

Original Research Article

Evaluation of perceptions of general physicians regarding the association of obstructive sleep apnoea with depression in the real world setting in the United Kingdom

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ABSTRACT

Background: Patients with depression may also have obstructive sleep apnoea (OSA). Management of OSA in patients with depression may improve depression and neurocognitive functions. Hence it is important to identify OSA early when assessing patients with depression or cognitive impairment. Aim of the study was to evaluate the knowledge attitude and practices of general practitioners (GPs) in the United Kingdom (UK) regarding OSA in patients with depression.

Methods: A questionnaire (11 questions) regarding OSA symptoms and relevant questions to be asked during history taking by the GP was prepared. Twenty GPs across UK were sent the questionnaire by email and were asked to send their responses to the questionnaire.

Results: All the respondents concurred that OSA can have a correlation with depression. Yet, only 33% of respondents asked questions related to OSA to their patients. 67% of GPs reported not asking their patients relevant questions about OSA citing lack of time. The symptom most commonly reported by their patients was difficulty concentrating during the day. 79% GPs reported that they diagnosed OSA from the history in less than 10% of their patients. The chief barriers for initiating treatment for OSA in patients with depression included need for referral of patients with OSA to a specialist (50%), patient acceptance (34%) and 13% GPs were uncertain about the barriers to initiating treatment.

Conclusions: Primary care physician should determine the underlying cause of depression rather than simply diagnosing the patient as depressed. OSA must be evaluated in patients with depression by the primary care physician.

Keywords: Depression, Obstructive sleep apnoea, OSA, General practitioners

INTRODUCTION

Patients with depression may have concomitant obstructive sleep apnoea (OSA). OSA is a sleep-related breathing disorder typified by recurrent episodes of upper airway obstruction during sleep.¹ OSA has been observed to have a bidirectional relationship with depression.² The prevalence of OSA in patients with major depressive disorder (MDD) is higher than the general population (48% versus 24% for men and 9% for women).¹

The symptoms of OSA vary and include snoring, fragmented sleep, daytime somnolence, weight gain or gasping for breath at night or choking and waking up.⁴

Evidence is now emerging that management of OSA in patients with depression may improve depression and neurocognitive functions. Hence it is important to identify OSA early when assessing patients with depression or cognitive impairment.⁵

The primary care physicians like the general practitioners (GPs) may often be the first point of contact for patients with depression. GPs treating chronic disorders may encounter depression in their patient. An alert GP needs to take a detailed history in order to elicit symptoms of concomitant depression. If depression is diagnosed in a patient, then looking for presence of OSA would be imperative since the bidirectional relation between depression and OSA has already been proven. Do GPs associate depression with OSA? Do they diagnose OSA in a significant proportion of their patients with depression? Do they initiate treatment for OSA in their patients with depression?

These were some of the questions that needed to be answered regarding the perceptions and approach of the

GP to depression and OSA in the real world setting in the United Kingdom (UK).

METHODS

Study type

A cross sectional survey across GPs of UK was planned. A questionnaire (11 questions) regarding OSA symptoms and relevant questions to be asked during history taking by the GP was prepared (Table 1).

Twenty GPs across UK were sent the questionnaire by email and were asked to send their responses to the questionnaire. The responses were collected in the period from June 2021 to August 2021.

Table 1: Questionnaire regarding OSA.

S. no.	Questions
1	Do you believe OSA can have a correlation with depression?
2	Do you question your patients who have symptoms of depression about symptoms of OSA?
3	Which symptoms are most commonly complained of by your patients with OSA and depression?
4	Which is the most common pre-existing feature in your patients with depression?
5	What percentage of your patients with depression do you diagnose OSA?
6	Have you tested your patients of depression for cognitive impairment for example with the GPCOG test or any other validated tests?
7	Would you ascribe cognitive impairment to OSA in your patients of depression?
8	Have you initiated treatment such as lifestyle changes (avoiding alcohol, sedatives, and smoking), weight loss through healthy diet and increased physical activity for symptoms of OSA in patients with depression?
9	Do you believe that there is a lack of awareness in regards to correlation between OSA and depression among the GPs?
10	What are the barriers for initiating treatment for OSA in patients with depression?
11	What has been the response observed after treatment 3 months of CPAP treatment for OSA in your patients with depression?

RESULTS

All the respondents concurred that OSA can have a correlation with depression. Yet, only 33% of respondents asked questions related to OSA to their patients. 67% of GPs reported not asking their patients relevant questions about OSA citing lack of time. The symptom most commonly reported by their patients was difficulty concentrating during the day (14% respondents) (Figure 1).

Other commonly reported symptoms included excessive daytime drowsiness which may cause them to fall asleep while working, watching television or even driving a vehicle, loud snoring, and observed episodes of stopped breathing during sleep, awakening with a dry mouth or sore throat, mood changes and fatigue (11% for each reported symptom). OSA was most commonly observed in patients who were overweight or obese (37%), had diabetes (24%) or were smokers (15%) (Figure 2).

79% GPs reported that they diagnosed OSA from the history in less than 10% of their patients (Table 2). Only

40% GPs tested their patients for cognitive impairment. 32% GPs ascribed cognitive impairment to OSA in their patients diagnosed with depression. Yet, 95% GPs stated that they initiated treatment such as lifestyle changes (avoiding alcohol, sedatives, smoking), weight loss through a healthy diet and increased physical activity for symptoms of OSA in patients with depression. An overwhelming 89% GPs cited lack of awareness amongst GPs about the correlation between OSA and depression. The chief barriers for initiating treatment for OSA in patients with depression included need for referral of patients with OSA to a specialist (50%), patient acceptance (34%) and 13% GPs were uncertain about the barriers to initiating treatment in their patients with OSA. After initiating treatment for OSA in their patients with depression, 43% GPs reported that they had observed reduction in complaints of fatigue in their patients and 10% GPs reported that they were able to reduce the dose of antidepressants in their patients. None of the GPs agreed that antidepressants could be stopped earlier if treatment for OSA was initiated in the patients with OSA and depression. 43% GPs were uncertain of the benefits of treating OSA in their patients with depression.

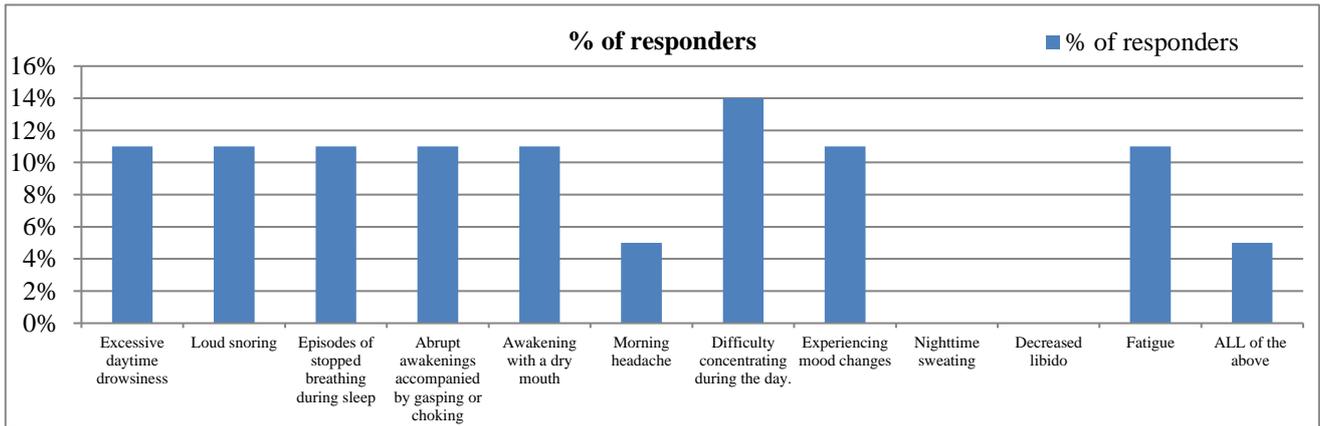


Figure 1: Symptoms of OSA in patients with depression.

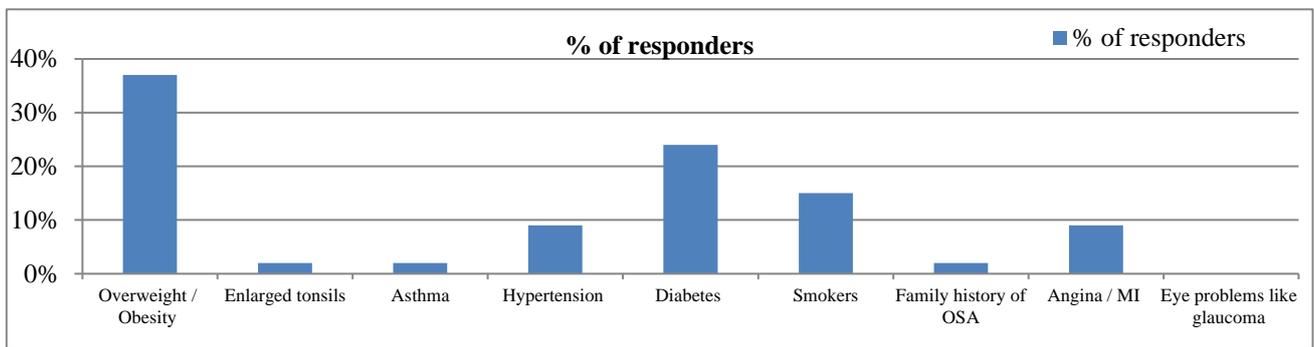


Figure 2: Comorbid conditions.

Table 2: Diagnosis of OSA in patients with depression by GPs based on history.

Option	No. of responders	% of responders
<10%	15	79
11-20%	2	11
21-30%	2	11
>30%	0	0

DISCUSSION

The past two decades have witnessed evidence accruing from clinical studies suggestive of a relationship between depression and OSA. In clinical practice, symptoms of depression are often encountered in patients with OSA. But, sleep problems and specifically OSA are rarely evaluated or looked for on a regular basis in patients with a depressive disorder. But, evidence is now emerging that OSA associated with a depressive syndrome may also be responsible for failure to respond to antidepressants.⁶⁻⁹

A clinician should suspect OSA especially in those depressed patients who present with the cardinal symptoms of OSA such as loud snoring or intermittent pauses in respiration(as witnessed by a bed partner), and excessive daytime sleepiness (EDS). Although patients often deny daytime sleepiness, standardized questionnaires such as the Epworth sleepiness scale (ESS)

or the functional outcome sleep questionnaire (FOSQ) are useful tools to assess EDS.^{10,11} Nocturnal symptoms of OSA that must be asked of the patient include restlessness, nocturia, excessive salivation and sweating, gastroesophageal reflux, as well as headache and dry mouth or throat in the morning on awakening. The patient profile of obesity, hypertension, special facial abnormalities which narrow the upper airway, such as retrognathia or micrognathia may also be worth looking for when evaluating for presence of OSA.¹² The ESS asks the patients to rate their chances to fall asleep during periods of relaxation or inactivity (such as reading, watching television), but also in more active settings (driving a car, sitting and talking to someone). EDS is by far the most frequent daytime symptom of OSA, whereas nocturnal symptoms include restlessness, nocturia, excessive salivation and sweating, gastroesophageal reflux, as well as headache and dry mouth or throat in the morning on awakening. Furthermore, the clinical picture frequently includes obesity and hypertension, and, in those patients who are not obese, special facial abnormalities which narrow the upper airway, such as retrognathia or micrognathia.¹²

A clinician must also keep in mind that symptoms of OSA may not be immediately apparent. Patient may present with atypical symptoms such as irritability, tiredness, disrupted sleep, difficulty concentrating, difficulties accomplishing tasks and generally decreased psychomotor

performance. These symptoms may be more common in women and often OSA remains undiagnosed.^{13,14} The history of development of sleep wake complaints prior to the development of the depressive psychopathology should draw the clinician's attention to a potential underlying or coexisting OSA.^{15,16}

Both OSA and depression may share common neurobiological risk factors. The serotonergic system is considered to play a key role in the regulation of mood, sleep-wakefulness cycle, and also controls the upper airway muscle tone during sleep.¹⁷

Serotonin delivery to upper airway dilator motor neurons has been shown to be reduced in patients with OSA. The role of the role of serotonin in mood disorders is well documented. Several serotonin reuptake inhibitors (SSRI) such as fluoxetine and paroxetine which are widely used antidepressant drugs have been suggested to improve the apnea hypopnea index in OSA. But the results of their use are limited and variable. Hence the search is on for a modulator of the serotonin system which could be effective in treating both depression and OSA effectively and would be well tolerated.¹⁷

In the current survey indicates an overwhelming 89% GPs cited lack of awareness amongst GPs about the correlation between OSA and depression. Early diagnosis and treatment of OSA in patients with depression and improve outcomes of treatment. This is especially true in case of elderly patients with depression. The most common symptoms of OSA and depression are fatigue and sleep disturbance. Both of these problems can disguise each other because of their similar symptoms, but it is the responsibility of a clinician to treat the symptoms of a specific disease and determine the underlying cause.

The chief barriers for initiating treatment for OSA in patients with depression included need for referral of patients with OSA to a specialist (50%), patient acceptance (34%). Patients with major symptoms of depression along with OSA respond to CPAP therapy and their depression symptoms gradually resolve; the patient's quality of life improves.^{18,19}

CONCLUSION

Several symptoms of depression and obstructive sleep apnea overlap, leading to under-diagnosis of OSA in depressed patients. It is highly recommended that the primary care physician should determine the underlying cause of depression rather than simply diagnosing the patient as depressed. OSA must be evaluated in patients with depression by the primary care physician.

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