, or high risk for OSA	• <i>Sensitivity:</i> 0.90 (0.86–0.93) • <i>Specificity:</i> 0.36 (0.29–0.44)
Epworth Sleepiness Scale	8 questions asking patients to rate the likelihood of falling asleep in various daytime contexts Patients classified as having normal sleep, average sleepiness, or severe and possibly pathologic sleepiness	• <i>Sensitivity:</i> 0.47 (0.35–0.59) • <i>Specificity:</i> 0.62 (0.56–0.68)

AHI indicates apnea–hypopnea index; BMI, body mass index; OSA, obstructive sleep apnea.

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STOP-BANG Sleep Apnea Questionnaire

Chung F et al Anesthesiology 2008 and BJA 2012

STOP		
Do you SNORE loudly (louder than talking or loud enough to be heard through closed doors)?	Yes	No
Do you often feel TIRED, fatigued, or sleepy during daytime?	Yes	No
Has anyone ever told you that you snore or stop breathing during your sleep?		
Do you have or are you being treated for high BLOOD PRESSURE?		
High risk of OSA: Yes 5 - 8 Intermediate risk of OSA: Yes 3 - 4 Low risk of OSA: Yes 0 - 2		
BMI more than 35kg/m2?	Yes	No
AGE over 50 years old?	Yes	No
NECK circumference > 16 inches (40cm)?	Yes	No
GENDER: Male?	Yes	No
TOTAL SCORE		

Epworth Sleepiness Scale

Use the following scale to choose the **most appropriate number** for each situation:

- 0 = would **never** doze
- 1 = **slight chance** of dozing
- 2 = **moderate chance** of dozing
- 3 = **high chance** of dozing

It is important that you answer each question as best you can.

Situation	Chance of Dozing (0-3)
No daytime sleepiness: < 10 Mild Excessive daytime sleepiness: 10–16 Severe daytime sleepiness : > 16	
Lying down to rest in the afternoon when circumstances permit	
Sitting	
Sitting	
In a car, while stopped for a few minutes in the traffic	



SUSPICION AND DIAGNOSE OF OSA IN PC



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SO WE,

4- SHOULD EVALUATE COMORBIDITIES, SPECIALLY THOSE RELATED WITH CARDIOVASCULAR RISK?

- a) Yes, but just hypertension and diabetes**
- b) Yes, but just in obese and smoker patients**
- c) Yes, to all patients**
- d) No, it's not necessary, because it's not related**



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OSAS and Cardiovascular risk



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CONTEMPORARY REVIEW



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- Resistant hypertension
- Pulmonary hypertension
- Recurrent atrial fibrillation after cardioversion/ablation

- Heart failure / asymptomatic LV dysfunction
- Atrial fibrillation
- Sick sinus syndrome
- Tachy-brady syndrome
- Ventricular tachycardia / frequent ectopy
- Sudden cardiac death
- Coronary artery disease
- Cerebrovascular disease
- Elevated CV risk

Suspicion for sleep apnea based on comprehensive sleep assessment

Diagnostic testing for sleep apnea

Obstructive Sleep Apnea in Cardiovascular Disease: A Review of the Literature and Proposed Multidisciplinary Clinical Management Strategy

Jeremy R. Tietjens MD , David Claman MD , Eric J. Kezirian MD, MPH , Teresa De Marco MD , Armen Mirzayan DDS , Bijan Sadroonri MD , Andrew N. Goldberg MD , Carlin Long MD , Edward P. Gerstenfeld MD , and Yerem Yeghiazarians MD yerem.yeghiazarians@ucsf.edu

OSAS and Cardiovascular risk



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Sleep apnoea as an independent risk factor for cardiovascular disease: current evidence, basic mechanisms and research priorities

W. T. McNicholas, M. R. Bonsignore, the Management Committee of EU COST ACTION B26
European Respiratory Journal 2007 29: 156-178; DOI: 10.1183/09031936.00027406

[Article](#)

[Figures & Data](#)

[Info & Metrics](#)

[PDF](#)

This article has a correction. Please see:

- "SLEEP APNOEA AS AN INDEPENDENT RISK FACTOR FOR CARDIOVASCULAR DISEASE: CURRENT EVIDENCE, BASIC MECHANISMS AND RESEARCH PRIORITIES". W.T. MCNICHOLAS, M.R. BONSIGNORE AND THE MANAGEMENT COMMITTEE OF EU COST ACTION B26. EUR RESPIR J 2007; 29: 156-178. - March 01, 2007



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European
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W. T. McNicholas, M. R. Bonsignore, the Management Committee of EU COST ACTION B26

European Respiratory Journal 2007 29: 156-178; DOI: 10.1183/09031936.00027406

Bonsignore *et al. Multidisciplinary Respiratory Medicine* (2019) 14:8
<https://doi.org/10.1186/s40248-019-0172-9>

Multidisciplinary
Respiratory Medicine

REVIEW

Open Access

Obstructive sleep apnea and comorbidities: a dangerous liaison



Maria R. Bonsignore^{1,2*} , Pierpaolo Baiamonte¹, Emilia Mazzuca¹, Alessandra Castrogiovanni³ and Oreste Marrone²

Abstract

Obstructive sleep apnea (OSA) is a highly prevalent disease, and is traditionally associated with increased cardiovascular risk. The role of comorbidities in OSA patients has emerged recently, and new conditions significantly associated with OSA are increasingly reported. A high comorbidity burden worsens prognosis, but some data suggest that CPAP might be protective especially in patients with comorbidities. Aim of this narrative review is to provide an update on recent studies, with special attention to cardiovascular and cerebrovascular comorbidities, the metabolic syndrome and type 2 diabetes, asthma, COPD and cancer. Better phenotypic characterization of OSA patients, including comorbidities, will help to provide better individualized care. The unsatisfactory adherence to CPAP in patients without daytime sleepiness should prompt clinicians to examine the overall risk profile of each patient in order to identify subjects at high risk for worse prognosis and provide the optimal treatment not only for OSA, but also for comorbidities.

Keywords: Mortality, prognosis, cardiovascular disease, diabetes, asthma, COPD, cancer



EUROPEAN RESPIRATORY REVIEW
REVIEW
M. GLEESON AND W.T. MCNICHOLAS

Bidirectional relationships of comorbidity with obstructive sleep apnoea

Margaret Gleeson and Walter T. McNicholas 

School of Medicine, University College Dublin, and Dept of Respiratory and Sleep Medicine, St. Vincent's Hospital Group, Dublin, Ireland.

Corresponding author: Walter T. McNicholas (walter.mcnicholas@ucd.ie)



SUSPICION AND DIAGNOSE OF OSA IN PC



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**Underdiagnosis
Symptoms underperception
/devaluation
Importance of a proper referral
Comorbidities and CV risk**

What's the GP role in a suspected Sleep Apnoea?



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SUSPICION AND DIAGNOSE OF OSA IN PC



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Underdiagnosis
Symptoms underperception
/devaluation
Importance of a proper referral
Comorbidities and CV risk
Acess to sleep study



A cartoon illustration of Homer Simpson and Marge Simpson sleeping in their bed. Homer is on the left, wearing a blue nightgown, with a vacuum cleaner held over his face. Marge is on the right, wearing a blue nightgown, with her hands clasped. The bed has a blue headboard and a blue blanket. A green lamp is on a nightstand to the right, and a small alarm clock is on a nightstand to the left.

I DON'T NEED TO WORRY MORE ABOUT OSAS OR ABOUT THE FOLLOW UP.

- a) TRUE
- b) FALSE

Follow up – Family Physician Role



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1. Patient and family education - empowerment
2. Hygienic-dietary measures

**Enough if:
IAH <15, Epworth <10
without comorbidities**

Follow up: Adherence and effectiveness criteria



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- Adhesion Parameters:
 - N° hours used / day: > 4h
 - Number of accumulated hours: “over 70% of nights”
- **Efficacy Parameters:**
 - Residual AHI <5 / h
- No residual symptoms: no drowsiness (Epworth <10)
- Check for adverse effects

> 6h e > 90% nights

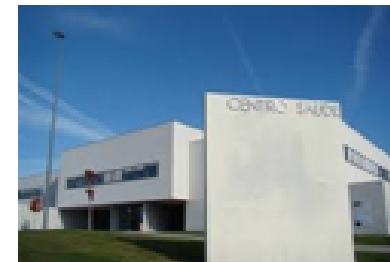
When to refer again to Pneumology center?



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- ✓ ESS > 10 points
- ✓ Weight loss (> 10%)
- ✓ Non adherence
- ✓ Technical problems
- ✓ New adaptation CPAP problems
- ✓ Secondary effects of hard resolution



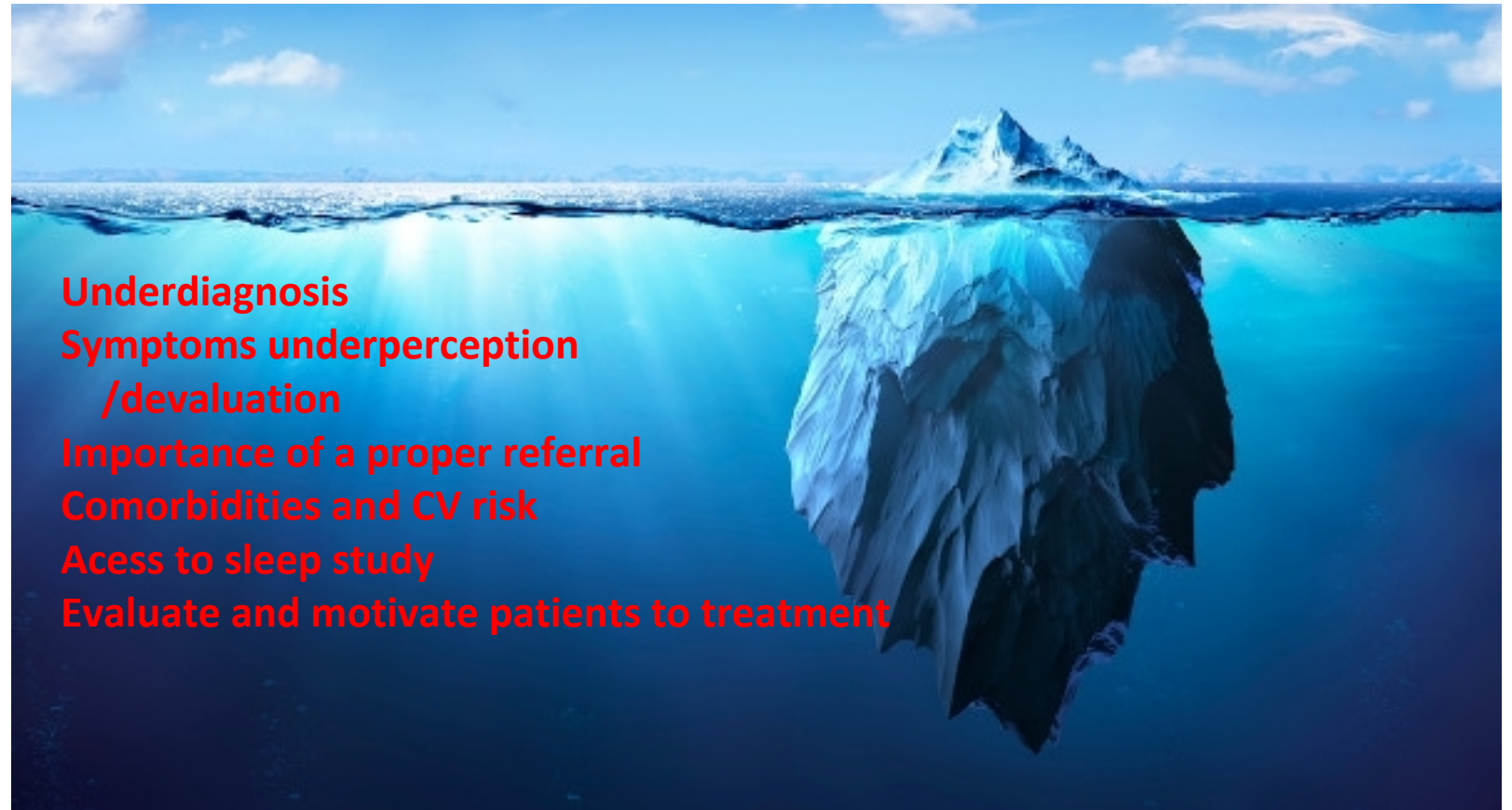


SUSPICION AND DIAGNOSE OF OSA IN PC



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**Underdiagnosis
Symptoms underperception
/devaluation
Importance of a proper referral
Comorbidities and CV risk
Access to sleep study
Evaluate and motivate patients to treatment**

GP role in a suspected Sleep Apnoea



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- Awareness of high prevalence
 - Privileged position to perceive alarm signals
 - Knowledge of the patient's environment
 - Occupation
 - Family
 - Habits
 - Knowledge and management of chronic diseases and comorbidities (CV risk!)
 - Driving license renewal
- 

- 
- Clinical-oriented history
 - Adequate physical examination
 - Priorization of high-risk patients
 - Identify comorbidities
 - Comorbidities treatment and control

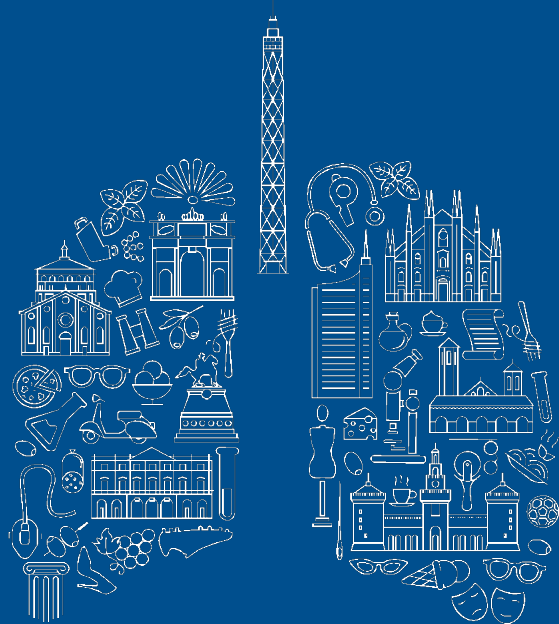


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Patient

OSAS



Thank you

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