

# Sleep Quality in Patients with Hemorrhoids

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Night symptoms such as itchy and constipation may disturb sleep and worsen sleep quality in patients with hemorrhoids. The aim of this study was examine sleep quality in these patients. Thirty patients with external hemorrhoids (15 males and 15 females) participated in the study. A control group comprised 30 healthy subjects (15 males and 15 females). The Pittsburgh Sleep Quality Index (PSQI), which is an instrument with previously established reliability and validity, was administered to assess sleep quality during previous month. Habitual sleep efficiency scores and global PSQI scores of the patients with hemorrhoids were significantly higher than the controls' scores. In patients with hemorrhoids, subjective sleep quality is poor. Constipation and pruritus may disturb sleep and worsen sleep quality. Improved sleep may be an important treatment focus in the clinical management of these patients. **(Sleep and Hypnosis 2003;5(4):188-191)**

**Key words:** *sleep, sleep quality, PSQI, life quality, hemorrhoids, pruritus, constipation*

## INTRODUCTION

Clinical hemorrhoids are exceedingly common especially in the Western civilized world. It is difficult to assess their incidence but it is known to increase markedly with age; %50 of the population over 50 years of age have asymptomatic or symptomatic hemorrhoids (1). External hemorrhoids form in the skin tissue surrounding the anal opening. As a rule, their symptoms tend to be itching, burning, irritation and bleeding more than pain. They may swell causing discomfort and difficult hygiene (2). Thrombosed external hemorrhoids

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can be surgically removed (3). The precise relationships among colonic and rectal motor patterns, sleep quality, and awakening are incompletely understood. Furukawa et al (4) recently found that propagating contractions were eliminated during slow-wave sleep whereas during rapid eye movement sleep (REM), colonic pressure and propagating contraction frequency increased sharply to levels comparable with those found in stage 2 sleep. They concluded that sleep per se has a profound inhibitory effect on propagating and nonpropagating activity and was the major determinant of diurnal variation of colonic motility: propagating contractions were eliminated in slow-wave sleep and REM sleep, arousals, and waking had immediate stimulatory effects on colonic motility. On the other hand, relaxation techniques positively affect the psychosomatic pattern of patients

undergoing surgical treatment. A recent study (5) suggested that perioperative relaxation techniques showed a trend to reducing pain following anorectal surgery and significantly improving the quality of sleep; a decrease in anxiety and a consequent muscle relaxation may be involved. Although hemorrhoids are not a dangerous condition, they may cause the severe discomfort and effect negatively life quality in most of patients. It is expected for these patients to have anxiety and psychologically discomfort feelings. Night symptoms such as itchy and constipation may disturb sleep and worsen sleep quality in these patients. The aim of this study was examine sleep quality in patients with hemorrhoids and compare them with normal healthy subjects.

## METHODS

The subjects of the study were selected from an outpatient clinic of anorectal surgery in Yuzuncu Yil University School of Medicine. Thirty patients with external hemorrhoids (15 males and 15 females) participated in the study. The mean age was  $32.3 \pm 10.8$  years. A control group comprised 30 healthy subjects (15 males and 15 females). The mean age was  $29.9 \pm 9.7$  years for control group. All subjects gave written informed consent prior to their participation in the study. None of them used psychotropic drugs affecting sleep and had primary sleep disorders.

The Pittsburgh Sleep Quality Index (PSQI),

which is an instrument with previously established reliability and validity by Buysse et al (6), was administered to assess sleep quality during previous month. The PSQI consists of 19 self-rated questions. These 19 items are grouped into seven component scores, each weighed equally on a 0-3 scale. The components are subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbance, use of sleeping medications, and daytime dysfunction. The seven component scores are then summed to yield a global PSQI score, which has a range of 0-21; higher scores indicate worse sleep quality. Recently, Agargun et al (7) reported that the Turkish version of the PSQI had reliability and validity as high as its original form.

Student's t test was used to compare the means of component scores and global scores of the groups. The statistical Package for the Social Sciences (SPSS), release 9 was used for data analyses.

## RESULTS

Table 1 shows PSQI component and global scores of the patients and the controls. As shown in Table 1, habitual sleep efficiency scores ( $0.70 \pm 1.11$ ) and global PSQI scores ( $6.80 \pm 2.53$ ) of the patients with hemorrhoids were significantly higher than the controls' scores ( $0.10 \pm 0.30$  and  $5.26 \pm 1.79$ ) (Student's t test;  $t=2.83$ ;  $p=0.006$  and  $t=2.70$ ;  $p=0.009$ , respectively).

**Table 1. The global and component PSQI scores of the patients with hemorrhoids and the control subjects**

PSQI components	Patients (N=30)	Controls (N=30)	t	p
Subjective sleep quality	1.26±0.86	1.13±0.68	0.66	n.s.
Sleep latency	1.40±0.77	1.16±0.69	1.22	n.s.
Sleep duration	0.70±0.95	0.76±0.62	0.32	n.s.
Habitual sleep efficiency	0.70±1.11	0.10±0.30	2.83	0.006
Sleep disturbance	1.40±0.62	1.16±0.46	1.65	n.s.
Use of medication	0.13±0.50	0	1.43	n.s.
Daytime dysfunction	1.16±0.79	0.96±0.71	1.02	n.s.
Global PSQI	6.80±2.53	5.26±1.79	2.70	0.009

n.s. non significant

## DISCUSSION

In the present study, we found that patients with hemorrhoids had higher scores of habitual sleep efficiency and global PSQI scores than the controls. It means that in a group patients with anorectal disease, subjective sleep quality is worse when they compared with control subjects. Although a relationship between sleep patterns and colonic motor activity in healthy subjects (8-10), in patients with irritable bowel syndrome (11), and sleep in patients with chronic idiopathic (slow-transit) constipation (12) has been investigated previously, this is the first study, to our knowledge, examining sleep quality in patients with hemorrhoids.

There may be two factors affecting sleep and worsening its quality in our sample. Firstly, there is a relationship between gastrointestinal motility and sleep. It was documented previously that although during the night we have a more regular intestinal motility than during the day, the anal canal pressure is lower and rectum activity is higher during sleep than during the awake state as well as the anal pressure is still higher than the rectum pressure and the rectum contractions are most frequently retrograde (10). In a recent study (12), Bassotti et al. designed to characterize colonic motor activity in patients with constipation, both during sleep and after sudden awakening, and to compare it with that of healthy subjects. They performed manometric studies in the descending and sigmoid colon for 30 minutes during sleep (immediately before awakening) and 30 minutes after being awakened suddenly. They calculated a motility index before and after the stimulus. They found that motility in the descending and the sigmoid colon was almost absent during sleep and significantly increased after sudden awakening. They also found no difference in postawakening

values was found between patients with constipation and controls. Their data suggested that the alterations of colonic motility described in chronic constipation may be caused by an intrinsic dysfunction of the viscus. In another study (8), Roarty et al. monitored sleep and segmental colonic motility in six healthy women. They observed that colonic motility occurred during 25% of the arousal and awakening time and morning awakening was associated with high-amplitude independent and related colonic motility in all colonic segments. They concluded that in women in the follicular phase of their menstrual cycle, colonic motility was inhibited during sleep; colonic motility at night only occurs during arousals or awakenings from sleep. In patients with hemorrhoids, constipation is a common symptom and may cause a worsening in sleep quality.

Secondly, pruritus may also cause night waking and worsen sleep quality in these patients. Night waking problems were particularly common in patients with pruritus (13,14). In a recent study (15) Aoki et al., to examine the relationship between nocturnal scratching and sleep, performed an analysis of overnight polygraphic records of the scratch bouts and EEG of severely itchy patients. They found that sleep tended to remain stable, i.e. in a single sleep stage, for the 40 s immediately before a bout of scratching but had often changed to a more superficial stage by the time the bout had ceased, implying perhaps that scratching itself was the event linked most closely with arousal.

In conclusion, sleep quality is poor in patients with hemorrhoids. Improved sleep may be an important treatment focus in the clinical management of these patients. Relaxation and hypnotic therapies may be necessary in these patients.

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